

Policing green crime in Bangladesh: challenges for law enforcement,
environmental agencies and society.

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Abstract

Policing green crime has emerged as a significant concern in the Global south, and this is also the case in Bangladesh. Drawing on green and southern criminology, this exploratory study adopts a qualitative approach to examine the challenges faced by environmental agencies, the Bangladesh Police, and society in addressing green crime. The research incorporates 36 semi-structured interviews with diverse stakeholders, including the Department of Environment (DoE), the Bangladesh Police, the Wildlife Crime Control Unit, judicial and prosecutorial representatives from the environmental court, environmental journalists, development practitioners, researchers, NGOs, voluntary organisations, and civil society. Using a snowball sampling technique, the study engages with the study population through both digital platforms during COVID-19 restrictions and face-to-face interviews conducted during field visits. The study aims to achieve three primary objectives: 1) to evaluate the current state of policing and law enforcement strategies for addressing green crime in Bangladesh by analysing existing literature and data obtained from participants during data collection, focusing on the extent and types of green crime prevalent in the country; 2) to investigate the obstacles encountered by law enforcement agencies and environmental organisations in preventing and detecting green crime in Bangladesh; 3) to develop practical, evidence-based strategies and recommendations to enhance the effectiveness of green crime policing in Bangladesh and promote sustainable and eco-friendly practices within society.

To address these objectives, the study explores three specific research questions. a) What strategies are currently employed by law enforcement and environmental agencies to mitigate green crime in Bangladesh? b) What challenges do they face when policing green crime in Bangladesh? c) What measures can be implemented to overcome the challenges encountered by them when promoting effective green crime policing and fostering a sustainable and eco-friendly society in Bangladesh? The findings reveal that the Department of Environment (DoE) enforces environmental laws through mobile court operations and investigative procedures, imposing fines as appropriate. The Bangladesh Police and other law enforcement agencies play a supportive role by conducting special operations, investigations, patrolling, surveillance, community engagement through community policing/beat policing, and social awareness

programmes. However, the study identifies challenges faced by environmental and law enforcement agencies, including a weak institutional framework, limited mass awareness, and political corruption resulting from a lack of political will. In light of these challenges, the study recommends: the establishment of a robust institutional framework; the creation of a specialised environmental police unit to facilitate effective collaboration; a strengthened political commitment; the active involvement of mainstream media and social media platforms; and the implementation of eco-friendly educational systems to cultivate environmentally conscious citizens.

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Abbreviations

BELA	Bangladesh Environmental Lawyer’s Association
BGB	Bangladesh Border Guards
BIWTA	Bangladesh Inland Water Transport Authority
CAAP	Crime Against Animal Production
CAAP	Crimes against Animal Production
CITES	Convention on International Trade in Endangered Species
CRPC	Code of Criminal Procedures
DoE	Department of Environment
ECC	Environmental Clearance Certificate
ECEN	European Christian Environmental Network
ILP	Intelligence-led Policing
IMPEL	European Union Network for the Implementation and Enforcement of Environmental Law
LEK	Local Ecological Knowledge
MoEFCC	Ministry of Environment, Forest and Climate Change
NEG	New Environmental Governance
RAB	Rapid Action Battalion
TEC	Transnational Environmental Crime
WCCU	Wildlife Crime Control Unit

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Introduction

Environmental crimes, often referred to as green crimes, are rapidly becoming a significant issue in many countries¹. These crimes include a wide range of activities that harm the environment, such as illegal logging, wildlife trafficking, and pollution. Policing these crimes is a complex and challenging task, requiring the involvement of various stakeholders, including law enforcement agencies, environmental organisations, and society as a whole. The context of Bangladesh presents unique challenges for policing green crime, given the country's dense population, rapid industrialisation, high levels of pollution and general environmental vulnerability. The existing body of research on the policing of environmental crime and harms is relatively limited, particularly with regards to Bangladesh. Consequently, my research endeavours to make a significant and original empirical contribution to this underexplored area, thereby enhancing the scholarship in this field. The scarcity of comprehensive studies examining policing practices in Bangladesh creates a notable gap in the academic literature. By conducting empirical research in this context, my study aims to address this gap and generate new knowledge and insights. This originality lies in the unique opportunity to explore and analyse the specific challenges, strategies, and effectiveness of policing efforts in combating environmental crimes and harms within the Bangladeshi context. In addition to its empirical contribution, my study also aims to contribute to the field of Southern green criminology. Green criminology, as a subfield of criminology, focuses on the study of environmental harms and crimes. However, much of the existing green criminology scholarship has predominantly originated from Western contexts, with limited attention given to the experiences and perspectives of countries in the Global south.

¹ This chapter introduces the general outline of the thesis but is not intended to introduce the relevant literature which is discussed and fully referenced in Chapter 2 p. 38

By conducting research on the policing of environmental crime and harms in Bangladesh, my study seeks to bring a Southern perspective to the field of green criminology. This entails exploring the unique socio-cultural, economic, and political dynamics that shape environmental crimes and harms in a developing country context. It recognises that the nature and consequences of environmental crime can differ significantly across different regions, and thus it requires a more inclusive and comprehensive approach to understanding and addressing these issues.

Through my empirical investigation, I aim to shed light on the specific challenges faced by law enforcement agencies in Bangladesh when dealing with environmental crime. By examining the strategies, resources, and institutional arrangements involved in policing environmental harms, my research seeks to highlight the complexities and nuances that arise in the context of a developing country. This will contribute to the broader understanding of green criminology by expanding the knowledge base beyond Western-centric perspectives. Furthermore, my study also aims to bridge the gap between academic research and practical application in the context of Southern green criminology. By providing empirical evidence and insights, my research can inform policy and practice, assisting in the development of effective and contextually appropriate strategies for combating environmental crimes and harms in Bangladesh. This applied aspect of my study aligns with the broader goals of Southern green criminology, which emphasise the importance of integrating research with social and environmental justice concerns. While theoretical perspectives and conceptual frameworks have been proposed to understand environmental crime, empirical investigations remain limited, particularly in developing countries such as Bangladesh. By adopting an empirical approach, my research aims to fill this void and provide a robust foundation for future scholarship and policy development. Moreover, the empirical aspect of my research distinguishes it from previous studies that have predominantly relied on theoretical analysis or secondary data sources. By employing rigorous

data collection methods, such as interviews and field observations, my study seeks to generate first-hand empirical evidence that can inform policy interventions, improve law enforcement strategies, and enhance the overall understanding of the policing of environmental crime and harms in Bangladesh.

This study has three primary objectives (corresponding to its three research questions): firstly, to evaluate the current state of policing and law enforcement strategies for addressing green crime in Bangladesh; secondly, to investigate the obstacles faced by law enforcement agencies and environmental organisations in preventing and detecting green crime; finally, to develop evidence-based strategies to strengthen the effectiveness of green crime policing in Bangladesh. To fulfil these research objectives, this study employs an exploratory and qualitative research approach, which allows for a nuanced exploration of the complex issues surrounding green crime, including its social and environmental implications and the perspectives of affected communities and law enforcement officials. The study uses semi-structured interviews with a snowball sampling strategy. I conducted a total of 36 (Thirty-Six) interviews with diverse stakeholders, including senior police officials, officials from the Department of Environment, wildlife crime control units, environmental lawyers and judges, environmental journalists, researchers, members of civil society, development practitioners, and officials from NGOs. The interviews were conducted using digital platforms such as Skype and WhatsApp, as well as face-to-face interactions during field visits. The data were collected during two distinct periods: firstly, from August to October 2021, utilizing a digital platform as a response to the COVID-19 pandemic, and secondly, through a comprehensive field visit to Dhaka, Bangladesh, spanning June to August 2022.

Thematic analysis technique was used to analyse the data obtained from the interviews, which allowed for the gathering of rich and diverse data, providing valuable insights into the issues and opportunities surrounding environmental law enforcement in Bangladesh. I engaged in critical reflexivity, acknowledging their positionality and power dynamics throughout the research process. As discussed in the methodology chapter, I considered philosophical concepts such as ontology, epistemology, and axiology, and reflected on their values and biases, ensuring that the study is rigorous, objective, and relevant to the diverse range of stakeholders involved in policing green crime in Bangladesh. Despite facing challenges such as adapting to digital platforms due to the COVID-19 pandemic, and conducting interviews in different time zones and locations, I overcame these challenges through strategic planning, resilience, and unwavering commitment to my research.

Structure of the thesis

This research encompasses a comprehensive exploration across seven chapters, each investigating the intricate landscape of environmental crimes in Bangladesh and the far-reaching implications for both public health and ecological well-being. The **first chapter** of this study serves as a fulcrum, casting light upon the prevailing environmental crimes prevalent in the country. It rigorously elucidates the manifold ways in which transgressions such as air, water, noise, soil, and river pollution, deforestation, timber trafficking, wildlife crimes, waste mismanagement, illegal fishing, illegal extraction of minerals such as sand and stone, all inflict severe damage on the environment. Moreover, this chapter aptly underscores the pivotal role played by law enforcement agencies responsible for upholding the tenets of environmental legislation, with a specific emphasis on the prime custodians of environmental law enforcement, namely the Department of Environment (DoE) and the Wildlife Crime Control Unit (WCCU).

These specialised entities symbolize the institutional safeguard that endeavours to combat the aforementioned environmental crimes with utmost diligence. Their concerted efforts encompass a multifaceted approach, encompassing the promulgation of laws, their enforcement, investigation, and prosecution for environmental transgressions, as well as advocacy for sustainable practices to fortify public health and environmental integrity.

The **second chapter** presents a comprehensive review of the existing literature on policing green crime. Previous studies have predominantly analysed the different roles played by law enforcement agencies in addressing green crime, identifying the challenges faced by them in this area, and suggesting potential strategies for overcoming these challenges. However, as I explain in the chapter, to be able to advance the current scholarly understanding of the policing of green crime, it is crucial to expand the research focus towards the Global south, including Bangladesh, which is of paramount importance for the advancement of knowledge on green crime and the efficacy of law enforcement efforts in its mitigation. The prominence of this region in future studies is justified by several compelling factors. Firstly, the Global south often serves as a locus for frequent environmental harms with far-reaching global consequences. This region bears the brunt of environmental degradation due to a combination of weak regulatory frameworks, inadequate enforcement capacities, and socio-economic vulnerabilities. The prevalence of activities such as illegal logging, wildlife trafficking, water pollution, and land degradation necessitates focused research to unravel the underlying causes, intricate dynamics, and multifaceted impacts of these crimes. By examining these issues within the context of the Global south, a more comprehensive understanding of their implications on a global scale can be attained. Secondly, as I argue in Chapter 2, there are different reasons why it is important to also review research on the policing of green crime in the Global south. Environmental crimes committed here exhibit transnational dimensions, thereby necessitating research efforts to assess

their cross-border implications. For instance, deforestation in the Amazon rainforest not only contributes to climate change but also profoundly affects biodiversity and indigenous communities. By prioritizing research in the Global south, we can better comprehend the interconnectedness of these crimes and their ramifications beyond regional boundaries. Consequently, such research can inform the development of targeted strategies to combat green crime, facilitating effective international cooperation and harmonisation of efforts. Thirdly, investigating the effectiveness of law enforcement measures in combating green crime is crucial for refining existing approaches and developing more robust strategies. By undertaking research in the Global south, researchers can identify the challenges faced by law enforcement agencies in these regions, discern gaps in their enforcement capacities, and analyse successful practices employed in diverse contexts. This knowledge base can then be leveraged to enhance enforcement practices, bolster institutional capacities, and formulate more efficient strategies to prevent and combat green crime on a global scale. Lastly, the context-specific nature of green crime necessitates research in the Global south to capture the intricacies shaped by local perspectives, cultural norms, and socio-economic conditions. Conducting research in these regions offers an opportunity to gain an understanding of the social, political, and economic factors that influence environmental crimes. Such context-specific knowledge is instrumental in tailoring policy responses and enforcement strategies that effectively address the root causes and dynamics of green crime within the unique socio-cultural contexts of the Global south.

The **third chapter** of this study outlines the methodology employed to achieve the three specific objectives of the research, which are: 1) to evaluate the current state of policing and law enforcement strategies for addressing green crime in Bangladesh; 2) to investigate the obstacles faced by law enforcement agencies and environmental organisations in preventing and detecting green crime; and 3) to develop evidence-based strategies to strengthen the effectiveness of green

crime policing in Bangladesh. As the chapter illustrates, the adopted research approach is exploratory and qualitative, which allows for a comprehensive exploration of the complex issues surrounding green crime, including its social and environmental implications and the perspectives of affected communities and law enforcement officials. I used semi-structured interviews as a method of data collection, and thematic analysis as the method of qualitative data analysis. The study's three research questions are answered in the subsequent three chapters (Chapter-4, Chapter-5 and Chapter-6).

The **fourth chapter** presents a comprehensive qualitative analysis of the current activities of law enforcement agencies in Bangladesh in addressing environmental crime and harm, hence addressing the first research question. As illustrated above, such a question focuses on the activities of law enforcement agencies in Bangladesh in addressing environmental crime and harm. In this chapter the study utilized semi-structured interviews with 24 (Twenty-four) participants, including key personnel from the Department of Environment (DoE), Bangladesh Police, and Wildlife Crime Control Unit (WCCU). The chapter identifies three overarching themes, each focused on a specific actor within the context of environmental law enforcement. The primary actors explored are the DoE as the first, the Bangladesh Police as the second, and the WCCU as the third. These themes are expounded under three main headings, namely: environmental law enforcement activities carried out by the DoE, the role played by the Bangladesh Police in environmental law enforcement, and the significance of people's participation in environmental protection. The theme pertaining to enforcement measures and operations conducted by the DoE sheds light on the agency's proactive efforts in ensuring the enforcement of environmental laws. This is achieved through the utilization of mobile court operations and the imposition of fines and penalties resulting from comprehensive investigative procedures. This particular theme serves to underscore the pivotal importance of robust

enforcement measures in effectively addressing green crime and its associated environmental harm. Similarly, the theme examining the role of the Bangladesh Police in environmental law enforcement elucidates the supportive function assumed by this law enforcement entity.

The **fifth chapter** of the study addresses the second research question, which is focused on the challenges faced by law enforcement bodies in addressing environmental crime and harm in Bangladesh. The study drew upon 28 (Twenty-Eight) semi-structured interviews with key stakeholders from various sectors, including law enforcement agencies, the judiciary, and environmental agencies. Through thematic analysis, the study identifies several themes and subthemes that shed light on the current challenges faced by environmental law enforcement in Bangladesh. The first thematic area pertains to the inherent shortcomings within the institutional framework, which pose critical challenges in effectively addressing environmental crimes. These challenges encompass resource constraints, lack of coordination and cooperation, discrepancies between legal provisions and their implementation, overlapping jurisdictions, the prevalence of bureaucratic dominance over judicial and law enforcement institutions, and limited accessibility to the environmental court. The subthemes within this theme underscore the pressing need for more efficacious institutional mechanisms and collaborative frameworks to augment the capacity of law enforcement bodies in combating environmental crimes. The second theme accentuates the pernicious influence of political corruption in exacerbating environmental crimes. This theme underscores the imperative of fostering transparent and accountable governance systems that uphold integrity and ethical conduct within law enforcement agencies and other pertinent institutions. By doing so, the aim is to mitigate the misuse of power and corruption, thereby curbing environmental offenses more effectively. The third theme underscores the dearth of political will in adequately addressing environmental issues. It underscores the significance of political commitment and prioritization in effectively tackling environmental concerns. This

theme posits that policymakers ought to accord primacy to environmental protection and allocate sufficient resources and institutional capacities to facilitate robust enforcement of environmental laws. Lastly, the theme of insufficient public awareness underscores the crucial role of fostering broader public education and engagement to promote environmental protection. This theme underscores the significance of engendering public participation and fostering civil society involvement in advancing environmental sustainability objectives. It also emphasizes the need to hold institutions accountable for environmental crimes through vigilant public scrutiny and engagement.

The **sixth chapter** of this thesis answers the third research question, that is, what measures can be taken to address the challenges faced by law enforcement agencies and environmental organisations in policing green crime in Bangladesh and promoting a sustainable and eco-friendly society? This investigation will be thoroughly examined through the meticulous analysis of data collected from thirty-six (36) interviews, including law enforcement agencies, environmental organisations, civil society groups, environmental journalists, development practitioners, researchers, and non-governmental organisations (NGOs) and volunteer organisations. This chapter endeavours to provide a comprehensive and scholarly examination of strategies aimed at enhancing institutional frameworks, constituting the primary thematic focus. The analysis put forth in this chapter is rooted in a rigorous review of existing data and research pertaining to the subject matter. **Chapter seven** provides a discussion of the main findings of each research question and discusses them through the relevant literature. It also identifies directions for future research. Recommendations for the evidence-based development of environmental policing in Bangladesh are also provided.

In sum, this study sheds light on the challenges and opportunities for policing green crime in Bangladesh. It highlights the urgent need for effective law enforcement strategies to address the prevalent environmental crimes in the country, including illegal logging, wildlife trafficking, and pollution. Its findings suggest that the establishment of a specialised environmental police unit, enhanced public engagement, and eco-friendly education can potentially improve the effectiveness of green crime policing in Bangladesh. However, these solutions require political commitment and community engagement to succeed. The study's emphasis on community engagement, public awareness, and political commitment provides a valuable contribution to the existing literature on green crime and policing in Bangladesh. Policymakers, law enforcement agencies, and environmental organisations can use this study's findings to develop evidence-based strategies to strengthen the effectiveness of green crime policing in Bangladesh and create a more sustainable and environmentally friendly society.

Chapter-One: Environmental Crime/harm and Environmental Agencies in Bangladesh

1.1 Introduction

This chapter serves two main purposes: to critically examine the prevailing forms of environmental crime and harm in Bangladesh, and to present the key law enforcement agencies and environmental organisations responsible for addressing these issues. By providing a comprehensive overview of environmental crime and harm, it sheds light on the multifaceted challenges and complexities involved in tackling the pressing issue of pollution and other environmental harms. Within the framework of green crime and harm, the chapter explores the various manifestations of environmental pollution that have permeated Bangladesh. Furthermore, it offers an in-depth analysis of the roles and responsibilities entrusted to environmental agencies, particularly the DoE and WCCU, as well as other law enforcement bodies. These entities are crucial in the task of mitigating and combating environmental crime and harm through the implementation of environmental law enforcement mechanisms, with mobile court operations being the prevailing tool in Bangladesh.

1.2 Environmental crime in Bangladesh

In this thesis, the primary focus is on environmental crimes as defined by Bangladeshi law. While it is essential to acknowledge the broader remit of green criminology, which examines environmental crimes and wider harms, this research will specifically concentrate on the crimes recognised by legal statutes in Bangladesh (Bangladesh Environment Conservation Act, 2010 and Bangladesh Environmental Conservation Rules, 2023). Green criminology provides an interdisciplinary perspective, exploring both criminal activities and non-criminalised harms to

the environment and non-human nature, and considers various approaches to addressing these issues, including those beyond mainstream criminal justice systems, such as restorative justice or NGO-led investigations (Nurse, 2017). This holistic view of environmental harm is crucial for contextual understanding, but for the purposes of this thesis, the emphasis will be on legally defined environmental crimes within Bangladesh (Bangladesh Environment Conservation Act, 2010 and Bangladesh Environmental Conservation Rules, 2023).

Environmental crime refers to activities that violate environmental laws and regulations, resulting in harm to nature and public health. These offences include illegal hunting, pollution, improper waste management, illegal wildlife trade, logging, fishing, and the use of ozone-depleting substances (Heckenberg, 2014; FCA, 2023). In Bangladesh, specific environmental crimes encompass air and water pollution, noise pollution, soil contamination, river pollution, deforestation, illegal fishing, illegal mining, stone extraction, and improper waste disposal, including domestic, electronic, and medical waste (Hasnat et al., 2018). For instance, illegal logging in the Sundarbans mangrove forest not only devastates the local ecosystem but also impacts food security and air quality (Interpol, 2023). Moreover, illegal wildlife trade threatens the survival of endangered species and disrupts ecological balance (EIA, 2008 & White, 2014).

Bangladesh faces significant challenges from environmental crimes, compounded by factors such as demographic pressure, poverty, limited environmental awareness, and ineffective enforcement of regulations (Hasnat et al., 2018). These crimes have severe repercussions on human health, biodiversity, and overall quality of life, making it crucial for law enforcement to effectively tackle these issues. By focusing on the legal framework and the role of the police in enforcing these laws, this thesis aims to provide a detailed analysis of how environmental crimes

are managed within Bangladesh's judicial system and the obstacles faced in ensuring compliance and protection of the environment.

To address the concerns about the definition and scope of environmental crimes versus harms, it is important to consider why certain environmental harms should be criminalised. The argument for criminalisation lies in the need for effective deterrence and the allocation of appropriate resources for enforcement. When harms like improper waste disposal are criminalised, they fall within the purview of police activity, ensuring that there are legal mechanisms and dedicated resources to address these issues. This criminalisation also elevates the seriousness of the offence, potentially leading to better regulatory compliance and environmental protection. Therefore, the thesis justifies the need for criminalising certain environmental harms by highlighting the role of legal frameworks and law enforcement in managing and mitigating these harms within Bangladesh's judicial system (Bangladesh Environment Conservation Act, 2010; Bangladesh Environmental Conservation Rules, 2023). This approach aims to provide a detailed analysis of how environmental crimes are managed and the obstacles faced in ensuring compliance and protection of the environment.

While this thesis acknowledges the broader scope of environmental harms examined in green criminology, its primary focus is on the legally defined environmental crimes within Bangladesh. The necessity of criminalising certain environmental harms is underscored by the need for robust enforcement mechanisms and the effective allocation of resources to address these issues, thereby ensuring better environmental protection and regulatory compliance (Nurse, 2017; Heckenberg, 2014; Hasnat et al., 2018).

Air Pollution

The phenomenon of escalating urbanization has been highlighted by Choudhary et al. (2019), who report that more than 50% of the global population currently resides in urban areas within developing countries. This trend is predicted to intensify by 2030, leading to the emergence of approximately 41 megacities, mainly concentrated in developing nations. The rapid urbanization has correspondingly led to a surge in vehicular numbers, significantly contributing to elevated air pollution levels and subsequent health risks (Choudhary et al., 2019). This complex issue of urban air pollution is driven by a confluence of factors, as outlined by Choudhary et al. (2019), including industrialisation, population growth, increased car usage, and emissions originating from various sectors such as residential areas, commercial establishments, transportation, and industries. In response, the authors emphasise the importance of focusing on key sources like heavy traffic, industries, and household emissions to address this escalating pollution. Saxena and Naik (2019) further underscore the global scope of air pollution, affecting both developed and developing nations due to population growth and increased energy demands. Mallik (2019) establishes a crucial link between human-induced air pollution and the pressing concern of climate change, stressing the need for collective action to mitigate its impact for present and future generations.

In the context of Bangladesh, Paul (2023) cites a World Bank report emphasising the need for enhanced cooperation with neighbouring South Asian countries to effectively address air pollution. This is particularly pertinent given that air pollution contributes to approximately 20% of premature deaths in Bangladesh, with Dhaka ranking among the top 10 most polluted cities worldwide. In the specific case of Dhaka, Dilhan et al. (2020) introduce an innovative air quality

monitoring station in a residential area characterized by extensive bus stations and roads, experiencing distinct dry and wet seasons. Khaled (2019) presents a distressing scenario of severe air pollution primarily emanating from industrial and vehicular emissions, with non-compliant diesel-run vehicles as a significant contributor. Despite regulatory efforts, the city faces challenges due to developmental factors, overcrowding, traffic congestion, and pollution from construction and road excavations (Khaled, 2019).

The brick kilning industry, a significant contributor to Bangladesh's economy, poses environmental challenges in terms of air pollution and global warming due to outdated and toxic emissions from traditional coal methods (Saha & Hosain, 2016). Yeung (2023) underscores Dhaka's struggle against severe air pollution from multiple sources and the compounding effect of transboundary pollution from neighbouring countries. This transboundary aspect highlights the need for collaborative regional strategies to combat air pollution, ensuring local and regional well-being. The Government of Bangladesh has initiated various policies to improve air quality in Dhaka, as noted by Begum and Hopke (2018), including bans on leaded gasoline and two-stroke engines, and promotion of green technology for brick making. However, challenges persist as PM concentrations continue to exceed health-based guidelines (Begum and Hopke, 2018).

The need for regional collaboration in addressing air pollution is further reinforced by the Kathmandu Roadmap developed by Bangladesh, India, Nepal, and Pakistan to improve air quality in the shared airshed of the Indo Gangetic Plain (Dhaka Tribune, 2023). The urgency of the situation is highlighted by The Daily Star (2023), reporting Bangladesh's consistent ranking as having the worst air quality globally and Dhaka as the second most polluted capital. Efforts to tackle air pollution, such as the Air Pollution (Control) Rules (APCR), 2022 released by the

Ministry of Environment, Forest and Climate Change in Bangladesh, have been met with concerns about their effectiveness and accountability (Rana, 2023). A systematic approach is deemed necessary to achieve the targets set in the APCR.

The interconnected challenges of air pollution and climate change are particularly acute in megacities like Dhaka, as observed by Pavel et al. (2021). Despite efforts to improve air quality through regulations and cleaner alternatives, challenges persist, such as worsened traffic congestion due to CNG-powered vehicles highlighted by Sakib (2021). The region's designation as the most polluted in the world emphasizes the need for robust monitoring and coordinated efforts to address pollution sources, including unplanned construction activities (Sakib, 2021). Rahaman (2023) points out that Dhaka city authority is accused of negligence leading to significant air pollution. Key factors contributing to the severe pollution include ongoing development projects, unregulated road excavation, and emissions from vehicles and brick kilns (Rahaman, 2023).

Noise Pollution

Dhaka's noise pollution, a pervasive threat affecting individuals, is predominantly attributed to factors including traffic horns, construction activities, loudspeakers, political gatherings, factory operations, and generators (The New Age, 2022). In 2017, the High Court officially prohibited the use of hydraulic horns in motor vehicles due to their capacity to generate noise levels of up to 120 decibels. Immediate auditory damage and impairment can result from exposure to such high noise levels for over 60 seconds (The New Age, 2022). However, this directive has regrettably faded over time and significant numbers of vehicles on Dhaka's roads still employ these banned horns. According to a study conducted by Bangabandhu Sheikh Mujib Medical University (Sakib, 2022), around 65% of traffic policemen in Dhaka are experiencing hearing issues due to

the city's high noise levels. Dhaka has been labelled as the world's loudest city by a recent report from the UN Environment Programme (UNEP) (Sakib, 2022). The noise levels in Dhaka were measured at 110-132 decibels, which is more than double the recommended limit of 55 decibels set by the World Health Organisation (WHO) (Sakib, 2022). Despite guidelines such as the Environment Conservation Act and Noise Pollution (Control) Rules 2006, which regulate construction equipment operation, construction activities remain a significant contributor to noise pollution in the capital (Ifti, 2023).

Noise pollution is a significant issue in Bangladesh, particularly in divisional headquarters, where sound levels far exceed acceptable limits. According to a recent study by the DoE, areas such as Farmgate, Karwan Bazar, Shahbagh, Gabtoli, and Mohakhali Bus Terminal in Dhaka exhibit average sound levels ranging from 80 to 110 dB, nearly twice the safe limit of 60 dB stipulated by the WHO (Mamun, 2018). Alarming, approximately 11.7% of Bangladesh's population has experienced hearing loss due to noise pollution. Despite the existence of regulations like the Bangladesh Sound Pollution (Control) Rules, 2006, which aim to curb loud noise in residential areas, the enforcement of these regulations remains inadequate. Efforts to curb the escalating noise pollution issue in the capital city have proven ineffective, with noise pollution levels now surpassing the acceptable threshold for an average of 14 hours a day, up from 12 hours previously. Dhaka's noise standards stipulate a maximum daytime level of 60 decibels as per the Noise Pollution (Control) Rules 2006 (Saha, 2023).

Soil Pollution

Bangladesh is confronted with significant challenges stemming from widespread heavy metal and metalloid pollution (Islam et al., 2018). This pollution originates from both industrial activities and natural geological sources, posing substantial threats to the local population. High

concentrations of heavy metals and metalloids are present in soils near industrial zones. Agricultural land and vegetables irrigated with sewage water also display contamination. The contamination extends to rivers like Buriganga, Turag, Shitalakhya, and Karnaphuli affecting their sediment and fish, which are heavily tainted with cadmium, lead, and chromium. Additionally, groundwater is severely polluted with arsenic, resulting in mass poisoning and earning the country the unfortunate distinction of having the world's largest case of arsenic-related poisoning (Islam et al., 2018).

Soil, an essential and non-renewable resource crucial for all life and resources, provides minerals, gases, liquids, and nutrients (Khuda & Raiduzzaman, 2020). However, soil pollution, arising from human activities such as industrial processes, chemical spills, agricultural chemicals, and natural processes, poses risks. The inadequate environmental laws in Bangladesh exacerbate soil pollution due to poor enforcement. Regardless of pollution, soil naturally contains compounds like metals and organic materials. Soil contamination emerges from various sources like construction, mining, vehicle emissions, and improper waste disposal. Natural events such as thunderstorms also contribute to soil pollution. The significance and vulnerability of soil underline the urgent need for enhanced pollution control and conservation efforts.

Excessive levels of heavy metals such as chromium, cadmium, and lead have been detected in soil across different regions of Bangladesh, raising substantial public health concerns as these substances enter the food chain through various pathways (Molla, 2019). Cadmium primarily originates from fertilizers, whereas chromium and lead predominantly contaminate the soil through industrial, electronic, and medical waste. While industrial zones exhibit higher soil pollution, rural areas generally experience comparatively lower heavy metal contamination (Molla, 2019). In some instances, heavy metals from deeper soil layers can resurface through

groundwater irrigation. Official standards for acceptable concentrations of heavy metals in soil have not yet been established (Molla, 2019) while the exploitation of natural resources has led to unauthorized activities that result in soil pollution, constituting an environmental crime (Saha & Sathi, 2019). Approximately one third of the global soil is already degraded, with industrial waste disposal being a significant contributor to soil pollution resulting in considerable environmental consequences.

In Bangladesh, an increasing number of factories employing a wide array of chemicals contribute to the generation of solid waste (Saha & Sathi, 2019). This accumulation, including plastics and chemicals, has led to water logging issues in major cities due to unsustainable waste management practices. Moreover, agricultural practices contribute to soil pollution as farmers excessively use inorganic fertilizers and pesticides to boost food production, thereby harming soil fertility and composition. The burgeoning brick kiln industry in Bangladesh consumes fertile agricultural topsoil for brick production, leading to a reduction in arable land and posing threats to food security and livelihoods (Saha & Sathi, 2019).

Water Pollution

In the densely populated nation of Bangladesh, the challenge of water pollution has reached alarming proportions, propelled by a combination of human activities and natural factors. According to Khuda (2020), rapid and unregulated urban expansion, coupled with the unchecked growth of industries, stands out as the primary driver of water contamination, inflicting dire consequences on both urban and rural communities. The genesis of this pollution crisis lies in inadequate sewage systems, improper disposal of sanitary waste, and the deficient treatment of domestic sewage. Furthermore, the problem is aggravated by excessive extraction of groundwater in urban areas, reduced river flow during dry spells, and the presence of toxic

elements such as arsenic in groundwater. Tragically, the repercussions of this pollution have brought severe health challenges for both urban and rural inhabitants, with waterborne diseases, particularly diarrheal ailments, and even fatalities plaguing rural regions.

Khuda (2020) goes on to state that amplifying the issue is the absence of proper sanitation infrastructure, efficient drainage systems, and a lack of awareness concerning health and hygiene practices, all of which contribute to the escalation of surface and groundwater pollution. Agricultural practices marked by excessive usage of fertilizers, instances of oil spills into water bodies, and the influx of crude and refined oil compounds from various sources further propel the contamination crisis, leading to persistent environmental harm. The contamination of key surface water sources, including rivers, lakes, ponds, and floodplains, is predominantly attributed to the influx of urban and industrial waste, agricultural chemicals, untreated sewerage, and the intrusion of saltwater. Notably, the pervasive presence of arsenic in groundwater poses an ongoing and widespread concern.

Against the backdrop of burgeoning industrialisation, the spectre of environmental pollution looms large, especially concerning the effluents generated by diverse industrial sectors, thereby exerting adverse impacts on the environment and public health (Uddin & Jeong, 2021). Evident examples include the tannery industry, which discharges substantial volumes of liquid and solid waste daily. Similarly, the textile sector contributes significantly to the pollution crisis, with projections indicating a marked increase in wastewater production. Industries encompassing dyeing, leather production, sugar refining, pulp, and paper manufacturing constitute the principal sources of water pollutants. These industries are stratified based on their resource dependencies, elucidating distinct pollution profiles. Industries reliant on local, non-renewable resources, such as minerals, are associated with pollution, with cement and fertilizer factories emerging as

noteworthy culprits. Meanwhile, industries predicated on imported resources, including textiles, pharmaceuticals, plastics, petroleum, and metal works, exhibit heightened pollution tendencies. Waste treatment practices in Bangladesh predominantly involve open field dumping, fostering ongoing aerobic and anaerobic decomposition, a phenomenon particularly pronounced during the rainy season.

Agricultural practices, often executed by uninformed farmers, involve the excessive use of agrochemicals, thereby further exacerbating water pollution. Urban areas contribute to contamination through the release of household effluents containing soaps, detergents, oils, medications, and personal care products into rivers. Hospitals, transportation hubs, and markets along riverbanks further compound the pollution predicament, and waterborne vehicles can release toxic substances into rivers, posing a grave threat to aquatic ecosystems (Uddin & Jeong, 2021).

The Buriganga river stands as a stark embodiment of the multifaceted pollution crisis, resulting from an amalgamation of sources encompassing industrial effluents, domestic sewage, medical waste, and encroachment (Bashar and Fung, 2020). Notably, sectors such as textiles, rubber, cosmetics, and chemicals discharge untreated wastewater directly into the river. This pollution encompasses both biodegradable agents undergoing biochemical transformations and non-biodegradable pollutants, including heavy metals like lead and chromium, which erode water quality and pose risks to human health (Bashar and Fung, 2020). Furthermore, untreated domestic sewage carrying disease-causing bacteria and chemical residues from household cleaning agents contribute to the river's contamination. The improper disposal of clinical waste, including hazardous medical refuse from various medical facilities, compounds the pollution crisis. Such medical waste is often deposited directly into the Buriganga river, giving rise to

significant public health hazards and the pollution of both surface and ground water. The issue of encroachment along riverbanks adds another layer to the predicament, as establishments, makeshift dwellings, factories, dockyards, and workshops impinge upon the river's space. This encroachment not only obstructs navigability but also facilitates the direct dumping of refuse and pollutants into the water. Despite government initiatives aimed at tackling these challenges, pollution and encroachment endure, inflicting considerable harm on both the river's ecosystem and public health.

Faroque & South (2021) go on to say that even though Bangladesh boasts abundant water resources; water's intrinsic propensity to function as a universal solvent renders it vulnerable to contamination, as a myriad of toxins dissolve and intermingle within it. The inappropriate disposal of diverse waste forms culminates in the pollution of ponds, lakes, streams, rivers, and coastal areas, with contaminants further leaching into land areas used for waste disposal, mining, or chemical-oriented manufacturing. The situation is exacerbated by intense rainfall, which exacerbates the contamination dilemma.

River Pollution

Despite the growth in textile and garment industries, many of which are situated along riverbanks for easy water access and waste disposal, environmental protection is not prioritized (Sarkar et al., 2016). They note that the release of hazardous substances like dyes, acids, alkalis, and heavy metals into the water is damaging aquatic life and ecosystems. The Turag River in Dhaka is one such case. These pollutants can enter the food chain through rainwater and irrigation, posing risks to ecosystems and human health. Dhaka's water supply authority faces challenges in treating polluted water from the Turag River and the Shitalakhya River

downstream, affecting drinking water quality. Additionally, heavy metals from the polluted water have entered agricultural products, leading to health problems for consumers.

The peripheral channels around Dhaka City, namely Buriganga, Balu, Shitalakhya, Turag, and Tongi Canal, serve as recipients of significant amounts of untreated sewage, industrial effluents, and municipal waste on a daily basis (Biswas et al., 2015). This continuous influx of pollutants results in severe contamination of surface water in these channels.

Rapid and unplanned industrial growth in places like Dhaka is causing environmental stress, particularly concerning water resources (Sagris and Abbott, 2015). This is due to viewing water as an unlimited resource and worsened by inadequate governance, regulations, and enforcement regarding water usage and waste discharge. This situation has led to declining groundwater levels and worsening river water quality in the region. According to Arefin and Mallik (2018), water pollution poses a significant threat to public health in Bangladesh. Both the management and monitoring of drinking water quality are inadequate. Bangladesh ranks 86th out of 142 countries in terms of drinking water quality and the World Health Organisation's established parameters for drinking water quality are frequently violated.

In July 2019, Bangladesh's top court granted all the country's rivers the same legal rights as humans (Westerman, 2019). This historic decision marked Bangladesh as the first country to confer such legal status upon its rivers, treating them as living entities within the court system. The landmark ruling by the Bangladeshi Supreme Court serves as a protective measure to prevent further degradation of the world's largest delta due to issues like pollution, illegal dredging, and human intrusion. The global rights of nature movement, as discussed by Westerman (2019), has resulted in the establishment of new laws worldwide, providing legal safeguards for the environment. However, the effective enforcement of these laws poses

challenges, exemplified by the situation of informal settlements along rivers in Bangladesh. Despite attempts, certain settlements are being forcibly removed; raising the paradoxical issue that nature now possesses more legal rights than marginalized human communities in some countries like Bangladesh. The nation hosts a significant number of unrecognized refugees from Myanmar, with limited access to education and employment opportunities and the government contemplates options like forced repatriation or relocating these refugees to a remote island, justified by environmental concerns. In addition, complications arise due to the international nature of rivers that often span multiple countries. Inconsistent adoption of rights of nature laws across borders hampers efforts to protect rivers from ecological harm. The India-Bangladesh case highlights anticipated difficulties in ensuring compliance with river-related laws. Furthermore, the implementation of these laws frequently becomes enmeshed in legal disputes, with financial constraints preventing some individuals or groups from pursuing legal action. This situation could potentially lead to an unequal distribution of influence, as those with resources gain disproportionate control over law enforcement.

Forest Fire

Intentional man-made forest fires have occurred several times in Bangladesh, primarily in the Sundarbans area, just before the monsoon season (Hasnat et al.2018). He notes that these fires are purposely ignited, to clear the lower forest land. This practice aims to facilitate the collection of rainwater for fishing activities. The Sundarbans, the world's largest mangrove forest located in Bangladesh, covers 140,000 hectares of tidal forests (Chandan, 2016). It plays a vital role by contributing 45 percent of the country's timber resources and 41 percent of its forest revenue. Moreover, it acts as a protective barrier, shielding Bangladesh's population of 160 million from numerous natural disasters (Chandan, 2016).

Forest fires in the Bangladesh Sundarbans have become a distressing recurring issue, leading to substantial ecological and economic consequences. These fires are often instigated by local individuals in collaboration with corrupt personnel from the Forest Department, exacerbating the problem (Water Keepers, Bangladesh, 2016). Notably, a forest fire incident transpired in the Bangladesh Sundarbans in 2016, resulting in the destruction of approximately 1 acre of forested land. Regrettably, this is not an isolated event, and a significant number of incidents go unreported. Furthermore, Water Keepers(2016) notes that certain individuals collaborate with Forest Department staff to unlawfully appropriate forested land for fishing purposes, often involving allegations of bribery and the illicit leasing of forest land for fishing on a yearly basis. Alarmingly, these anthropogenic forest fires tend to take place just before the onset of the monsoon season in Bangladesh. The timing is deliberate, as the fires are intentionally set to clear land, with a particular focus on low-lying areas chosen for fishing activities.

Deforestation

Deforestation has severely impacted Bangladesh, with approximately 50% of the nation's forests being lost in the past two decades (Hasnat et al., 2018). This degradation is primarily attributed to the expansion of agriculture, urbanization, and industrialization driven by a growing population. The demand for land to support these activities has led to the clearance of forests, resulting in ecological disruption and contributing to climate change.

Bangladesh has a forest cover of around 17.08% of its total land area, but there has been significant degradation of natural resources and substantial changes in land cover (Islam and Sato, 2012). The deforestation framework indicates that illegal logging and the conversion of forested land for various commercial purposes are the main contributors to deforestation of forests in Bangladesh (Islam and Sato, 2012). This process of illegal logging is intricate and is

supported by a local syndicate working behind the scenes. Additionally, the conversion of land for commercial activities directly affects national policy and the underlying conditions of the country.

Bangladesh, a tropical nation known for its abundant biodiversity, has experienced a significant decline in the populations of certain species, with some decreasing by about 50% (Hasnat et al., 2018). The country boasts a diverse range of ecosystems, encompassing remarkable features such as the world's largest mangrove forests (Hasnat et al., 2018). Unfortunately, these ecosystems are facing multiple threats stemming from both climate change and human intervention. The rich biodiversity of Sundarbans is particularly vulnerable to degradation due to activities like illegal logging, encroachment, poaching, and land appropriation.

Illegal Sand Mining

The illegal trade in sand is causing severe environmental damage and posing a significant threat to the planet's health. Williams (2021) notes that Bangladesh, “the land of rivers” is a valuable source of river sand. Sand mining is big business, and although it is supposed to be regulated, Bangladeshi sand miners often expand their operations beyond the areas they have legally leased. Estimates suggest that 60 percent to 70 percent of Bangladeshi sand on the market is illegally mined. According to Deshwara (2022), taking sand illegally from the ground is causing big problems for the environment in rural parts of Bangladesh. This is mainly done by powerful groups, hurting farmland and the quality of soil. Sand is being dug out of the hills and this is making people worried about landslides. The authorities do not seem to be doing much about it, maybe because powerful groups are involved (The Dhaka Tribune, 2021). Using large machines to take out sand from farms is making crops, hills, and water channels unsafe. People are having a tough time obtaining clean water, and the loud noise from these machines is disturbing farmers

who are also worried that digging up so much sand will make their land less fertile in the long run.

The Daily Star (2023) reports that despite concerns over erosion of homesteads and agricultural land, locals are powerless to act due to the involvement of influential figures including the Union Parishad chairman, UP member, and politically connected sand traders, rendering those dependent on the river more vulnerable. Regulations and administrative bodies exist to tackle this issue, but their effectiveness is limited. Mobile court efforts have proven inadequate, as the individuals involved resume their activities afterwards. The local administration's inaction further exacerbates the problem.

Illegal Fishing

The livelihoods of Bangladesh's coastal population heavily depend on fishing. To tap into the economic possibilities of the blue economy, Bangladesh must take a lead role in combatting illegal, unreported, and unregulated (IUU) fishing (Rahman, 2020). IUU fishing activities are a major worry for countries around the Bay of Bengal. Among these countries, Bangladesh is well-positioned to tackle IUU fishing challenges; however, the persistence of IUU fishing in maritime zones is attributed to inadequate legal and administrative monitoring as well as surveillance systems (Rahman, 2020). Illegal, unreported, and unregulated (IUU) fishing involves not only foreign fishing vessels but also local techniques that breach fishing laws, including actions like unlicensed fishing, exceeding quotas, using banned gear, and targeting prohibited species (Ritika, 2022). It encompasses any fishing that violates regulations, regardless of its origin. According to the official website of the Prime Minister's Office, Armed Forces Division (2023), the illegal harvesting of immature Hilsha, -Bangladesh's national fish - called Jatka, has led to scarcity. Since 2001, the Bangladesh Navy has conducted 'OPERATION JATKA' and

'OPERATION MAA ELISH ROKKSHA' to combat this and the Navy has received awards its conservation efforts by reducing illegal fishing, thus benefiting fisheries.

Illegal fishing nets are causing severe damage to local aquatic ecosystems and reservoirs (The Dhaka Post, 2023). These banned nets are reducing fish populations, disrupting water body balance, and harming the entire ecological cycle. Their use is nationwide in rivers, canals, and reservoirs, catching various fish species along with mother fish and fry. Roughly one-third of waterlogged arable land is impacted, and there's criticism of the Fisheries Department for insufficient action and alleged links to illegal traders facilitating the banned nets' trade (The Dhaka Post, 2023). The Bangladesh Post (2020) reported that there is an ongoing issue of illegal acquisition of shrimp in Chittagong and the Bay of Bengal. Despite a ban in place, fishermen are using banned nets to collect shrimp pollen, which is then sold to local traders. These traders profit by reselling the shrimp to farms across regions. This harmful practice involves individuals of all age groups, and while shrimp fry are saved, other species are discarded, causing significant damage to aquatic life. The report also highlights the establishment of unauthorized shelters by fishermen, often with the protection of influential figures. Illegal fishing practices using large trap nets and enclosures in a river have persisted, endangering various fish species (The Dhaka Tribune, 2020). The widespread use of these unlawful bamboo enclosures and nets is undermining fish populations and prompting a fishing ban within a 20-kilometer fish sanctuary.

The widespread use of fishing nets, including the banned China Doary trap, has been identified as a significant factor contributing to the severe decline in native fish populations (Shakil, 2023). This particular trap, characterized as more destructive than other types of nets, is being employed in various water bodies, posing a substantial threat to both mother fish and their offspring. Despite the regulatory measures, challenges persist in effectively curbing their use. Enforcement

of the ban has proven to be inadequate, particularly in remote areas where resources are limited and cooperation from law enforcement is lacking (Shakil, 2023).

Illegal fishing is a grave issue at Tanguar Haor, an ecologically important area. Various groups are utilizing illegal fishing nets along with motorized boats to catch fish in the region (The Financial Express, 2021). This unlawful activity is harming traditional fish breeding sites and disturbing the reproductive cycles of different fish species. Despite sporadic law enforcement patrols, smaller groups persistently employ illegal nets both day and night, sometimes even using mechanized boats. Regrettably, law enforcement presence is insufficient. The extensive illegal fishing is negatively impacting deep water fish and causing anxiety. The unregulated capture of fish fry is likely to lead to diminished fish production over time.

Illegal logging/Timber Trafficking

Logging bans have been increasingly implemented across tropical regions as a strategy to combat deforestation (Sarker et al., 2011). In response to deforestation concerns, the Bangladeshi government enforced logging bans during the 1970s and 1980s as a measure to curb the issue. These bans are widely regarded as a protective approach to safeguard forested areas. Reports by The Independent (2018) highlight the proliferation of unlicensed sawmills operated by influential figures who exploit the lucrative timber trade driven by high prices. Consequently, illegal sawmills have proliferated, further exacerbated by outdated forest policies that loggers exploit. These loggers often possess government connections and engage in bribery of officials. The unfortunate combination of corruption, inadequate forest management, and weak law enforcement has significantly contributed to the widespread problem of illegal logging, posing a severe threat to forest ecosystems. Additionally, poverty serves as a motivation for tree felling,

as illegal traders offer more attractive prices compared to the government (The Independent, 2018).

In Bandarban's Lama upazila, a gang has reportedly engaged in tree cutting activities for years within the indigenous Mro community, impacting the Marma people as well (Marma, 2023). These trees are transported to various districts using motorized vehicles. The gang employs muscle power, firearms, and false cases to harass and intimidate the local community when facing protests. Disturbingly, despite ongoing concerns, the local administration, forest officials, and law enforcement agencies have shown a lack of intervention in this situation (Marma, 2023).

The degradation of forest resources in Chattogram Hill Tracts (CHT) traces back to British colonial rule, characterized by settlements from the plains and forest nationalization (Siddiqui, 2020). The responsibility of forest management was entrusted to agencies like the Forest Department, with the implementation of British regulations such as the Chittagong Hill Tracts Regulation of 1900 and the Forest Act of 1927 (Siddiqui, 2020). Presently, deforestation results from the actions of settlers, smugglers, and locals due to heightened demand (Siddiqui, 2020). Despite the existence of Acts and Rules in Bangladesh to protect forests, such as the significant Forest Act of 1927, amendments have been made over time, especially in 1989 to impose stricter penalties and reduce official powers. Additional rules like the Chittagong Hill Tracts Transit Rules of 1973 and the Brick Manufacturing and Kiln Construction (Control) Act of 2013 were introduced (Siddiqui, 2020). However, contradictions between the severe penalties outlined in the Forest Act and the lenient 1973 Rule have created a loophole that benefits the illegal wood trade involving smugglers, locals, and law enforcement.

Illegal timber trade has been occurring through both river and road routes, prompting the South Forest Division of Chittagong Hill Tracts in Rangamati District to take notable actions against

this issue (Chakma, 2020). Over the past 1.5 years, continuous operations against dishonest timber merchants have resulted in the seizure of various types of vehicles used for transporting stolen timber, including trucks, mini trucks, pickups, and local engine boats. Collaboration between wood smugglers and complicit forest officials is causing significant deforestation in reserved forest regions of Bandarban (Rainforest News, 2015). Despite substantial afforestation efforts between 1981 and 2012, areas like Bandarban Sadar, Ruma, Thanchi, and Roangchhari are experiencing deforestation. The lack of trees in areas with reserved forest signs is concerning. Though afforestation data for Betchhara and Kasalang ranges is missing within the Bangladesh Forest Department, local accounts indicate that wood smugglers are actively cutting down trees using Charuipara Road and pushcarts, while forest officials overlook these activities (Rainforest News, 2015).

Medhakachhapia National Park in Cox's Bazar has witnessed rampant illegal logging of century-old mother Garjan trees, with environmentalists blaming local forest department officials for indifference (Mamun, 2021). Despite being declared a national park in 2005 and protected under the International Union for Conservation of Nature (IUCN), the park's purpose to preserve Garjan trees is threatened by indiscriminate felling. The reserve forest houses over 10,337 Garjan trees, of which 1,000 have already fallen victim to illegal logging. Since the early 1990s, the area has suffered from a common practice of logging for housing and livelihoods, exacerbated by inadequate preservation measures (Mamun, 2021). Conservationists are urging immediate action against the plunderers, highlighting the urgency of protecting the park's biodiversity and ecosystem (Mamun, 2021).

Illegal Stone Extraction

Sylhet, a district in Bangladesh, serves as a significant resource hub for hard stone which is a valuable geo-resource that ranks closely behind gas and coal in terms of importance (Ahmed & Mynuddin, 2016). Particularly beneficial for the local construction industry, hard stone plays a pivotal role in the region's development. However, rampant stone extraction has become a pressing concern in various upazilas (sub-districts) of Bandarban, leading to an escalating risk of desertification as highlighted by Das (2019). This widespread removal of stones from rivers and streams has triggered the depletion of water bodies, resulting in a gradual transformation of the region into a desert-like environment. Despite the existence of government regulations, the persistence of illegal stone mining prevails notably in Lama, Ali Kadam, Rowangchhari, and Thanchi upazilas (Das, 2019). Ali Kadam stands out for its continuous illegal stone extraction, often facilitated through manipulation of authorities, local representatives, and political figures (Das, 2019). While the government has enacted strict rules to prevent hill cutting and stone excavation from water sources, these regulations have failed to deter those involved in illegal mining (Das, 2019). Notably, Das (2019) underscores that official permission for excavation is typically granted based on specific stone quantity and time limits. However, influential individuals frequently exceed these limits, and contractors associated with these influential figures obtain approval from the district administration to extract stones from all streams and fountains in Lama.

This activity has led to casualties among workers and substantial environmental damage over the past decade, as reported by Chowdhury (2020). Stone extraction is observed in Companiganj, Gowainghat, Jaintiapur, and Kanaighat upazilas. In these areas, traders excavate up to 200-250

feet deep, inflicting harm upon riverbanks and hills. Government intervention is required to combat protests by stone traders and transport workers. The illicit trade, valued at millions, has benefited various officials, including local administrators, law enforcement, and higher authorities. Even lawyers and judges who aid extractors receive bribes. The commitment of the police and the Department of Environment raises questions. While recent actions suggest heightened enforcement, violations of "The Mines and Minerals Rules 2012" continue unabated at stone extraction sites (Chowdhury, 2020).

Furthermore, significant environmental damage is being caused in the Jaflong area of Gowainghat upazila. Stone extraction has transformed a once lush hill, covering 137.50 acres, into a wasteland marked by deep holes (TBS, 2020). Consequently, air and noise pollution have marred Jaflong's appeal as a tourist destination. The adverse impact of stone extraction is devastating the environment and ecology across various regions in Sylhet. To counteract this, a 15-kilometer stretch of land along the Piyain River in Jaflong was designated an Ecologically Critical Area in 2012 (TBS, 2020). However, despite bans mandated by the ministry and the court, stone extraction persists due to political support and administrative indifference. Legal actions, such as a lawsuit brought by the Department of the Environment against 22 individuals accountable for environmental destruction, have proven ineffective due to their political connections. This persistent illegal activity, driven by political backing and administrative inaction, has rendered previous efforts to address the issue futile.

The Pyain River at Jaflong Zero Point in Sylhet has undergone a distressing transformation. Rampant illegal mechanized stone extraction has turned the once clear river into a quarry-like landscape. According to Akter (2023), this alteration is attributed to the presence of noisy crushers on the river's banks, constant water pumping, and heavy machinery, all of which have

collectively marred the river's natural beauty. As reported by The BD News 24 (2005), illicit underground stone extraction in Dimla upazila is depleting a valuable national resource; unscrupulous individuals use high-power pumps beneath the land to extract stones. The Water Development Board initiated a case against this activity along the Teesta Riverbank. Police acted by confiscating equipment from the offenders. However, the report by The BD News 24 (2005) suggests that a former police unit in-charge allegedly facilitated reconciliation between a ruling party leader and the stone extractors, hindering further action. Additionally, influential businessmen have damaged dams, roads, bridges, and trees in the pursuit of stone extraction, thereby exacerbating erosion risks. Allegations also indicate that administrative inactivity results from pressure imposed by powerful political and business figures (The BD News 24, 2005).

Indigenous communities residing in Bangladesh's Chittagong Hills Tracts (CHT) are confronting severe consequences stemming from abuses inflicted upon them (Yousuf, 2018). The principal cause of their plight is the expansion of stone extraction projects in the CHT, which jeopardizes the essential ecosystems supporting these communities' way of life. This situation infringes upon the environmental rights of the CHT inhabitants, adding to a pattern of human rights violations in the region. Across the Bandarban hills, uncontrolled stone extraction in over 200 streambeds poses a threat to the livelihoods of 11 ethnic groups and harms the forest's biological diversity (Yousuf, 2018). This illicit practice endangers not only wildlife and forest biodiversity but also the lives of hill-dwelling communities representing numerous ethnic groups. These isolated communities rely on water from these streams for various purposes, including drinking, irrigation, fishing, and washing (Yousuf, 2018).

Wildlife Trafficking

In Bangladesh, wildlife trafficking is a major, though under reported, issue (Fullstone et al., 2023). The issue of wildlife trafficking in Chattogram has gained significant attention, with criminals exploiting lax monitoring and creative methods to smuggle endangered animals such as hoolock gibbons and porcupines (The Daily Star, 2022). The police have uncovered a complex process of poaching, smuggling, and selling, orchestrated by transnational syndicates, contributing to a global trade industry worth billions of dollars. Despite occasional police interventions, the primary culprits have largely evaded capture. Notably, around 425 animals were illicitly transported to Chattogram from various regions during the 2021-2022 fiscal year, underscoring the widespread nature of this issue beyond the immediate region. The illicit trade in wildlife is amplified by modern communication tools, including platforms like Facebook, and the involvement of affluent individuals further complicating efforts at prevention (The Daily Star, 2022). The failure of authorities to address the problem, coupled with habitat loss, exacerbates the crisis for wildlife populations, necessitating urgent and stringent measures to counter this illegal trade.

According to Roy (2015), Bangladesh has witnessed a significant upsurge in the confiscation of wild animals and birds over the past five years, indicating the country's utilization as a conduit for wildlife trafficking by poachers and smugglers. During this period, the Department of Forest (DoF) and law enforcement agencies have seized 21,506 live wild animals and birds, including tiger and bear cubs, in addition to animal body parts such as tiger skins, bones, and African elephant tusks (Roy, 2015). The exploitation of Bangladesh as a conduit for wildlife trafficking is a particularly prominent issue, with traffickers notably involved in the smuggling of high-

demand items like tiger skins and bones, especially sought after in China (Roy, 2015). A substantial portion of the confiscated creatures were intended for local trade, while others were earmarked for trafficking to various countries, primarily within Southeast Asia. Among the favoured exit points for smugglers, Shahjalal International Airport in the capital city stands out due to its limited oversight and susceptibility to bribery (Roy, 2015). The consequences of this illicit practice are dire, jeopardizing the existence of rare and endangered species like the Bengal tigers found in the Sundarbans. Over the past five years, law enforcement and the DoF have seized notable quantities of tiger-related items, including three cubs, 12 skins, and various body parts (Roy, 2015). Notably, around two-thirds of the seized creatures are turtles and tortoises, with law enforcers intercepting a dozen illegal shipments of these animals at the airport and an additional 20 along the Bangladesh-India border (Roy, 2015). A significant number of these turtles and tortoises, frequently originating from India, were discovered at Shahjalal Airport en route to Southeast Asian countries (Roy, 2015).

The establishment of the Wildlife Crime Control Unit (WCCU) in 2012 aimed to combat trafficking and has succeeded in rescuing over 37,000 animals and identified 1,368 related offenses. However, these efforts have translated into only 111 filed cases and 157 arrested offenders, showcasing the presence of major information gaps within the wildlife trade chains that hinder governmental crime-fighting endeavours. Hasnat (2022) underscores that a domestic route catering to the pet market, involving species like hornbills, mynas, parrots, and bear cubs, stretches from the Bandarban district near the Myanmar border to Dhaka. Concurrently, an international trade route centred on pangolin scales, wild cat skins, and bones also extends from Bandarban to Myanmar. Furthermore, trade routes for freshwater turtles originating in Chittagong and Sylhet divisions extend to India's Assam and Meghalaya states, as well as from India's West Bengal state to Bangladesh (Hasnat, 2022).

In Bangladesh, the only law enforcement unit addressing wildlife trafficking is the Wildlife Crime Control Unit. According to Fullstone et al., (2023) there are currently merely six members drawn from the Forest Department; this unit has not gained recognition as a 'revenue department' within the legal framework. Consequently, it lacks a dedicated budget allocation from the government. Instead, its funding primarily relies on project funds associated with developmental initiatives from both the government and external partners. This prevailing scenario reflects a lack of significant prioritization of anti-wildlife trafficking efforts in Bangladesh. Furthermore, the Wildlife Crime Control Unit's constrained institutional capacity and the shortage of adequately trained law enforcement personnel further accentuate the country's limited commitment to combat wildlife crime effectively. Fullstone states that in its present state, the unit's capability to conduct nationwide investigations into wildlife-related offenses remains suboptimal. However, the patrolling system introduced by the Bangladesh Forest Department (BFD), utilizing the Spatial Monitoring And Reporting Tool (SMART), shows promising potential in combating trafficking (Hasnat, 2022). SMART, initially implemented in the Sundarbans mangrove forest's four ranges – Satkhira, Khulna, Chandpai, and Sarankhola – since 2017, employs Geographic Information System (GIS) technology to enhance the monitoring, assessment, and management of patrolling activities. The system's success has prompted plans for its extension to all of Bangladesh's forests (Hasnat, 2022). The implementation of SMART has notably contributed to a significant reduction in crime rates within the Sundarbans region of Bangladesh (Hasnat, 2022). Through the SMART software, ranger-collected data on illegal activities, biodiversity, patrol routes, and management actions can be collected, stored, communicated, and analysed, aiding in targeting efforts and evaluating ranger performance (Hasnat, 2022).

Electronic Waste Dumping

Rapid technological advancements have globally triggered a surge in electronic waste, impacting countries including Bangladesh (Jamil, 2023). Struggling with the mounting electronic waste, termed Waste Electrical and Electronic Equipment (WEEE), Bangladesh grapples with its management due to increased usage of devices like mobile phones, household electronics, office equipment, and ship-breaking activities. Annually, the country generates about three million metric tonnes of e-waste, containing hazardous substances like heavy metals and flame retardants that endanger human health and the environment (Jamil, 2023). Bangladesh lags behind in managing this waste due to its large population and limited disposal infrastructure compared to countries with effective waste management systems which not only enhance the environment and public health but also generate income and job opportunities.

The economic viability of e-waste management lies in valuable materials like gold, silver, copper, and palladium found in electronic devices. The global e-waste management market, valued at USD 56.56 billion in 2021, is projected to reach USD 189.8 billion by 2030, growing annually at a rate of 14.4% (Jamil, 2023). In 2021, Bangladesh took a positive step by introducing e-waste management rules, delineating responsibilities for various stakeholders. These regulations restrict hazardous substances and impose penalties for violations, yet a more comprehensive approach is required to effectively address the issue. A substantial portion of Bangladesh's e-waste ends up in landfills due to informal recycling industries and a lack of awareness regarding proper disposal routes. This underscores the necessity for holistic solutions to manage e-waste and mitigate its adverse impacts (Jamil, 2023).

Bangladesh has significantly advanced in digitizing both its public and private sectors, leading to widespread electronic device usage in industries and households (Haque & Rahman, 2022). The country ranks among the top 10 globally in mobile phone use, with approximately 60 million users. However discarded phones encompass hazardous elements like lead, PCBs, and mercury, alongside valuable materials like metals and plastics. Poor management of e-waste can deplete natural resources, harm the environment, and pose health risks to those exposed. To address this issue, the Department of Environment in Bangladesh introduced the 'Hazardous Waste (e-waste) Management Rules 2021'. These rules mandate registered e-waste manufacturers and recyclers to submit comprehensive management plans. Nonetheless, a substantial portion of e-waste still undergoes informal handling, with about 97% being recycled within the informal sector. This sector employs inadequately paid workers lacking safety awareness, resulting in environmental contamination due to insufficient recycling practices (Haque & Rahman, 2022). Global e-waste production has surpassed 57 million metric tons yearly, with Bangladesh contributing 3 million metric tons annually (Roy et al., 2022). Major Bangladeshi cities like Dhaka and Chittagong primarily see mobile phones, computers, refrigerators, televisions, and air conditioners as components of e-waste (Roy et al., 2022). According to Khuda (2021), while technology has revolutionized the lives of Bangladeshi people, it has also led to a host of challenges. Improper disposal of electronic devices in inappropriate locations like landfills, rivers, canals, and open spaces poses a severe threat to the environment and human health. Unfortunately, only a minor portion (20-30%) of electronic waste undergoes recycling, exacerbating the problem.

Medical Waste Dumping

It is essential for healthcare institutions, particularly government-run ones in Bangladesh, to maintain cleanliness and environmental safety (Dana, 2011). However, many healthcare centres

in Bangladesh are currently operating in poor, insanitary conditions, releasing toxic substances. This leads to significant environmental issues and health concerns for both communities and workers. The mismanagement of hazardous hospital waste has become a growing problem. This waste, collectively known as medical waste, includes general waste like food and paper to hazardous biological, chemical, and radiological waste. Consequently, the improper disposal of medical waste is a growing environmental issue in Bangladesh, particularly in Dhaka. Despite the potential dangers to both the environment and public health, the management of medical waste has not received adequate attention until recently (Hasan et al., 2008). According to Hasan et al. (2008), Health Care Establishments (HCEs) play a significant role in producing both non-infectious (77.4%) and infectious (22.6%) medical wastes and surveys show that on average, HCEs generate 1.9 kg of waste per bed per day. Unfortunately, a majority do not segregate their waste, opting to mix it with regular household waste. The issue is further compounded by the escalating use of single-use disposable items in medical procedures, contributing to a surge in the quantity and diversity of medical waste (Hasan et al., 2008).

The volume of hazardous medical waste is on the rise across clinics, hospitals, and healthcare facilities nationwide. According to Rahman, (2021), this category of waste includes sharp objects, body fluids, chemicals, and more. In Dhaka alone, approximately 13.5 tons of medical wastes are generated daily. Concerns have arisen regarding the improper sorting and sale of recyclable materials from this waste stream and the inadequate management of medical waste poses severe risks to public health, potentially leading to the spread of diseases like Covid-19.

1.3 Environmental law enforcement agencies in Bangladesh

The DoE serves as the primary environmental law enforcement agency, entrusted with the responsibility of addressing various forms of pollution and safeguarding conservation efforts and

ecosystems. Complementing the DoE's endeavours, the WCCU operating under the Department of Forest assumes the task of protecting vegetation and wildlife. These two agencies stand as the principal pillars of environmental law enforcement in Bangladesh. Additionally, collaborative efforts are undertaken with other law enforcement bodies such as the Bangladesh Police, Border Guards Bangladesh (BGB), Rapid Action Battalion (RAB), Customs Intelligence, and local civil administration. In their respective roles, the DoE and the WCCU collaborate closely with other law enforcement agencies in Bangladesh to reinforce environmental protection initiatives. The Bangladesh Police, BGB, RAB, Customs Intelligence, and local civil administration entities provide critical support by contributing their unique expertise, resources, and jurisdictional reach. By integrating efforts across various agencies, Bangladesh endeavours to strengthen environmental law enforcement and enhance overall conservation and sustainability. However, continuous improvement in legal frameworks, resource allocation, capacity building, and public awareness remains essential for the effective implementation of environmental laws and the preservation of the country's natural heritage.

1.3.1 Department of Environment (DoE)

The DoE is an official environmental law enforcement agency that operates under the purview of the Ministry of Environment, Forest and Climate Change (MoEFCC). Having been formed almost four decades ago, the DoE has diligently pursued its legal mandate, thereby establishing itself as a prominent institution in the realm of environmental governance. According to the DoE (2022), in 1977, an Environment Pollution Control Cell was established with a director and 26 staff members. In 1985, it became the Department of Pollution Control. In 1989, it was renamed and restructured as the DoE under the Ministry of Environment, Forest and Climate Change (MoEFCC), led by a Director General (DoE, 2022).

The DoE's aims to create a safe, pollution-free, and aesthetically pleasing environment for present and future generations by safeguarding citizens' environmental rights and promoting conservation through the effective implementation of environmental laws, regulations, and principles, thereby facilitating sustainable development and environmental preservation (DoE,2022). Therefore, the mission and vision of the DoE, according to the official website of the DoE (2023), is to safeguard the environment, ensuring its cleanliness and health for both current and future generations. The DoE aim to achieve this by enforcing environmental rules and regulations in a fair and consistent manner, providing guidance, training, and raising awareness about environmental issues and taking sustainable action to address significant environmental problems, showcasing practical solutions that inspire public support and participation.

The legal empowerment of the DoE is vested in the Bangladesh Environment Conservation Act of 1995, which mandates this environmental agency to exercise its authority exclusively in matters pertaining to environmental governance. This grant of empowerment stems from the unwavering commitment of the state as enshrined in the constitution of Bangladesh. According to the DoE (2022:8),

‘The Bangladesh Environment Conservation Act of 1995 (Amended 2010) is the country's most comprehensive environmental law. The DoE derives its authority from the Constitution of the People's Republic of Bangladesh. Article 18A of the Constitution states the commitment to protecting and enhancing the environment, as well as preserving natural resources, biodiversity, wetlands, forests, and wildlife for both present and future citizens. This article reflects the fundamental State Principle of 'Right to Life' and establishes the overarching goals of environmental conservation’.

In addition, the DoE operates within a comprehensive and extensive legal framework that encompasses a wide array of rules and regulations. These legislative measures serve to empower the Department and grant it the authority to effectively manage waste disposal activities and ensure the conservation of biodiversity across the nation. The Legal Framework of the DoE, according to the DoE (2022:12),

1. Environment policy, 2018
2. Bangladesh Environment Conservations Act, 1995 (Amendment 2010)
3. Bangladesh Environmental Conservation Rules, 2023
4. Environment Court Act, 2010
5. Ozone Layer Depleting Substances (Control) Rules, 2004
6. National Biosafety Framework, 2006
7. Noise pollution (Control) Rules, 2006
8. Medical Waste Management and processing) Rules, 2008
9. Bangladesh Climate Change Strategy and Action plan, 2009
10. National 3R Strategy for Waste Management, 2010
11. Hazardous Waste and Ship Breaking Waste Management Rules, 2011
12. Biosafety Rules, 2012
13. Brick Making and Kiln Establishment (Control) Act, 2013 (Amendment 2019)
14. Ecologically Critical Area Management Roles, 2016
15. National Biodiversity Strategy and Action plan, 2016-2021
16. Bangladesh Biodiversity Act, 2017
17. Solid Waste Management Rule, 2021

18. Hazardous Waste (E-Waste) Management Rule, 2021

In conjunction with the aforementioned policies and regulations, the DoE engages in collaborative efforts with various partner organisations, while also assuming responsibility for the direct or indirect enforcement of multiple additional directives (DoE, 2022). To ensure the enforcement of environmental laws and regulations, the DoE actively engages in cooperative initiatives with key stakeholders, including the Bangladesh Police, the Bangladesh Ansar, and local civil administration. These partnerships are vital for fostering a holistic approach to environmental conservation and sustainable development in Bangladesh. By joining forces with the Bangladesh Police, the DoE aims to bolster its enforcement capabilities, utilizing the expertise and resources of the police force to address environmental violations effectively. The DoE's alliance with the Bangladesh Ansar further strengthens the enforcement landscape, as Ansar's experience and local presence contribute to the identification and prevention of environmental transgressions. Furthermore, the DoE collaborates closely with local civil administration to foster a coordinated approach towards environmental governance. This cooperation allows for coordination and information sharing between the DoE and local authorities, facilitating swift responses to environmental issues and promoting sustainable practices at the community level. The abovementioned legal framework and constitutional mandate have conferred upon the Department of Environment a diverse array of tasks, pertaining to the enforcement and compliance of environmental laws in Bangladesh. According to the official website of the DoE (2023),

Some of the key activities include controlling pollution by identifying and marking polluting industrial establishments, taking legal action against violators, and collecting compensation for

environmental damage. They conduct inspections and examinations for new and existing industrial projects, provide environmental clearance, and assess the environmental impact of development programmes. The department also investigates complaints related to pollution, prevents illegal hill cutting, and manages mobile courts for polluting vehicles. They test and analyse air and water quality, collect and analyse samples for determining the quality of ponds and drinking water, and implement measures to address climate change impacts and protect biodiversity. Additionally, they enforce regulations on hazardous chemicals, control ozone-depleting substances, and promote public awareness and participation in environmental conservation.

To carry out a wide range of activities across the country, the Department of Environment (DoE) has established divisional, regional, and district offices, each with its approved staff. However, the current manpower is inadequate to effectively operate the offices in various regions. According to the DoE (2022:10),

‘The Department operates through a Head Office and several regional/divisional offices located in different cities of Bangladesh, including Dhaka, Chattogram, Khulna, Bogura, Barishal, Sylhet, Mymensingh, and Rangpur. There are also two Environmental Labs and two Metropolitan Offices in Dhaka and Chattogram. Currently, 50 district offices are functioning, with plans to launch 14 more gradually. The total number of employees in the DoE has increased to 1133, out of which 572 are currently working. However, considering the significant environmental issues in the country and the wide-ranging functions of the organisation, the current staffing level is considered insufficient’.

The functions of the DoE can be classified into three overarching categories, namely the issuance of environmental clearance certificates, diligent monitoring practices, and stringent enforcement measures. According to the DoE (2022:49),

‘In Bangladesh, industries and projects must obtain Environmental Clearance under the Environment Conservation Act of 1995 (Amended 2010). This involves meeting pollution limits and implementing mitigation measures like Effluent Treatment Plants (ETP), Air Treatment Plants (ATP). Compliance with these conditions is checked during certificate renewal’.

The following chart presents comprehensive information pertaining to the issuance and renewal of environmental clearance certificates from the period spanning 2010 to 2021.

Table-1: Environmental Clearance Certificate (ECC) issuance and its Renewal (ECN)

Year	Environmental Clearance Issuance (No.)	Renewal Issuance
2010	4987	5298
2011	5436	7464
2012	6282	6647
2013	6803	7123
2014	5867	9314
2015	6264	9992
2016	7083	9577
2017	6887	10451
2018	6244	10907
2019	5315	11778
2020	3779	12975
2021	3533	12076

[Source: The Department of Environment, DoE (2022: 49)]

According to the Inspection and Enforcement Manual of the DoE (2008:1),

Field inspections are an essential component of enforcement programs within the Department of Environment. These inspections are conducted by authorized inspectors under the authority of the Director General (DG) of the Department. The primary objective of these inspections is to ensure compliance with the Environment Conservation Act (ECA), the Environment Conservation Rules (ECR), as well as relevant guidelines and certificates of clearance.

According to the Inspection and Enforcement Manual of the DoE (2008:1), this intervention includes the following actions:

- Inspections and monitoring: Inspectors conduct inspections and monitor activities to verify compliance with environmental regulations and requirements.

- Investigation of suspected violators: The Department investigates individuals or organisations suspected of violating environmental laws and regulations.
- Using enforcement tools: The Department employs various enforcement tools and strategies to ensure compliance with environmental laws and regulations, aiming to bring violators into compliance with the requirements.

1.3.2 Wildlife Crime Control Unit (WCCU)

The WCCU functions as a subordinate entity within the Department of Forest, operating under the auspices of the Ministry of Environment, Forest, and Climate Change. Its principal mandate entails safeguarding the wildlife resources within Bangladesh. To achieve this objective, the unit establishes collaborative partnerships with prominent law enforcement agencies, including the Bangladesh Police at the national level, as well as esteemed international organisations like INTERPOL and other relevant entities. According to the official website of the Department of Forest (2023),

The Wildlife Crime Unit was instituted in June 2012, in accordance with Section 31 of the Wildlife (Preservation and Security) Act, 2012, to effectively address wildlife crime. The unit operates under the oversight of the Chief Conservator of Forests within the Department of Forests, Bangladesh. It is headed by a director and encompasses a specialised team, comprising an assistant conservator of forests, wildlife and biodiversity conservation officer, three wildlife inspectors, three junior wildlife scouts, a senior lab technician, and a lab technician.

In addition, the WCCU collaborates with various law enforcement agencies, non-governmental organisations (NGOs), and voluntary organisations to effectively combat wildlife crime. A report published in the Daily Star in 2013 serves as a testament to the significance of these concerted endeavours in addressing wildlife crime and its associated challenges:

The Bangladesh Forest Department launches a new WCCU to combat illegal wildlife trade and related crimes, with a particular focus on protecting the tigers of the Sundarbans. The WCCU consists of seven teams, each assigned to a specific region including Dhaka, the Sundarbans, Sylhet, Chittagong, Rajshahi, Habiganj, and Sherpur. These teams are composed of 10 members from various departments, including the Forest Department, customs, Bangladesh Police, BGB, and RAB.

The initiative of the WCCU aims to prevent wildlife hunting, killing, and illegal sale, by strengthening identification, apprehension, and prosecution of offenders, conducting nationwide operations, promoting public awareness about wildlife conservation, and combating domestic and international wildlife trafficking. According to the official website of the Department of Forest (2023), the aims and objectives of the WCCU are as follows:

- Enhancing efforts to prevent hunting, killing, and illegal sale of wildlife.
- Strengthening the identification, apprehension, and prosecution of individuals involved in wildlife crimes.
- Undertaking nationwide operations to effectively combat wildlife crime.
- Promoting widespread public awareness about the importance of wildlife conservation.
- Combating both domestic and international wildlife trafficking to safeguard our precious ecosystems.

The following activities the WCCU aims to:

- Strengthen the enforcement of the Wildlife (Conservation and Security) Act, 2012 to effectively combat crimes associated with hunting, trafficking, killing, and sale of wildlife.
- Identify and monitor hotspots across the country to effectively control wildlife crime, while ensuring regular patrolling in these areas.

- Conduct regular patrols in markets and bird-rich Haors (wetlands) areas to proactively prevent wildlife trade.
- Establish a comprehensive system for collecting and preserving specimens from the diverse wildlife of Bangladesh.
- Employ species identification techniques to determine the origin of wildlife remains seized during trafficking incidents.
- Gather crucial information on wildlife crime and promptly identify offenders involved in such activities.
- Safely release rescued wildlife back into their natural habitats, promoting their conservation and well-being.
- Establish a systematic approach for regular data collection to effectively combat wildlife trafficking.
- Maintain consistent communication with various voluntary organisations regarding wildlife issues in different districts and upazilas of Bangladesh.
- Foster collaboration with international organisations to strengthen efforts in preventing wildlife trafficking' (Department of Forest, 2023).

The WCCU diligently undertakes a comprehensive range of direct and indirect operations, spanning the entire country, to rigorously enforce wildlife crime legislation. Its paramount objective is to protect endangered species and preserve the intricate web of biodiversity. According to the Department of Forest (2023), the WCCU was actively involved in a range of direct and indirect operations from May 2022 to May 2023, resulting in the seizure of numerous wildlife animals. Over the course of this period, the WCCU executed 514 operations and confiscated a total of 4,341 wildlife specimens. The following chart provides a comprehensive breakdown of these operations and the corresponding wildlife seizures.

Table-2: Rescued Wildlife by WCCU (May/2022-May/2023)

Months/Year	Number of Rescues/Operations	Rescued wild animals
May/2022	49	139
June/2022	63	334
July/2022	41	314
August/2022	52	321
September/2022	52	574
October/2022	48	796
November/2022	51	504
December/2022	36	274
January/2023	36	315
February/2023	18	108
March/2023	30	150
April/2023	26	100
May/2023	48	412
Total	514	4,341

Source: Department of Forest, Bangladesh (2023)

Additionally, it is worth noting that various law enforcement agencies, such as the Bangladesh Police, Border Guards, and Rapid Action Battalion, play a pivotal role in conducting specialised operations and mobile court interventions aimed at apprehending wildlife animals in response to actionable intelligence. These agencies also foster partnerships and engage in concerted efforts with the WCCU to effectively combat wildlife crime. According to Haque (2021), the BGB successfully intervened and rescued seven Patagonian mara animals, exhibiting a physical resemblance to wild hares, in the vicinity of the Tushkhali border in Satkhira's Kolaroaupazila. These animals were suspected to be destined for smuggling to India from their natural habitat in Argentina. Regrettably, the perpetrators managed to evade capture, leaving the investigation with

no substantial leads regarding the origins or identities of those involved in the illicit operation. Furthermore, Farhin (2017) reports that a notable incident occurred in December 2014 when BGB caught and seized 220 wild turtles at the Benapole border. Khan reports that animals are frequently seized in Dhaka and other parts of the country, but the authorities struggle to catch the culprits. Even those detained are often released on bail. Recently, nine zebras, two lions, and two cheetahs were seized in Jashore, but the smugglers remain unidentified. According to a report of the Dhaka Tribune (2018),

A mobile court operated by the RAB in Dhaka has sentenced three individuals to nine months in prison for selling endangered turtles. Law enforcement officials conducted a raid and found multiple turtles that were intended for sale. The three arrested individuals were part of a larger group of 12 to 14 members who had been collecting these turtles from water bodies in Munshiganj and Narsingdi and selling them at Shakhari bazar for some time.

1.4 Mobile Court: an environmental law enforcement tool

The mobile court system serves as a crucial instrument for the enforcement of environmental laws in Bangladesh. Both DoE and the WCCU employ this mechanism to implement and uphold environmental regulations. It has earned considerable acclaim among law enforcement agencies due to its efficacy in ensuring prompt justice through the imposition of fines on transgressors. Subsequently, the following section will be a critical examination of the mobile court system.

The mobile court is a unique judicial entity that travels to various locations within divisional and metropolitan areas using a specially equipped van with a prominent banner displayed at the front. This innovative court is led by an executive magistrate, who is supported by uniformed law enforcement personnel, particularly the Bangladesh Police and Bangladesh Ansar, to effectively enforce a range of laws, including those pertaining to the environment. The mobile court is a

judicial system that provides a speedy trial for various crimes (Tamanna, 2003). A mobile court in Bangladesh is a fast-track court that ensures quick access to justice at the grassroots level (Ashutosh, 2017). Section 4 of the Mobile Court Act of 2009 states that a mobile court is a programme that moves around in a district or city to maintain law and order, prevent offences, and swiftly punish offenders (Tamanna, 2023). In short, the mobile court, comparable to a portable phone, is a flexible enforcement mechanism that can be moved to various locations as a supplementary and complementary approach to the regular court system in Bangladesh (Borhan, 2007). Moreover, Tamanna (2023:22) notes that a mobile court is a hybrid legal system that combines common law and civil law elements, conducting its proceedings through ‘adversarial and inquisitorial systems’. It is a court that travels to different locations to address legal issues and provide interpretations of the law. Hosen and Ferdous (2010) note mobile courts strategically located in the city are responsible for examining motor vehicles, driving licenses, and food standards, and taking appropriate punitive measures under different laws. As Joy (2015) notes that the Mobile Court Act of 2009 encompasses a comprehensive list of offences from 96 separate legislations that mobile courts can address and adjudicate. Some characteristics of mobile court, according to Tamanna (2023:23),

‘1) It is a special court outside the regular court; 2) It is directed to maintain law and order and to prevent offence immediately; 3) It can move from one place to another; and 4) The judge of the court can take cognizance of the offence immediately and also give punishment.’

The Mobile Court Act of 2009 and the Code of Criminal Procedure (CRPC) provide the statutory framework and regulatory underpinnings for the establishment and functioning of the mobile court, ensuring its legal validity and operational efficacy. According to Chowdhury (2016), the Mobile Court Act of 2009 specifically regulates the procedures followed in mobile courts.

Judicial and Metropolitan magistrates are empowered to handle and try certain offences summarily, as outlined in the Act's Schedule. The mobile court system is designed to swiftly dispose of cases, in accordance with Section 262 of the Code of Criminal Procedure (Chowdhury, 2016). Chowdhury (2016) highlights that if a magistrate personally witnesses an offence or if it occurs in their presence, they can summarily dispose of the case if the offender confesses, as stipulated by Section 6 of the Mobile Court Act. However, if the offender does not confess, Section 7 mandates that the magistrate must transfer the case to an appropriate trial court (Chowdhury, 2016). Furthermore, Chowdhury (2016) notes that, as per the Mobile Court Act, the executive or district magistrate is responsible for transferring cases to the appropriate court for offences falling within the jurisdiction of a Session Judge or higher courts. The Act specifies that punishments, including a maximum of two years imprisonment, as well as fines, are to be determined based on the nature of the offence and the relevant special law. Section 9 of the Act further outlines that fines must be paid either immediately or within a three-month period (Chowdhury, 2016). However, if the party affected by the court's decision wants to appeal, Chowdhury (2016) notes that Section 13 allows them to file an appeal with the district magistrate or the Session Judge Court.

The power of mobile courts is derived from their legal basis, as previously mentioned. However, mobile courts possess additional authority and jurisdiction when it comes to addressing on-the-spot crimes. Hosen and Ferdous (2010) assert that the primary objective of mobile courts is to expedite the trial process delineated in the Criminal Procedure Code by disposing of cases summarily. It is worth noting that recent Acts have bestowed upon mobile courts the ability to impose extended periods of incarceration, surpassing the typical maximum of two years. To ensure the validity of their decisions and deliver succinct judgments, magistrates presiding over mobile courts are obligated to meticulously document substantial evidence, including salient

points derived from witness depositions (Hosen & Ferdous, 2010). According to Hosen and Ferdous (2010:90),

‘In practice, mobile courts perform their function very summarily than usual summary trial as the court itself visits the spot, apprehends the offender red-handed, examines the witnesses, hears the accused, completes the procedural requirements and passes a sentence instantly. The court is accompanied by experts or officials of relevant fields ' to examine whether any illegal activities are committed by the accused’.

The mobile court promptly receives information from diverse sources and swiftly mobilizes with a team of well-equipped law enforcement personnel, including police officers and officials from the relevant departments. Hosen and Ferdous (2010) note the mobile court system receives information about offences from different sources, primarily from the general public who play a significant role in reporting cases related to the production of illegal or unauthorized goods. The electronic and print media have made a substantial contribution in this regard by consistently raising awareness among the public about such issues.

Chowdhury (2016) highlights the significant role played by mobile courts by ensuring swift trials. According to Tamanna (2023:22), ‘mobile court is an instrument which provides prompt relief in the place of occurrence of offence. It is visualized as an effectual weapon to prevent offence and give instant relief to citizens. It is cost-effective means to get speedy relief.’ However, these courts often overlook essential trial procedures and grant excessive power to a single individual, as pointed out by Chowdhury (2016). This raises concerns about the fairness and effectiveness of the Mobile Court Act of 2009, which is considered flawed and in need of reform. Additionally, Tamanna (2023) and Chowdhury (2016) assert that this act suffers from

procedural limitations, constitutional law issues, and a violation of the principle of natural justice.

The Mobile Court Act of 2009 in Bangladesh, as outlined by Chowdhury (2016), heavily relies on confessions for judgment while lacking the necessary equipment for determining, for example, food adulteration. This reliance on confessions as the sole basis for judgment undermines the reliability and objectivity of the legal process. Moreover, Chowdhury (2016) raises concerns about the act's potential encroachment upon the separation of powers. Furthermore, he highlights that the Mobile Court Act of 2009 denies individuals their right to self-defence and legal representation, thus contradicting fundamental principles of fairness and equal rights.

Furthermore, Hosen and Ferdous (2010) identify multidimensional problems concerning the functioning, legal basis, logistical support, and acceptance of mobile courts by vested interests and the general public. Moreover, critiques of mobile courts highlight the absence of crucial components of fair trial principles, thereby impinging on fundamental human rights (Haq, 2020). Consequently, concerns arise regarding the ability of mobile courts to deliver genuine justice and fulfil public expectations (Haq, 2020). The alleged misuse of mobile courts has prompted the High Court to scrutinize their operations and identify instances of noncompliance with legal provisions (The New Age, 2021; TBS News, 2020). Critics argue that mobile courts often overlook human rights and the right to bail, imposing instant punishments even in cases where offenses are bailable (Tamanna, 2023). While mobile courts strive to expedite the judicial process, it is crucial to recognize that justice necessitates adequate time and deliberation (Tamanna, 2023).

1.5 Conclusion

This chapter provides valuable insights into the nature of environmental crime in Bangladesh, as well as the active involvement of relevant agencies especially the DoE and WCCU in addressing this pressing issue through an effective enforcement tool, the mobile court. The upcoming chapter constitutes a comprehensive examination of the pertinent scholarly literature concerning green criminology. This will encompass a thorough analysis of various aspects, including the policing of green crime, the emerging field of southern green criminology, and the multifaceted challenges faced in the realm of green/environmental policing within a global context. This academic exploration aims to provide a nuanced understanding of these critical topics, incorporating perspectives from both the global south and the north. By synthesizing existing research and scholarly discourse, this chapter will contribute to the ongoing academic dialogue surrounding environmental crime and the challenges faced by law enforcement agencies in addressing such offenses.

Chapter-2: Literature Review

2.1 Introduction

The field of policing studies has traditionally focused on law enforcement related to conventional crimes, such as violence, theft, and drug offenses. However, the growing recognition of the global environmental crisis has led scholars and practitioners to explore the nexus between policing and environmental harm, giving rise to the emerging field of green policing. Green policing involves the enforcement of laws and regulations aimed at preventing and addressing environmental crimes, as well as safeguarding the natural environment.

This literature review aims to contribute to the development of a new field within policing studies by examining the concept of green criminology and its implications for policing environmental harm, specifically within the context of the global south. While the term "green policing" may not have received significant attention in academic literature, there are related discussions that provide a foundation for this exploration. Drawing upon the principles of green criminology, which analyses the connection between environmental harm and criminal behaviour, this review seeks to explore the concept of green policing and its potential impact on law enforcement agencies in tackling environmental crime. Additionally, it builds upon existing research in the areas of green criminology and southern green criminology, which considers the unique challenges and strategies associated with addressing environmental harm. Within the global south, environmental crime is prevalent, often exacerbated by socio-economic disparities and weak governance structures. Consequently, understanding the role of policing in combating environmental harm becomes imperative. This review will critically analyse relevant literature

on green criminology, southern green criminology, policing green crime, and the challenges and strategies for effective green policing in contemporary law enforcement.

The literature review on green criminology is organised geographically, aligning with the thesis's unique focus on the often underrepresented global south, specifically Bangladesh. This intentional structure highlights regional disparities in environmental crimes and their interpretations, emphasising the differing socio-political and economic contexts between the global north and the global south.

Environmental crimes manifest differently across regions. By organising the literature review geographically, the thesis draws attention to the unique challenges and dynamics of environmental harm in various parts of the world. This approach underscores the specific socio-political and economic contexts of the global south, which are crucial for understanding the broader impacts of environmental crimes. The geographical structure supports the thesis's originality by focusing on the global south, a rarely studied area in green criminology. This structure allows for nuanced comparisons between the experiences of the global south and the more extensively studied global north, enriching the discussion with diverse perspectives and insights. A geographical approach enables a deeper exploration of how theoretical frameworks and practical applications of green criminology vary across regions. This method helps identify region-specific strategies and policies that may be more effective in addressing environmental crimes in the global south.

While emphasising regional specificities, the geographical structure also acknowledges the interconnected nature of environmental issues. Since environmental crimes often have transnational implications, understanding these within a global framework is essential. This approach provides a holistic view, capturing the global south's role in the broader discourse on

environmental justice. The chosen geographical approach for structuring the literature review is a deliberate decision aimed at emphasising the distinct and often overlooked perspectives of the global south. This structure not only aligns with the thesis's focus but also contributes to a more comprehensive understanding of green criminology. By clarifying the rationale behind this choice, the literature review strengthens its position and relevance in the field, ensuring that the unique contexts and challenges of the global south are thoroughly examined and represented.

2.2 Green Criminology

Green criminology seeks to understand the causes and consequences of environmental crimes, and to develop effective strategies to prevent and address them. This literature review examines the development of green criminology as a field of study, its theoretical and ideological perspectives, and its substantive focus. The review draws upon key works by Lynch and Stretsky (2003), South (2014), Brisman (2014), Brisman and South (2019), Nurse (2017), Sollund (2021), White (2013) and Lynch (2020) and highlights the diversity and complexity of the field, as well as the need for continued research and evaluation of environmental laws and policies.

Lynch and Stretsky's (2003) article is a seminal work in the field of green criminology, as it highlights that green crimes are not objective or natural phenomena, but rather social constructions that are shaped by power relations in society. This perspective challenges the traditional view that environmental harm is simply the result of accidental or negligent behaviour and instead recognizes that it is often the result of intentional actions by individuals, corporations, and governments. They argue that green crimes are social constructions influenced by social locations and power relations in society. The article examines the social construction of crime, the role of corporations in the social construction of the term green, and different environmental justice movements. The authors claim that green criminology is necessary to

address environmental harms and examine conflicts in defining environmental crime and deviance. They suggest two options for green criminology: a corporate path or the more radical environmental justice definition of green. The article emphasizes the need to consider power differentials, including gender and racial as well as class-based inequities, in understanding green crimes and developing green criminology. Similarly, South's (2014) article builds on this discussion by highlighting the diversity of green criminology in terms of coverage and theoretical evolution. This diversity is strength, as it allows for a multi-faceted approach to addressing environmental harm and crime. However, South (2014) notes that there is a need for flexibility and gradation in law and enforcement to address the significant impacts of human activity on the environment. Moreover, the author contends that an environmentally engaged criminology can play a crucial role in addressing global environmental challenges such as climate change, biodiversity loss, biogeochemical cycles, ocean acidification, water consumption, land use, ozone depletion, atmospheric particulate pollution, and chemical pollution. The author also discusses several topics related to green criminology, such as climate change contrarianism, resource wealth, power, crime and conflict, green cultural criminology, a sociological introduction to criminology, and the role of criminologists in environmental disputes and human rights violations. Brisman's (2014) article underscores the importance of fostering a culture in which certain business activities, methods, and practices become culturally unacceptable, as this can contribute to reducing environmental harm. This view recognizes that legal strategies alone may not be sufficient to address environmental harm, and those non-legal strategies, such as cultural change, may be necessary to shift societal attitudes towards environmental protection. Moreover, Brisman (2014:29) argues that criminalizing "legal but evil" activities is not the only goal of green criminology; it is equally important to foster a culture in which certain business activities, methods, and practices become culturally unacceptable. The

author emphasizes that green criminology can help uncover the etiology of environmental crime and harm and shed light on the meaning of such crime and harm.

Brisman and South (2019) emphasize the significance of environmental justice in tackling environmental inequalities. They highlight how marginalized communities bear a disproportionate burden of environmental harm due to their lack of resources and political influence. This requires a multifaceted approach involving legal and non-legal strategies, as well as a commitment to social justice. The authors investigate ecophilosophical viewpoints that shape green criminology. Anthropocentrism prioritizes human needs, often exploiting nature for present requirements. Biocentrism recognizes humans as equals in moral worth to other organisms. Ecocentrism emphasizes the interconnectedness of humans with nature, urging responsible activity within the planet's limits. Furthermore, Brisman and South (2019) investigate environmental justice, concerned with equitable distribution of environmental impacts. This extends to political decisions, social practices, and hazards affecting specific groups like minorities, low-income neighbourhoods, and indigenous reservations. Environmental justice identifies and addresses inequalities, emphasizing the intersection of environmental harm with social, economic, and political factors.

Nurse (2017) provides an overview of green criminology's focus on environmental harm and crime, its theoretical foundations, and the utilization of various justice systems to tackle environmental harm. The author acknowledges the complexity of environmental harm and emphasizes the need for a multifaceted approach. Green criminology is a contested and evolving field, with debates on whether to prioritize environmental harm or crime. The author contends that the field draws from diverse theoretical perspectives, addressing issues of rights, justice, victimization, and criminality. Administrative, civil, and regulatory justice systems are explored

to combat environmental harm, reflecting the intricate nature of environmental problems. The author highlights state crime, particularly state responsibility for environmental protection, as a key aspect. Water pollution exemplifies green victimization, often linked to publicly owned water treatment facilities releasing pollutants. Enforcement against such offenses involves criminal, civil, and administrative sanctions, underscoring the need for a comprehensive approach. Wildlife crime, including illegal wildlife killing in farming areas, is another concern, with green criminologists examining the state's stance on illegal hunting and its wider implications for species justice.

Sollund's (2021) article highlights the importance of a non-speciesist, green critical criminology that focuses on the harmful actions of powerful entities. This approach challenges conventional anthropocentric viewpoints on environmental harm by acknowledging the impact of degradation on both animals and larger ecological systems. The author points out the marginalization of critical criminology within academia, noting its relegation to the outskirts of social science institutes. Critical criminology, the author argues, is concerned not only with crime, but with the underlying social, economic, and political factors that contribute to it. The article examines various branches of green criminology, such as eco-global criminology, conservation criminology, and non-speciesist criminology. The author stresses the need to broaden the moral scope to encompass the natural environment and non-human animals. A non-speciesist, green critical criminology is advocated as a crucial means of addressing harm and crimes perpetrated by those in positions of power. The term "green criminology" has been beneficial in uniting researchers under a common purpose and elevating its profile in critical and mainstream criminology.

The author emphasises the urgency of examining the wrongdoings of influential individuals, challenging established norms and practices, and incorporating often-overlooked victims in research. The proposed framework of non-speciesist, green critical criminology offers a promising avenue for tackling these challenges and advancing social justice.

White's (2013) article provides a historical perspective on the development of green criminology and highlights the need for sustained socio-legal analysis of specific breaches of law. This perspective is important as it emphasizes the importance of understanding the social, economic, and political contexts in which green crimes occur, and the complex power relations that contribute to these crimes. White (2013) argues that green criminology represents a critical study of environmental crime that expands the purview of criminology beyond conventional legal and criminological frameworks. The article asserts that the justice system needs to take environmental harm seriously, and criminological insights need to be applied to crimes involving animals and nature. Furthermore, the article highlights the different analytical frameworks associated with green criminology, including eco-philosophy, gendered views of the natural and social worlds, anthropocentric, biocentric, and ecocentric perspectives, and postmodern versions of constitutive green criminology. White claims that green criminology has become an established field of research, scholarship, and intervention, with the potential to identify the strategic sites for resistance, contestation, and struggle. The study also highlights the need for a sustained socio-legal analysis of specific breaches of law, the role of environmental law enforcement agencies, and the difficulties and opportunities of using criminal law against environmental offenders. Finally, Lynch's (2020) study underscores the importance of empirical research in comprehending and addressing green crimes. These crimes, encompassing climate change, species loss, and planetary harm, necessitate evidence-based policies. Despite mounting evidence of human-induced ecological collapse, green criminology is marginalized in the

broader criminological landscape. This field delves into a range of disciplines, such as Marxism, risk assessment, environmental sociology, animal rights, and ecophilosophy. While defining its scope remains a challenge, avoiding unnecessary concept proliferation is crucial. Green crimes intersect with corporate and state crime research, revealing the connection between capitalism, nature, and the exploitation of nature's resources.

2.3 Southern Green Criminology

Southern green criminology is a relatively new and emerging field of study (Goyes, 2019). It challenges traditional green criminology's narrow focus on environmental crimes and their intersection with social inequality (Weis, 2019), which has resulted in criminal selectivity that disproportionately targets marginalized communities and indigenous peoples (Brisman et al., 2018). The field highlights the North-South divide and seeks to facilitate the inclusion of voices from the South (Goyes, 2019; Brisman et al., 2018), recognizing the cultural and social contexts of affected communities (Goyes et al., 2021). It offers a framework for understanding the dynamics and contexts of the Global south, promoting innovative, refreshing, and original criminological knowledge (Goyes, 2019). Southern green criminology incorporates decolonial theory to enlarge knowledge and assert that different ways of knowing and being coexist and are equally valid (Goyes, 2019).

Goyes' (2019) view on Southern green criminology highlights the two most influential theoretical perspectives used by green criminologists in their research of environmental destruction and victimization: cultural and economic. He argues that capitalism significantly contributes to environmental harm by harnessing nature for production, extracting raw materials and energy resources necessary for production, and creating production waste (pollution) that degrades nature. This alters natural processes by accelerating entropy, contributing to global

ecological disorganisation. The unfulfillable desires perpetuated by advertising campaigns lead to unrestrained consumption, resulting in excessive waste that further degrades the environment. He also emphasizes the North-South divide, where most colonizing countries were located in the global north, and most colonized countries located in the global south, resulting in Northern countries' exploitation and environmental plundering of Southern countries. Additionally, Goyes(2019) notes that there are differences in how criminology knowledge is produced and perceived depending on its site of production, with criminology knowledge produced in the North assumed to be universal, while Southern knowledge is considered 'exceptional' and only locally relevant. This neglect of Southern criminology has resulted in an incomplete and inadequate understanding of environmental harm, as most of the most atrocious crimes and harms take place in the global south. Goyes (2019) proposes the concept of Southern green criminology, which seeks to challenge Northern dominance in the production of criminological knowledge by facilitating the inclusion of voices from the South. This concept encompasses both the geographical and the metaphorical south and seeks to provide a framework for understanding the dynamics and contexts of the global south. Goyes (2019) further notes that decolonial theory offers a way to include the metaphorical South by providing a framework for enlarging knowledge and asserting that different ways of knowing and being coexist and are equally valid.

Similarly, Brisman et al. (2018) suggest that traditional green criminology has failed to address the environmental injustices faced by marginalized communities in the global south. The article posits that climate apartheid, which describes the unequal impact of climate change on communities in the global south, is an instance of green criminology, given that it involves intentional or negligent harm perpetrated by individuals or entities in positions of power. The authors posit that southernizing green criminology is necessary to address the issues of environmental injustice and dislocation in the global south. In their view, this involves

expanding the focus of green criminology from environmental harm to environmental injustice. The authors propose that southernized green criminology should consider the social, political, and economic factors that lead to environmental harm and impact individuals and communities differently. They argue that to achieve this, it is essential to recognize the historical legacies of colonialism, imperialism, and neoliberalism in the global south that have contributed to these issues. Another key point presented in the article is the importance of incorporating the perspectives and knowledge of individuals in the global south who are most affected by environmental harm. The authors suggest that this can be achieved by avoiding homogenization and recognizing the diversity of experiences and struggles within the global south. The authors illustrate their arguments using examples of environmental injustice in the global south, including the dispossession of Indigenous peoples' lands, the contamination of water and soil by mining and oil companies, and the displacement of communities by climate change-induced disasters.

Moreover, the article by Weis (2019) is a thought-provoking analysis of the complex relationship between environmental harms, criminal justice systems, and indigenous communities in Argentina. The author's central argument is that mainstream criminology has neglected environmental crimes and their intersection with social inequality, resulting in criminal selectivity, where marginalized communities and indigenous peoples are disproportionately targeted and criminalized. The author calls for a critical green southern criminology that takes into account the complexities of environmental harms and their intersection with social inequality. The article provides a comprehensive analysis of the case of indigenous communities who are affected by environmental harms such as deforestation, contamination of water sources, and land grabbing. The author argues that the criminal justice system in Argentina is complicit in these harms, as it fails to hold corporations and individuals accountable for their actions and

instead criminalizes indigenous peoples for defending their land and resources. The article emphasizes the need for a more inclusive and participatory approach to addressing environmental harms, including the perspectives and voices of indigenous peoples and other marginalized communities. The author suggests that this can be achieved through the development of alternative justice systems that are grounded in indigenous knowledge and values, as well as through the use of restorative justice practices.

Goyes et al. (2021) emphasize the significance of southern green criminology in comprehending the interplay between indigenous societies and their surroundings. The authors stress that cultural elements are pivotal in shaping the rapport between indigenous communities and their environments, as well as in determining their reactions to environmental offenses. The study merges aspects of cultural criminology and environmental crime prevention to scrutinize how nature is perceived within four indigenous communities in Colombia. The authors commence by underscoring the concept of environmental crime and its severe repercussions on Colombian indigenous groups. They contend that external entities like multinational corporations and government bodies exploiting natural resources have been a principal cause of environmental crime in the nation. This exploitation has inflicted notable adverse effects on the environment, biodiversity, and the well-being of indigenous communities. The article introduces the notion of Southern green criminology, focusing on the convergence of environmental harm, equitable treatment, and cultural principles in the global south. The authors stress the crucial role of cultural factors in shaping the indigenous communities' rapport with their environments and influencing their counteractions to environmental crime. They underscore the necessity of comprehending the cultural and social backgrounds of affected communities when devising efficacious prevention strategies.

Brisman and South's (2020) chapter adds to the emerging Southern criminology field and advocates for the incorporation of global south cultural creations in the study of environmental harm. Their contribution centres on enriching the green cultural criminology framework, which examines the mediated and political dimensions of how environmental issues are portrayed. They stress the importance of acknowledging the Eurocentric imposition of views on nature and culture in Latin America. The authors propose that literary cultural works offer insights into the historical and cultural contexts of environmental problems in this region. Their argument emphasizes that a Southern green cultural criminology should explore artistic, cinematic, and literary expressions that merge nature, spirituality, and human activities. This approach can yield fresh methodologies, data, and knowledge to address global south environmental concerns. Moreover, the authors underline the spatial and geographical facets of environmental crimes, harms, and risks, highlighting their interconnected and multifaceted nature. They advocate for critically analysing media representations of environmental issues in the global south and examining protests against environmental degradation as vital research areas for green cultural criminology.

Crook et al. (2018) provide a comprehensive exploration of the interplay between ecocide, genocide, capitalism, and colonialism from a green criminological perspective. They argue that ongoing injustices towards indigenous peoples stem from the enduring legacy of colonialism. The authors introduce the concept of ecocide as a potent tool for addressing these environmental and human rights violations. They emphasize the increasing recognition of colonialism's impact and the necessity of granting rights to both non-human entities and elements of the natural world. The article underscores how exploiting nature can lead to ecocidal and genocidal consequences for indigenous communities reliant on endangered ecosystems. Despite the growing relevance of eco-crimes, their recognition in criminology has been hindered by geographic biases and

disciplinary limitations. The authors propose that establishing ecocide as a peacetime crime would facilitate the application of principles and norms via international criminal law, safeguarding the planet by preserving global commons and ecological systems. Nonetheless, the article cautions that legal acknowledgment does not guarantee respect for the rights, territories, resources, and cultures of indigenous groups. In light of this, the authors advocate for a paradigm shift in addressing environmental crimes within the framework of post-colonialism and corporate imperialism.

2.4 Policing green crime

Green policing, also known as environmental policing, involves the role of law enforcement agencies in detecting, investigating, and prosecuting environmental crimes. This literature review examines key perspectives on green policing, focusing on the collaborative and adaptive approaches advocated by scholars. The review incorporates the viewpoints of Blindell (2006), Holley and Shearing (2016), White (2007), Wunderlich (2017), Tomkins (2005), Wasserman (1994), Gibbs et al. (2015), Wyatt et al. (2020) and Nurse (2022) and aims to provide insights into the challenges and opportunities associated with green policing. Nurse (2012) provides a comprehensive view of the enforcement of wildlife law in the UK, identifying shortcomings in the existing regime and proposing measures for improvement. The study emphasizes the need for coherent enforcement strategies; including evidence gathering, case investigation, and skilled prosecutors. The author advocates for a more punitive regime for wildlife crime, accompanied by centralized resources for enforcement, to enhance the effectiveness of wildlife law enforcement.

Blindell (2006) provides an overview of the ways in which law enforcement agencies can contribute to the detection, investigation, and prosecution of environmental crimes. Its primary focus is on the role of the police in addressing this issue. He argues that the police cannot tackle

environmental crime alone and that effective action requires collaboration. According to Nurse (2022:39-40), 'the 'policing' of environmental harms is also often dealt with by environmental regulators and other enforcers rather than by mainstream policing agents. Arguably this sets such harms apart from mainstream crime and justice issues and denotes them as somehow 'other' within contemporary conceptions on crime and justice'. Green criminology takes a critical approach, using various methods to address environmental protection beyond conventional justice methods. He further claims that green criminology provides a mechanism for rethinking criminal laws, ethics, crime, and criminal behaviour while offering potential for re-evaluating environmental policing and protection. Therefore, enforcement of green laws necessitates a holistic approach that goes beyond punitive measures, encompassing the establishment of a comprehensive environmental protection framework, a robust enforcement mechanism, and efficient tools to address environmental wrongdoing, thereby ensuring effective resolution of environmental harms. Moreover, Holley and Shearing (2016) argue that in many countries, police play a supportive role in environmental law enforcement while environmental agencies play the main role. They provide a critical examination of the challenges and opportunities associated with environmental policing, arguing that traditional approaches are inadequate for addressing the complex and dynamic nature of environmental harms and instead advocate for a more collaborative and adaptive approach. Additionally, White's (2007) discussion of policing environmental crime notes that contemporary police studies advocate problem-solving approaches in law enforcement, including environmental policing, which should address specific issues based on place-based and harm-based analyses. He highlights that environmental harms and interventions vary with geography, and laws are formulated within specific geographic jurisdictions. He further notes that some regions have specialised organisations authorised to investigate and take legal action against ecological crimes. However, in some countries, - law

enforcement officers receive specialised environmental training and form a distinct "Green Police" unit, and White (2007) cites an example of one established in Israel in 2003, which focuses on preventing various types of pollution and animal cruelty. Similarly, Wunderlich (2017) discusses the establishment of the Chinese environmental police in 2013 in response to increasing worries about environmental pollution and the necessity of improving the country's environmental laws. The environmental police's main responsibility is enforcing various environmental regulations concerning air and water pollution, solid waste disposal, and natural resource preservation. Despite some challenges, however, Wunderlich (2017) notes that the Chinese environmental police have been making progress in this field.

Tomkins' (2005) study discusses how environmental law enforcement agencies employ various methods to ensure compliance with environmental legislation. It distinguishes between international police services that operate globally and regional police services consisting of multiple police services from different sovereign countries within a specific geographic area. Tomkin (2005) acknowledges the need for cooperation between diverse policing institutions at the international, regional, and national levels to implement environmental legislation. The author investigates how police services enforce environmental laws across different jurisdictions and emphasizes the significance of cross-national comparisons for policy-making purposes. The study discusses the role of federal law enforcement agencies in countries such as the USA, Australia, Germany, and Indonesia. These agencies cooperate with internal state police services to address environmental crimes at both the national and state levels. The author notes that at the state or provincial level, some countries have policing organisations responsible for law enforcement. While these organisations may not directly enforce environmental laws, they may have specialised environmental law enforcement units that respond to environmental crimes. An example provided by the author is the Massachusetts Environmental Strike Force in the USA,

which comprises law enforcement officials from various agencies. The author emphasizes that environmental crimes have transboundary impacts, necessitating collaboration between police services from different jurisdictions – a point which is central to the later work of Pink and White (2007).

Wasserman (1994) emphasises the need for government agencies to allocate resources to encourage compliance, overcome barriers, and impose consequences for violations, claiming that strong enforcement programmes create an environment that fosters compliance, even among facilities that may not voluntarily comply. This reduces costs, liability, and environmental harm. He also claims that a well-designed compliance and enforcement program includes components such as priority setting, data collection on the regulated community, violation response, proportionate consequences, clear roles and responsibilities, coordination mechanisms, and periodic reassessment. Policing green crime requires monitoring; inspections are crucial, and considerations such as frequency, objectivity, documentation, and self-monitoring are key. The author further claims that enforcement responses can be formal or informal, civil or criminal, and involve negotiation, appeals, and dispute resolution. The author notes that fairness in assessing penalties is important to demonstrate the government's commitment to enforcement. However, he claims that effective communication, strong relationships, and periodic programme evaluation contribute to the success of enforcement programmes.

The article by Gibbs et al. (2015) provides a view on the use of intelligence-led policing (ILP) to address transnational environmental crime (TEC), particularly the illegal export of hazardous waste. The authors emphasize that TEC poses a significant threat to human health and the natural environment and is often committed by loosely connected informal networks that span geographic boundaries, making it difficult to track. ILP is a business model for policing that

focuses on creating intelligence outputs that target investigations and tactical responses to disrupt, prevent and reduce crime by targeting serious offenders. The authors note that ILP has been endorsed by leading policing associations in the United States and has shown promise in addressing cross-border crimes. However, they also acknowledge potential limitations of ILP in the transnational context, such as differing national priorities, mistrust, and an overflow of data into intelligence management systems. Furthermore, the authors claim that issues with varying definitions of crime may also be more problematic for cross-border crime. The authors highlight that environmental crimes pose unique challenges to law enforcement, as some forms of natural resource and hazardous waste trade are legal, and traditional criminal justice agencies often fail to see the significance of TEC. The implementation of ILP, the authors note, is therefore important to understand the effectiveness of interventions.

2.3 Challenges and Strategies for Effective Green Policing in Contemporary Law Enforcement

Green policing faces numerous challenges in contemporary law enforcement. Traditional policing approaches have been criticized for their failure to effectively combat environmental crimes and responding to environmental concerns. This literature review aims to explore the challenges associated with traditional policing in the context of green policing and identify potential strategies for more effective enforcement. Drawing insights from various studies and perspectives, this part addresses key challenges such as poor institutional frameworks, resource scarcity, lack of political will and corrupt practices, insufficient capacity building, lack of collaboration, socio-economic factors, and lack of public awareness.

2.3.1 Traditional Policing and its critique

Law enforcement agencies face various challenges in investigating and prosecuting environmental crimes, including resource limitations and difficulties in evidence gathering (White, 2007). The criminal justice response to wildlife trafficking, a significant wildlife crime, often fails to reflect environmental concerns and neglects the complex motivations behind such offences (Nurse, 2016). As a result, there is a growing recognition of the limitations of traditional policing in addressing environmental crimes and harms (South, 2014). This section of the literature review aims to explore the challenges of traditional policing in the context of green policing, considering the perspectives provided by White (2007), Nurse (2016), South (2014), Holley, and Shearing (2016), and Holley (2017).

White (2007) identifies the difficulties faced by law enforcement agencies in investigating and prosecuting environmental crimes. Limited resources allocated to environmental enforcement and challenges in evidence gathering pose significant barriers. Furthermore, the lack of specialised training and expertise in environmental law further complicates the investigation and prosecution process. Similarly, Nurse (2016) argues that wildlife trafficking, a significant form of wildlife crime, requires a criminal justice response that reflects environmental concerns. However, traditional criminal justice approaches often overlook the diverse motivations behind wildlife crime, treating offenders as financially motivated criminals subject to deterrence principles. The study calls for situational crime prevention strategies tailored to the specific nature of wildlife offending, involving collaboration among law enforcement agencies, NGOs, policymakers, and communities. In the same vein, South (2014) discusses the limited attention given by mainstream law-based policing and criminal justice systems to environmental crimes and harms. The complexity of environmental law and regulation, influenced by political

viewpoints and economic policies, hampers effective enforcement efforts. Challenges such as mission confusion, resource dilution, and "regulatory capture" pose additional barriers to achieving environmental justice.

Holley and Shearing (2016) highlight the inadequacy of traditional regulatory and enforcement approaches in addressing contemporary environmental problems. They introduce the concept of New Environmental Governance (NEG), which emphasizes collaboration, integration, participation, and learning. NEG offers benefits such as flexibility, inclusiveness, and the potential to change drivers of environmental harm. However, its impacts remain uncertain and require further empirical research. Effective information exchange mechanisms and hybrid models of governance are necessary for the success of NEG. In another study, Holley (2017) traces the evolution of environmental governance from traditional regulatory frameworks to market-based instruments, partnerships, and the emergence of NEG. Traditional regulatory approaches were criticized for their inflexibility, high costs, and insensitivity to local contexts. Market-based instruments faced challenges due to centralized planning requirements and opposition from regulated businesses. Partnerships and other flexible approaches lacked industry-wide compliance. The emergence of NEG represents a shift toward more adaptive and collaborative approaches to environmental governance. However, criticisms of NEG include concerns about lowest common denominator solutions and rent seeking, highlighting the need for new ways of governing global environmental problems and systems.

2.3.2 Poor institutional framework

Effective enforcement of environmental laws and regulations is crucial for combating environmental crimes and promoting sustainable development. However, the achievement of these goals is often hindered by challenges arising from a poor and weak environmental

institutional framework. This section of the literature review examines the issues and obstacles associated with environmental law enforcement, drawing insights from a range of studies conducted in different countries. The review encompasses studies conducted in Bangladesh (Faroque & South, 2020), the United Kingdom (Nurse, 2012; Nurse, 2016), Indonesia (Dewantara&Larasati, 2022; Dekiawati, 2022), Russia (Golubev, 2020), Nigeria (Bassey et al., 2020), and a comprehensive review by Akella and Cannon (2004). By analysing the experiences and recommendations from these diverse contexts, this review aims to provide a comprehensive understanding of the institutional shortcomings that impede environmental law enforcement and proposes potential strategies to address these challenges.

Faroque and South (2020) shed light on the nature and scope of environmental crimes in Bangladesh, which include pollution, wildlife trafficking, deforestation, waste dumping, and illegal fishing. Despite the existence of laws and policies, these crimes persist due to poor institutional capacity, lack of coordination among agencies, policy and information gaps, corruption, and insufficient political commitment. The authors emphasize that addressing these challenges is crucial to ensure effective enforcement of environmental laws and protect human health, ecosystems, and economic growth. Similarly, Nurse (2016) underscores the complex nature of interventions on environmental crime, involving a mix of international and national laws, regulations, and voluntary schemes. The study reveals challenges within environmental law enforcement, including resource limitations, inconsistent legislation and sentencing, lack of police priority, variability in policing approaches, and procedural difficulties in investigations and prosecutions. Nurse argues that effective environmental law enforcement necessitates alignment between investigations, prosecutions, and policies, as well as specialised knowledge and adequate resources.

Dewantara and Larasati (2022) explore the concept of progressive law and its potential application in the enforcement of environmental law in Indonesia. The study highlights the need for reform in the country's law enforcement system and suggests that progressive law enforcement, characterized by determination, empathy, and commitment, can address existing challenges. The authors emphasize the translation of nonbinding principles into binding operational norms, and the use of administrative, civil, and criminal law to enforce environmental regulations. In a different context, Golubev (2020) outlines challenges associated with combating environmental crime in Russia and internationally. The study highlights difficulties in proving environmental crimes, inadequacies in the criminal legislation, and the disproportion between registered crimes and the true extent of environmental damage. Golubev (2020) suggests establishing clear criteria for determining the impact of consequences, improving the legislation's specificity, and addressing too lenient punishments that reduce the deterrent effect of the criminal law. In the same vein, Bassey et al. (2020) discuss the urgent need for effective enforcement of environmental laws in Nigeria to mitigate adverse impacts of environmental degradation on public health and economic development. The authors analyse the existing legal framework and enforcement agencies, noting concerns about their effectiveness in prosecuting green crimes. They emphasize the inadequacy of penalties and recommend the establishment of an independent environmental agency, increased funding, and streamlined investigative procedures to enhance law enforcement efforts.

More specifically, the article by Dekiawati (2022) focuses on the issue of illegal logging in Indonesia, highlighting weak forest management systems and corruption within law enforcement agencies as root causes. The study emphasizes the importance of law enforcement measures, both penal and non-penal, to combat illegal logging effectively. It suggests the implementation of an existing Indonesian Law, along with institutional development and community

empowerment programmes. The article also calls for restructuring the wood processing industry and reviewing legislation to address the challenges associated with illegal logging. Finally, Akella and Cannon (2004) provide a comprehensive review of the challenges faced in enforcing environmental laws to achieve effective conservation outcomes. They stress the need for a holistic approach that involves local communities, sustainable resource management, and consumer education. The authors identify several obstacles, including 'poor interagency cooperation, jurisdictional confusion, procedural inefficiencies, inadequate resources, technical deficiencies in laws and procedures, and lack of performance monitoring' (ibid:548).

The literature reviewed demonstrates that a poor and weak environmental institutional framework poses significant challenges to effective green policing and the enforcement of environmental laws. Studies conducted in various countries have identified similar common issues such as inadequate institutional capacity, lack of coordination, policy gaps, corruption, limited resources, and legal loopholes. Addressing these challenges requires comprehensive strategies, including enhancing interagency cooperation, strengthening enforcement capacity, improving legal frameworks, and ensuring political commitment. Moreover, combating corruption and promoting stakeholder coordination are critical factors for successful environmental law enforcement (Akella & Canon, 2004). These various factors are reported and discussed in the following chapters.

2.3.3 Resource Scarcity

Green crime poses significant economic, security, and environmental threats, necessitating effective law enforcement responses. Various writers examine the challenges faced by green policing in addressing wildlife trafficking owing to low priority and resource constraints. Nurse (2013) highlights the limitations of resources and the role of non-governmental organisations

(NGOs) in combating wildlife crime. The findings emphasize the importance of addressing these challenges to enhance the effectiveness of green policing efforts.

Wyler and Sheikh (2013) highlight that the magnitude of illegal wildlife trade is driven by multifaceted factors, including consumer demand, weak natural resource management, inadequate law enforcement, and trade control measures. Transnational crime syndicates play a significant role in facilitating this illicit trade, employing sophisticated strategies and corrupt practices. Wyler and Sheikh underscore the inconsistencies in implementing international commitments, such as CITES, which undermine the effectiveness of green policing. Discrepancies in enforcing legal frameworks across participating states create vulnerabilities that wildlife traffickers exploit. Harmonized implementation is crucial to counteracting this illegal trade effectively. Moreover, green policing agencies often face significant capability gaps due to limited personnel, expertise, training, funding, and equipment. These constraints hinder their ability to combat wildlife trafficking effectively. Nurse (2013) further highlights the financial constraints faced by environmental law enforcement agencies, necessitating collaboration with NGOs to address wildlife crime. The author discusses the instrumental role played by NGOs in wildlife law enforcement employing specialised investigative staff to gather evidence, provide court testimony, and prosecute cases when necessary. Their involvement compensates for the limited capacities of green policing agencies. NGOs' ideological positions and moral culpability policies shape their strategies, primarily driven by protecting animals from harm and influencing law enforcement agendas.

2.3.4 Lack of capacity building

Green policing faces unique challenges that hinder its effectiveness. This literature review aims to examine the recurring theme of the lack of capacity building as a significant challenge for

green policing efforts. Specifically, it explores the insufficiency of resources, funding constraints, limited public understanding, and inadequate training and education as key obstacles to effective enforcement. This part of the review draws upon the works of Falcone (2004), Eliason (2011), and Ariffin (2015) and their analysis of the issues surrounding capacity building in green policing.

Falcone (2004) discusses the unique challenges faced by conservation law enforcement agencies in the United States, including limited resources, insufficient funding, and a lack of public understanding and support for their work. The author argues that these agencies need to adapt to changing societal and environmental needs and adopt a more community-oriented and problem-solving approach. Better collaboration and communication between conservation law enforcement agencies, other law enforcement entities and the communities they serve is also necessary. Eliason (2011) emphasises the significant challenges facing conservation law enforcement agencies in the United States in policing natural resources, such as wildlife and forests. The lack of resources and specialised knowledge and skills needed to enforce conservation laws are among the key challenges identified in the article. Training and education are critical for equipping conservation law enforcement officers. Ariffin's (2015) article provides an insightful overview of the challenges faced by Malaysia in enforcing wildlife laws and protecting endangered species. The study reveals that despite Malaysia's enactment of robust legislation, effective enforcement of these laws remains a challenge due to several underlying issues. One of the primary challenges is the lack of adequate resources, including manpower, skills, and equipment, among regulatory agencies tasked with enforcing wildlife laws. The study highlights that low public awareness of the new wildlife law hinders effective enforcement efforts, with some sectors of the public reluctant to cooperate without financial incentives. Additionally, the lack of information exchange and cooperation between wildlife enforcement

authorities and other agencies also contributes to the challenges in effective enforcement. The study identifies institutional capacity as a significant barrier to interagency cooperation and cites the lack of political will as a challenge to effective enforcement efforts. The study recommends that the government prioritize wildlife conservation and its law enforcement on the national agenda, as this is essential in ensuring effective enforcement. The study also emphasizes the need to increase the number of enforcement personnel and create more posts to augment manpower. The shortage of personnel and inadequate equipment limits the extent to which enforcement activities can be carried out effectively. The study underscores the importance of regular training for enforcement officers to enhance their skills, especially in legal matters.

2.3.5 Lack of collaboration

Effective green policing requires a coordinated and collaborative approach involving various stakeholders, including state agencies, non-governmental organisations (NGOs), and affected communities. This literature review examines the challenges and opportunities associated with coordination in green policing efforts. It explores the importance of collaborative interventions, the role of environmental permits, models of collaboration, the need for integrated law enforcement mechanisms, and the significance of a comprehensive legal system for environmental protection and management (White & Pink, 2015; Dewi et al., 2020; White & Pink, 2017; Susanto & Surono, 2021; Salim & Palullungan, 2021; Harinda et al., 2021; Fitriono, 2019).

White and Pink (2015) argue that collaborative state interventions can effectively address environmental crime but necessitate a shared understanding of the problem and coordination between stakeholders. The study emphasizes the importance of collaboration among state agencies, NGOs, affected communities, and other stakeholders. Similarly, White and Pink (2017)

highlight the challenges associated with collaboration between operational stakeholders and external agencies in environmental law enforcement. The authors stress the need for building capacity, education, training, and resources to foster collaboration and ensure high engagement.

Dewi et al. (2020) emphasize the importance of environmental supervision and the role of environmental permits in achieving environmental protection and management goals. They stress that effective enforcement of environmental laws is necessary to promote compliance with regulations. The authors highlight the interconnection between environmental permits, business licenses, and the need for integrated law enforcement mechanisms. Similarly, Susanto and Surono (2021) discuss the challenges in implementing integrated law enforcement in environmental crimes and argue for coordination between environmental Civil Servant Investigators (PPNS) and the police. They underscore the need for an integrated law enforcement mechanism to address environmental crimes and advocate for improved coordination between agencies. Moreover, Salim and Palullungan (2021) highlight the significance of a clear, comprehensive legal system to ensure environmental protection and management. They discuss the role of SDGs in promoting sustainable development and suggest that increasing public awareness and education can improve compliance and enforcement efforts. Fitriyono (2019) critically examines the environmental law enforcement system in Indonesia and identifies lack of synchronization and harmony in the legal structure. The review calls for an integrated approach to law enforcement, combining administrative, civil, and criminal law, and emphasizes the importance of interdisciplinary knowledge to handle environmental cases effectively. Furthermore, Harinda et al. (2021) analyse the issue of illegal mining in Indonesia and the measures taken by the government to enforce laws and regulations. They stress the need for consistent and integrated law enforcement efforts to address illegal mining activities effectively.

The review also highlights corrupt practices, lack of court processing of environmental cases, and inadequate resources.

2.3.6 Socio-economic factors

The effectiveness of green policing is hindered by various socio-economic factors. This section examines the intersection between socio-economic factors and green policing, highlighting the need to address poverty, unemployment, and governance gaps. The review draws upon key articles by Massé (2020), South (2017), Duffy (2015), von Essen and Nurse (2016), Goyes and South (2019), Crook et al. (2018), and Ruggiero and South (2013).

Massé's (2020) article argues that effective enforcement requires a balance between punitive measures and community engagement, including addressing poverty and unemployment, providing alternative livelihoods, and engaging with local communities to build trust and support for conservation efforts. South (2017) notes that environmental crime is often driven by economic rationalities, where individuals or groups engage in illegal activities to gain financial benefits to secure their livelihoods. This is particularly evident in areas where poverty and unemployment are high. The author emphasises the need for law enforcement agencies to address these underlying socio-economic factors by providing alternative economic opportunities and engaging with local communities to build trust and support for conservation efforts. Duffy's (2015) article highlights the role of networks and governance in the illegal wildlife trade, which is facilitated by complex networks of actors, including criminal organisations, corrupt officials, and local communities. The author emphasises the need for law enforcement agencies to address the governance gaps that enable the illegal wildlife trade to flourish, including strengthening laws and regulations, increasing enforcement capacity, and engaging with local communities to build support for conservation efforts. Von Essen and Nurse (2016) provide a comprehensive

view of the complex issue of illegal hunting, which is driven by a range of rationales and cultural practices across diverse offender profiles. The authors argue that hunters are in a precarious position in modernity, being policed not only by a new breed of environmental law enforcers and prosecutors, but also by the broader public behind conservation policy, animal rights, and species justice concerns. Illegal hunting poses a threat to their societal position, and their traditional rights and cultural practices are being tightly regulated as wildlife is now considered a public good. Their study explores how hunters cope with this shift and the dialectic between customary norms of hunting communities and state policy. The authors identify three ways in which the dialectic may be manifested: complementary, substitutive, or incompatible and irreconcilable. Incompatible and irreconcilable dialectics often lead to illegal actions and conflicting notions of crime, deviance, and the legitimacy of wildlife laws. One of the key insights provided by the authors is that the cultural criminologist's claim that illegal hunting may be primarily the continuity of traditional livelihood or lifestyle practices deserves closer examination. The authors raise the issue of illegal hunting of now-protected wolves in Finland and Denmark and consider the concept of the "invented tradition" as a means of legitimizing criminalized forms of hunting and recreational animal exploitation. The authors also highlight the challenges of eliciting attitudes and candid reflections regarding illegal hunting and suggest mitigation approaches, such as limited and controlled legal hunting.

Goyes and South (2019) critically analyse the evolving politico-legal dynamics in the Yasuni region, focusing on how conservation and development discourses marginalize indigenous communities. They explore the power of development and conservation philosophies, rooted in differing views of nature, and argue that these discourses create divisive perspectives that harm the socioecological fabric. The authors highlight "econocentrism," linked to coercive conservation practices in ecotourism, which undermine indigenous knowledge and agency. They

caution against such practices, exemplified by Colombia's Tayrona National Natural Park, as they exclude and disenfranchise local communities. Analysing the Yasuni project, the authors uncover latent functions leading to indigenous environmental disenfranchisement. The authors contend that conservation and development discourses are intertwined, contributing to indigenous exclusion. They advocate for an inclusive conservation approach that values local agency and knowledge, while addressing underlying economic and political structures perpetuating environmental and social injustices. Ruggiero and South (2013) provide an insightful analysis of the intersection of state-corporate crime, neoliberalism, and green criminology. The authors begin by introducing the concept of state-corporate crime and its specific manifestation as toxic state-corporate crime, which refers to the actions of corporations and government agencies in the oil, chemical, and mineral industries that have harmful impacts on the environment and human health. They argue that neoliberal policies have created an environment that allows corporations to operate with little regulation or oversight, resulting in the perpetration of state-corporate crimes. The article highlights the importance of adopting a green criminological approach to address environmental and public health harms caused by these mineral industries. The authors argue that this approach is necessary to challenge the structures that enable state-corporate crimes to occur and to hold state and corporate actors accountable for their actions.

2.3.7 Lack of political will and corrupt practices

The achievement of the goals of green policing is hindered by a pervasive lack of political will and the prevalence of corrupt practices (Nurse, 2013; Solodov & Zębek, 2020; Rege & Lavorgna, 2017; Neimark, 2019; Williams, 2019). The literature reviewed here, critically

analyses existing research to illuminate the multifaceted nature of these challenges and the profound implications for wildlife protection, environmental law enforcement, and the nexus between organized crime and environmental crimes.

Nurse's (2013) work highlights the failure of wildlife laws to adequately address societal attitudes towards wildlife crime, necessitating a coherent system of protection within the mainstream criminal justice framework. The article underscores the pernicious effects of the politicisation of wildlife management and the failure to consider the individualistic nature of wildlife offences. Additionally, NGOs play a pivotal role in effective wildlife law enforcement, raising concerns regarding the reactive enforcement model in the UK and the criticism levelled at the US federal enforcement body. Similarly, Solodov and Zębek (2020) focus on the daunting challenges of corruption in enforcing environmental criminal laws in Poland and Russia. Their research sheds light on the practical hurdles encountered in the enforcement process, including limited resources, inadequate training, and endemic corruption. Moreover, Neimark (2019) argues for a holistic approach to combating environmental crime, emphasizing the necessity of understanding the intricate social, economic, and political factors that underpin such criminal activities. The author stresses the significance of sustainable and equitable alternatives to illegal practices, poverty reduction, governance strengthening, and addressing the root causes of illegal environmental product demand. Furthermore, Williams (2019) explores the intricate linkages between corruption and environmental crime, highlighting how corruption undermines the effectiveness of law enforcement agencies in preventing and curbing environmental harms. Selective enforcement and political interference often result in environmental crimes receiving lower priority, compounded by biased penalties that disproportionately affect marginalized communities. The article argues for the imperative of tackling the drivers of corruption and

illegal activities, such as poverty and inequality, to address environmental crimes comprehensively.

2.3.8 Lack of public awareness

The effective enforcement of environmental laws and regulations requires not only robust policing efforts but also public awareness and support. However, several studies have identified a lack of public awareness as a significant challenge for green policing. This literature review examines the findings and insights provided by three key studies, namely Olivi (2022), Brisman & South (2020), and South (2015), to gain a comprehensive understanding of the issue. These studies shed light on the need for legislative interventions, improved civil society engagement, media communication, and a broader conceptual approach to address the lack of public awareness. Moreover, they emphasize the complexities of prosecuting environmental crimes, the importance of understanding public perception, and the role of preserving biodiversity. By synthesizing these findings, this review aims to contribute to the understanding of the challenges faced by green policing in relation to public awareness and provide insights for developing effective strategies to address this issue.

The study conducted by Olivi (2022) in Brescia, Italy. The study's findings emphasize the necessity of legislative interventions to combat environmental crimes, particularly those related to the illegal waste trade. It highlights the importance of improved civil society engagement and effective media communication to raise public awareness. It also underscores the complexity of prosecuting these crimes, often involving financial crimes and corruption. Collaboration between enforcement entities is deemed essential to address these challenges effectively. Olivi's (2020) study further emphasizes the need for a broader conceptual approach that encompasses multiple fields and disciplines to investigate human vulnerabilities caused by exposure to environmental

pollution from illegal waste trade. Moreover, Brisman and South's (2020) study explores the factors contributing to the decline of biological diversity on Earth, including animal abuse, wildlife crime, pollution, and global warming. The authors argue for a broader criminological consideration of biodiversity loss and highlight the economic, aesthetic, scientific, and ethical justifications for preserving biodiversity. They stress the duty of a stewardship role humans have in ensuring their production methods do not exceed the planet's ecological limits. The study also emphasizes the need for public awareness regarding the benefits humans derive from biodiversity preservation. Despite the multifaceted reasons for preservation, the authors note that biodiversity is decreasing rapidly due to human activities. They argue that society remains unresponsive to dire forecasts and warnings, partly due to a human proclivity to consume scarce resources and a potential misunderstanding of the real risk of species extinction. The study further examines the concept of de-extinction, cautioning that it should not replace efforts to preserve existing biodiversity.

South (2015) discusses the central focus of green criminology on studying environmental harms and crimes and their impact on different populations. The study highlights the limited attention given to the concept of environmental security within criminological literature, despite its relevance in the context of climate change impacts. The author also explores the emergence of the anthropocene, driven by human impact on the environment, and notes the legal permissibility of harmful activities carried out by corporations and nation-states. The role of regulation, consumerism, risk, and insurance in shaping human behaviour and attitudes towards the environment is examined. While green criminologists acknowledge the limitations of regulation, they express scepticism towards efforts to promote change from below, such as consumerism and NGO advocacy, viewing consumerism as a driver of environmental problems. Insurance is identified as a factor that supports capitalism but may contribute to environmental disregard.

2. 4 Sustainable law enforcement solutions for green policing

This literature review critically examines the effectiveness of fines and penalties as a solution for green policing and explores alternative approaches. It emphasizes the inadequacy of traditional regulatory methods and the importance of comprehensive and integrated environmental policies involving multiple stakeholders.

2.4.1 Fine and penalty

Some of the literature available critically examines the effectiveness of fines and penalty as a way forward for green policing, drawing upon key scholarly perspectives. The review begins by discussing the arguments put forth by Starr (1986), Gunningham, Grabosky, and Sinclair (1998), Lynch and Stretesky (2014), and Nurse (2020) to address the inadequacies of traditional regulatory approaches. It also explores the concept of smart regulation and the importance of a comprehensive and integrated approach to environmental policy involving multiple stakeholders.

Starr (1986) argues that conventional regulatory methods are insufficient to deter environmental crimes effectively. The author suggests that criminal penalties, such as fines and imprisonment, may be more effective in holding offenders accountable. However, Starr acknowledges the challenges associated with prosecuting environmental crimes and recommends increased funding for law enforcement agencies and the establishment of specialised environmental courts to overcome these obstacles. Similarly, Gunningham, Grabosky, and Sinclair (1998) propose a smart regulation approach that combines traditional regulatory measures with criminal sanctions. They contend that this integrated strategy offers greater flexibility in enforcing environmental laws and can potentially enhance deterrence. The authors emphasize the importance of a comprehensive and collaborative approach involving regulators, industry, and the public to ensure effective implementation. Lynch and Stretesky (2014) argue that corporations engaging in

environmental crimes are often motivated by profit and may not be sufficiently deterred by traditional regulatory measures. The authors advocate for the use of criminal penalties, such as fines and imprisonment, to hold corporations accountable for their harmful practices. They highlight the need to address corporate culture and re-evaluate the incentives that contribute to environmental offences. Furthermore, Nurse (2020) critically examines contemporary environmental enforcement mechanisms and advocates for a restorative justice approach to address environmental crimes and harms. The author emphasizes the global impact of green crimes, which are frequently linked to neoliberal markets and the exploitation of natural resources by corporations and states. Nurse (2020) argues that restorative justice, involving offender accountability and harm repair through dialogue between offenders and victims, may offer a more effective alternative to reactive punishment. However, the author acknowledges the challenges in implementing restorative principles in the context of environmental crimes.

2.4.2 Specialised police unit for green policing

This part examines the concept of specialised green police units as a potential solution, drawing on the works of Panton and Meyer (1972), Blindell (2006), White (2020), and White and Heckenberg (2021), to explore the need for specialised units, enhanced cooperation, proactive approaches, and community engagement to strengthen green policing efforts.

Mwanika (2010) notes that environmental degradation is a significant problem in Eastern Africa, to address the challenges, he recommends strategies such as establishing specialised environmental units, collaborating with other stakeholders, increasing public awareness and education, and promoting regional cooperation and coordination. Moreover, Panton and Meyer (1972) argue that local police departments should expand their role in environmental protection given the increasing number of environmental crimes. The authors suggest several ways in which

local police departments can expand their role, including developing specialised units, increasing cooperation between local and federal agencies, providing training, and enforcing environmental regulations as part of routine police duties. They acknowledge the challenges of such an expansion but argue that the benefits would be significant, including improved public health and safety and a reduction in environmental damage. Likewise, Blindell (2006) advocates for a more proactive and intelligence-led approach to environmental policing, including the creation of specialist units within police forces. The author emphasizes the need for cooperation between law enforcement agencies, as environmental crime is often a transnational issue. He stresses the importance of recognizing the seriousness of environmental crime and allocating sufficient resources to tackle it effectively. White and Heckenberg's (2021) article discusses the challenges posed by climate change to law enforcement agencies, particularly in relation to green crimes. They argue that policing agencies need to become more aware of the impact of climate change and green crimes on communities and the environment and take a more proactive, holistic and community-based approach to address these issues. The article provides practical recommendations for police agencies, highlighting the importance of collaboration, community engagement, and sustainable practices.

2.4.3. 'Police power in green' & green police integrity

In recent years, the concept of "police power in green" has gained prominence as policing expands its role in environmental governance (Masse, 2022). The expanding role of policing in environmental governance, termed "police power in green" by Masse (2022), has drawn attention to the importance of green police integrity in promoting environmental protection and sustainability. As wildlife and environmental crimes continue to grow, there is an increasing need for policing to exert control over activities, flows, and individuals that threaten socio-

ecological orders. This literature review examines the concept of green police integrity and explores its potential as a solution for advancing green policing. To provide a comprehensive analysis, the review incorporates the perspectives of Masse (2022), Vallmüür (2019), and Jarrell (2007) to shed light on the mechanisms, factors, and solutions associated with green police integrity. Masse (2022) argues that the scope of police power in green has transcended conservation spaces and expanded into national territories. This expansion has necessitated the establishment of new environmental police bodies and the strengthening of traditional policing, enforcement, and criminal justice institutions. Understanding the mechanisms and practices through which policing power is exerted in the context of environmental governance is crucial. Masse's (2022) research highlights the increasing utilization of police power in green as a means to control socio-ecological relations. Therefore, the concept of green police integrity assumes significance in ensuring effective enforcement. Similarly, Vallmüür (2019) emphasizes the critical role of green police integrity within organisations. The author identifies leadership, organisational culture, training and education, and communication and collaboration as key factors contributing to the development of green police integrity. The present study aims to conduct a comprehensive analysis of the evolution of green police integrity in the context of Bangladesh by researching key determinants such as leadership, organisational culture, training and education, and communication and collaboration. Leaders must prioritize environmental sustainability and model ethical behaviour to inspire subordinates to follow suit. Cultivating a positive organisational culture that values environmental sustainability helps reinforce green practices and enhance accountability. Additionally, training and education programs are essential for fostering green police integrity by equipping officers with the necessary knowledge and skills. Effective communication and collaboration mechanisms further promote environmental sustainability within police organisations. Moreover, Jarrell (2007) highlights the insufficient

focus on criminal prosecution for environmental crimes, particularly concerning corporate entities. To address this issue, the author proposes solutions to strengthen enforcement efforts. Raising awareness among law enforcement officials, prosecutors, and judges about the severe consequences associated with environmental crimes is crucial for effective action. Providing specialised training can enhance officers' understanding of environmental laws and enforcement procedures, empowering them to tackle environmental offences more effectively. Prioritizing criminal penalties over administrative or civil penalties reinforces deterrence efforts and promotes accountability. Collaborative initiatives across agencies and mandatory clean-up efforts, coupled with publicizing judgments, contribute to improved enforcement outcomes.

2.4.4 Role of NGOs in green policing

While the justice system traditionally focuses on human victims of crime, the involvement of civil society organisations, particularly non-governmental organisations (NGOs), has emerged as a crucial factor in monitoring and enforcing environmental regulations (Nurse, 2020). This part of the literature review aims to explore the role of NGOs as a way forward for green policing, drawing insights from scholarly works that highlight the significance of NGO action in addressing environmental challenges. The review will delve into the use of narrative storytelling as a powerful tool to enhance critical understanding of environmental protection, collaboration between NGOs and networks to combat environmental crimes (Smith & Klass, 2014), the comparison between socio-legal and regulatory approaches to environmental enforcement (Nurse, 2012), the challenges faced by NGOs in environmental law enforcement (White, 2012), and the influence of NGOs on environmental governance (Yıldırım & Ayna, 2018). By synthesizing these perspectives, this review aims to provide academic insights into the potential of NGOs in promoting environmental justice and effective enforcement efforts.

Nurse (2020) asserts that narrative storytelling using the sociolegal method can contribute to a deeper understanding of environmental protection and the development of environmental enforcement policies. By adopting a green criminological lens, this approach recognizes the significance of addressing green crimes and harms to the environment and non-human nature (Nurse, 2020). Furthermore, Nurse emphasizes the pivotal role played by NGOs, exemplified by the legal battle fought by ClientEarth against the UK government over air pollution levels. Through the utilization of narrative storytelling, NGOs can effectively highlight and address environmental problems, filling the gaps left by statutory enforcement failures and policy inadequacy. Similarly, Smith and Klass (2014) emphasize the importance of collaboration between NGOs and networks in addressing the complex and cross-border nature of environmental crimes. EU initiatives, such as IMPEL, ECEN, and the EU Action Plan Against Wildlife Trafficking, serve as successful examples of efforts that bring NGOs and networks together to coordinate actions and share information. However, the authors acknowledge the challenges faced by NGOs and networks, including coordination difficulties, limited resources, and weak rule of law in regions where environmental crimes occur.

Moreover, Nurse (2012) compares the socio-legal and regulatory approaches to enforcing environmental regulations in the UK. The study highlights the role of NGOs in investigative work and points out the impact of economic crises and austerity measures on enforcement efforts. The author suggests the need for a stronger commitment to a statutory system to strengthen enforcement and enhance accountability. White (2012) examines the increasing involvement of NGOs in environmental law enforcement and highlights the challenges they face. The author emphasizes the importance of maintaining independence and a critical perspective while navigating legal, financial, and political complexities to ensure the effectiveness of NGOs in this field. Furthermore, Nurse (2013) provides a comprehensive literature review on the role of

NGOs in wildlife law enforcement. The article distinguishes between campaigning NGOs and law enforcement NGOs. The study also delves into the moral and ethical considerations that shape policies on wildlife crime. Yıldırım and Ayna (2018) focus on the role and influence of NGOs in environmental governance in Turkey, employing various frameworks to assess the capacity and effectiveness of NGOs in environmental protection. They highlight challenges such as the lack of coordination and cooperation among actors and institutions in Turkey's environmental governance. However, the authors also emphasize the gains achieved by civil society and social movements in environmental policies and awareness campaigns.

2.4.5 Green community policing

Environmental community policing has emerged as a promising approach for addressing green crime, and its successful implementation relies on the development of collaborative partnerships between law enforcement agencies, local communities, and non-governmental organisations through various institutional mechanisms. These mechanisms may include the use of volunteer scouts, incentives for local communities, and meaningful engagement in decision-making processes. This notion is supported by a growing body of literature from both the global north and south, which includes studies by O'Rourke and Macey (2013), Ristovic (2018), Fiorino (1990), Lynch and Stretesky (2013), Davis and Garb (2020), Phuong and Mol (2003), Sjöstedt et al. (2022), Lotter and Clark (2014), Chanyandura (2020), Ma et al. (2023), Anagnostou et al. (2020), Wilson-Holt and Roe (2021), Cooney et al. (2017), Masse (2017), Roe et al. (2015), and Lunstrum and Giva (2020). Addressing green crime requires collaborative efforts from various stakeholders, including law enforcement agencies, non-governmental organisations (NGOs), and the community. Scholars argue that community engagement, proactive policing techniques, and problem-solving strategies are crucial in effectively addressing green crime (O'Rourke and

Macey, 2013; Ristic, 2018; Fiorino, 1990; Phuong and Mol, 2003; Sjöstedt et al., 2022; Wilson-Holt and Roe, 2021 and Roe et al.'2015).

O'Rourke and Macey (2013) argue that public participation is a key component of effective environmental regulation, and community policing can help foster such participation. The authors propose a model of environmental community policing, which combines traditional and community policing, as a promising approach to environmental regulation. They highlight the importance of establishing trust between law enforcement agencies and the community, promoting sustainable and environmentally responsible practices through education and awareness-raising campaigns, and employing proactive strategies that prioritize prevention over enforcement. Similarly, Ristic (2018) underscores the importance of collaborative partnerships between law enforcement agencies and local communities in addressing environmental crimes. The author argues that successful community policing initiatives should engage with stakeholders and promote sustainable practices. Ristic (2018) emphasizes the need for a proactive and holistic approach to environmental crime prevention that addresses the social, economic, and environmental factors that contribute to such crimes.

Moreover, Phuong and Mol's (2003) research explores the emergence of communities as informal regulators of industrial pollution in developing countries. The study finds that community participation and information can motivate polluters to improve their environmental performance. However, the economic and social dependence of communities on industrial corporations can hinder efforts to reduce pollution. The authors argue that the lack of strict government regulations and effective enforcement in developing countries means that communities must take on a larger role in regulating environmental pollution. Fiorino's (1990) research highlights the importance of citizen involvement in managing environmental risks. The

author surveyed various institutional mechanisms that encourage citizen participation in environmental decision-making processes and evaluated their advantages and disadvantages, arguing that public participation is crucial to adequately address environmental risks and take the public's concerns into consideration. The study also discusses the broader social and political implications of citizen participation, highlighting its potential to raise public awareness and foster trust between citizens and government officials.

Sjöstedt et al.'s (2022) research focuses on community-based engagement in wildlife conservation and the drivers and motives for reporting poaching. The authors argue that community-based strategies that foster constituent cooperation are key to conserving natural resources, particularly in reporting poaching activities. In the same vein, Wilson-Holt and Roe's (2021) study assesses the effectiveness of community-based interventions in reducing illegal wildlife trade. They suggest that interventions should focus on changing attitudes and behaviour toward wildlife, rather than simply reporting livelihood benefits, as this will have a larger impact on IWT reduction. Finally, the study by Roe et al. (2015) emphasizes the importance of involving local communities in conservation efforts. They argue that community-based approaches that empower and economically benefit local communities may be more effective in the long term. They call for policies that enable communities to benefit from wildlife and partnerships between governments, NGOs, and other stakeholders.

While community engagement is a widely recognized and important aspect of environmental community policing, there is a growing body of scholarship that suggests the effectiveness of additional strategies. Specifically, scholars argue that funding for intelligence-led operations, joint patrols, and financial incentives for the community, commercial community-based conservation approaches, livelihood arrangements for the community, providing monetary

benefits, maintaining human sources of intelligence, and community outreach programmes are effective in achieving environmental community policing goals. These assertions are supported by various studies, including those conducted by Lotter & Clark (2014), Chanyandura (2020), Anagnostou et al. (2020), Cooney et al. (2017), Masse' (2017), and Lunstrum and Giva (2020).

Among other strategies, Lotter & Clark (2014) recommend a multifaceted approach that involves joint field patrols, training game scouts and rangers, aerial surveillance, and financing special intelligence-led operations to reduce poaching. Likewise, Chanyandura (2020) argues that community engagement in conservation efforts must address social injustice and propose funding and auditing commercial and community-based conservation enterprises, increasing incentives for wildlife stewardship, decreasing the costs of living with wildlife and supporting livelihoods related and unrelated to wildlife. Moreover, Anagnostou et al. (2020) propose a combination of strategies to encourage local communities to provide information on wildlife crime, including developing strict ethical protocols, implementing community outreach programmes, and facilitating collaborative management and access to park resources. Cooney et al. (2017) suggest community-based interventions that address incentives shaping attitudes towards IWT, such as constructing fences, problem animal control, and insurance or compensation schemes for crop damage. Masse (2017) discusses the potential benefits of community-based anti-poaching initiatives and suggests that models of inclusive anti-poaching might overcome challenges such as violent reprisals against community rangers and co-opting scouts. Finally, Lunstrum and Giva (2020) argue that community-based approaches, such as poverty reduction, are more effective in combating poaching than heavy-handed, militarized responses. They stress that efforts to combat poaching must also engage local communities in conservation efforts, given that many recruits to poaching are motivated by earning money to care for families and communities. These strategies can shift conservation incentives positively

while promoting human rights and livelihood concerns. Ultimately, a multifaceted approach that engages local communities and involves a range of stakeholders is needed to combat poaching, illegal wildlife trade, and other environmental crimes (Lotter & Clark, 2014; Chanyandura, 2020; Anagnostou et al., 2020; Cooney et al., 2017; Masse, 2017; Lunstrum & Giva, 2020). By working together, we can protect our planet's precious biodiversity and ensure a sustainable future for all.

Community engagement has been identified as an effective strategy for enhancing environmental law enforcement. Scholars have emphasized the potential of local ecological knowledge, held by community members, to complement the efforts of enforcement agencies. By leveraging this knowledge, enforcement agencies can gain a deeper understanding of local environmental issues and develop more effective solutions (Ma et al., 2023). Furthermore, social media has emerged as a promising tool for promoting community engagement in environmental law enforcement, as it provides a platform for dialogue and collaboration between agencies and local communities (Davis and Garb, 2020). Ma et al. (2023) also shed light on the intricate relationships between wildlife trade, biodiversity loss, livelihoods, and human-wildlife interactions. Their research suggests that local ecological knowledge (LEK) can be an asset for conservation efforts, as it can provide evidence for natural resource management and serve as a benchmark for assessing community ecological knowledge. The authors propose that local communities can assist environmental law enforcement agencies by sharing their LEK, and that social media can be an effective tool for communication and reporting. Similarly, Davis and Garb (2020) have argued that community environmental policing initiatives can play a critical role in enforcing environmental regulations. Their study focuses on the informal e-waste hubs that have emerged in the global south, where environmental policing is challenging due to their decentralized nature. The authors suggest that community environmental policing initiatives, which have

primarily taken place in developed countries, can be adapted to developing nations with good results. The authors present the burn alert and response system as an example of how community members can be mobilized to identify and report active burn events through various communication channels.

Environmental equality and social justice can be ensured through community engagement in environmental policing, as underscored by Lynch and Stretesky's (2013) study. Their article analyses the distribution of water-monitoring organisations in the United States and its potential impact on social justice and community environmental policing. The authors posit that limited access to information and resources can result in environmental inequalities that disproportionately impact marginalized communities. The study reveals significant disparities in the number and density of water-monitoring organisations across different states, with more urban and affluent states exhibiting a higher concentration. This uneven distribution has critical implications for community environmental policing and social justice, with marginalized communities being particularly vulnerable to environmental hazards. The article advocates for increased attention to the distribution of water-monitoring organisations and the necessity for more equitable access, including community-based monitoring programs and augmented funding for water-monitoring organisations in marginalized communities.

2.4.6 Eco-education/environmental education

Environmental education is a crucial tool for promoting sustainability and addressing environmental challenges. Scholars have explored the role of schools in promoting environmental education. For example, Puri and Joshi (2017) stress the importance of environmental education in equipping individuals with the necessary knowledge and skills to make positive contributions towards a healthier environment, particularly from an early age.

They propose schools as ideal platforms to build capacity for critical thinking and analysis of environmental issues. They illustrate the effectiveness of this approach through the success of eco clubs in North-eastern schools in India with the objective to foster proper attitudes towards the environment and its conservation in school children through hands-on experience and field visits. It resulted in the creation of over 1, 00,000 eco clubs across the country. Similarly, Kayihan and Tönük's (2012) article examines the implementation of litter and waste management policies in eco-schools in Istanbul, highlighting the importance of integrating environmental education into school curricula and engaging students in practical initiatives that promote sustainable practices. The study emphasizes the role of eco-schools in promoting environmental stewardship among young people and fostering a culture of sustainability in local communities. However, the authors also note the challenges faced by eco-schools in implementing sustainable policies, such as limited resources and lack of support from school administration and parents. The study suggests that addressing these challenges requires a collaborative effort between schools, local communities, and policymakers to promote a more sustainable and environmentally conscious society.

Roch et al. (2007) provide a comprehensive review of environmental education in China, exploring the relationship between global and local environmental education efforts and how they communicate with each other. The article primarily focuses on non-formal environmental education initiatives undertaken by civil organisations in China, either with or without government assistance. The authors discuss the different approaches that these organisations take to environmental education, such as promoting environmentalism through art or using outdoor activities to teach environmental conservation. Despite making significant progress in promoting environmental education and raising awareness about environmental issues, civil organisations in

China face significant challenges such as limited funding, lack of institutional support, and limited access to information and resources.

Moreover, scholars have explored the need for a more radical approach to environmental education. In his article, 'Towards eco-pedagogy: Weaving a broad-based pedagogy of liberation for animals, nature, and the oppressed people of the earth', Kahn (2008) argues that eco-pedagogy, which involves both educational and ethical literacies, is not the same as environmental education. The author claims that while environmental education is becoming more popular and important in the discourse of sustainability, the author believes that it is not enough to address the imminent threats posed by social and ecological crises. He suggests that the trend towards a rational planning and "wise use" economic approach in environmental education is worrying and does not address the need for radical eco-literacies. He further suggests that educational institutions need to be reconstructed and transformed to meet the challenges of the present day and promote social and ecological change. He claims eco-pedagogues are already working towards this goal and urging people to demonstrate their emancipatory feelings and fight for an education that promotes love and hope. The author believes that taking action to promote eco-pedagogy is crucial in these desperate times and could make a significant difference in creating a better future. Similarly, Andrzejewski et al., (2009) claim that educational institutions generally impart the belief that humans are the most superior and advanced species on earth and that all other species exist solely for the benefit, control, domination, or management of humans. They further claim that this human-centric or anthropocentric education has negative outcomes for the welfare of both humans and animals. Considering this, the authors suggest a set of interspecies education principles or standards to incite thinking and discussions in schools, post-secondary education, and communities. They recommend that critical interspecies education will become an integral part of the curriculum and

environment in educational institutions of all levels. Additionally, they encourage individuals and organisations to adapt and collaborate to transform knowledge, attitudes, and behaviour towards animals.

Furthermore, scholars have explored the challenges associated with environmental crime education. Situ (1997) provides a comprehensive literature review of the challenges associated with environmental crime education in criminology and criminal justice curricula. The author notes that despite the growing recognition of the damaging effects of environmental violations, there is a lack of comprehensive material for teaching the subject. To address these challenges, Situ (1997) suggests adopting a service-learning programme in teaching environmental crime. Service-learning is a programme, according to Situ (1997:244), 'designed to accomplish tasks that meet society's needs and to foster students' conscious educational growth. It provides service to the community while fulfilling intellectual, civic, ethical, moral and cross-cultural learning goals, as well as career development'. It emphasizes critical reflection, which is achieved through class discussions, group projects, and debates, to help students understand environmental violations and the process of environmental protection. The incorporation of service learning into a course on environmental crime has been found to be a powerful tool for helping students develop a first-hand understanding of environmental issues. Finally, scholars have argued for a more integrated approach to environmental education. Symcox et al. (2009) argue that the current educational system is promoting a world order based on a competitive global economy, which neglects social justice and environmental issues since 'many of today's educational agencies and policymakers are engaged in political agendas or remain uninformed or lackadaisical about the growing threats to the quality of human life and the environment' (Symcox et al., 2009:3). They claim that the current problems society and the environment face are due to the educational system's validation and reinforcement of dominant patterns of

development, production, and consumption. Therefore, they offer an alternative to the current corporate-driven agenda by proposing social justice, peace, and environmental education. They propose that these issues must be integrated into curricula, policies, and everyday educational practices to address the growing threats to human life and the environment.

By improving environmental literacy, individuals can become more engaged in environmental issues and take action to reduce their environmental impact. This can lead to more sustainable practices in homes, businesses, and communities, and contribute to the overall health and well-being of the planet. Johns and Pontes (2019) argue that despite decades of efforts to strengthen environmental education in K-12 settings and non-formal opportunities for environmental education, environmental literacy among adults in the USA remains unacceptably low. The article emphasizes the importance of cross-fertilization between environmental education, geography, and outdoor education to advance understanding of complex environmental issues. To identify the challenges faced by preserves in Florida in providing environmental education, the authors utilize a framework based on Coyle's (2005) three levels of learning in relation to environmental literacy. The authors note that these levels include environmental awareness (which identifies nature appreciation and immersion and fosters familiarity and love of nature, laying a foundation for future action), personal conduct knowledge (develops general awareness of life and earth sciences while examining simple relationships within ecosystems) and individuals gain knowledge (of the role humans play in modifying the environment and make decisions about personal environmental conduct and true environmental literacy focuses on large-scale human systems, their development and persistence, and long-term impacts on the biosphere). Individuals at this level commit to taking various kinds of actions to improve the health of the environment. The framework integrates human actions and responsibility into

environmental literacy and addresses concerns about the lack of advocacy and attention to human systems.

2.5. Influence of Media in Addressing Environmental Crime

The relationship between media and environmental issues has been extensively studied in academic literature. For instance, Jarrell's (2007) study explores the role of mainstream media in increasing environmental awareness among the public while highlighting the media's shortcomings in addressing the root causes of environmental harm. Cooper and Nisbet (2016) suggest that narratives in the media can effectively present environmental issues to the public. Meanwhile, Freeman and Hutchins (2023) examine the role of hyperlocal news media in rural environmental conflicts. Ceccato et al. (2021) analyse the use of media archives in reporting crimes against animal production in Sweden. Lastly, Maxwell and Miller's (2011) article highlights the challenges posed by the ecological impact of electronic and electrical equipment, networks, and systems on global media and communication policy.

Jarrell's (2007) study provides an insightful analysis of the relationship between the mass media and environmental issues. The author argues that while the media has played a role in increasing environmental awareness among the public, it has also contributed to a consumer culture that places individual responsibility for protecting the environment. This focus on individual responsibility ignores the structural factors that have led to environmental harm. Jarrell also examines the role of radical environmental groups in gaining media attention and publicity for environmental issues. While these groups have been successful in increasing public visibility and support for environmental issues, their confrontational tactics often come across as desperate and crazy. Jarrell discusses the challenges faced by the media in reporting on environmental issues, including the complexity of environmental risk, harm, and crime, as well as the lack of

journalistic precedence and understanding of environmental issues. In the same vein, Cooper and Nisbet (2016) provide a detailed exploration of the impact of media narratives on public opinion and policy preferences regarding environmental hazards. They suggest that narratives, which are easier to comprehend and promote affective responses, are an effective way to present environmental issues. The authors emphasize that the mass media are not homogenous in how they present environmental risks, and it is important for media consumers to be critical of the sources they rely on for information and to seek out multiple perspectives on environmental issues.

Moreover, Freeman and Hutchins (2023) offer a case study of 'hyperlocal' (pertaining to local or regional affairs) news media and their ability to reflect community views and generate a sense of place in the context of rural environmental politics. The authors highlight the importance of acknowledging and negotiating diverse understandings of place and rurality in environmental policy debates. They argue that rural spaces should not be positioned as inferior or "othered" and that rural journalism needs to overcome challenges to effectively represent the views of the community. The authors emphasize that power imbalances can impact the ability of hyperlocal news media to reflect community views, and that open debate and exposure to different viewpoints are crucial in addressing community conflict. Ceccato et al. (2021) examine the role of media in reporting on crimes against animal production (CAAP) in Sweden over the past decade. The study highlights the importance of media reporting in raising awareness about CAAP in Sweden, while also acknowledging the limitations of using media archives as a data source for investigating the spatiotemporal nature of CAAP.

Arroyave-Cabrera and Miller's (2016:240) article offers a critical analysis of the concept of media ecology, which traditionally focuses on the relationships between media and society. The

authors argue that the traditional approach to media ecology is limited in its scope and fails to adequately address the environmental impact of media technologies. To address this limitation, the authors propose the concept of "deep media ecology," which extends the traditional approach to media ecology to include the physical and ecological impacts of media technologies on the environment. By incorporating the production, consumption, and disposal of media technologies into their analysis, the authors suggest that deep media ecology offers a more comprehensive framework for understanding the role of media in our environment. The authors also discuss the metaphorical nature of media ecology and argue that it can be seen as a way of understanding the complex interrelatedness of media and our environment. They suggest that the metaphorical nature of media ecology can be extended to deep media ecology, which can help us understand the complex relationships between media, technology, and the environment.

Maxwell and Miller's (2011) article discusses the challenges posed by the ecological impact of electronic and electrical equipment, networks, and systems on global media and communication policy. The authors argue that a much broader policy strategy is needed to eliminate the negative environmental impact of media technologies and increase their contributions to ending the ecological crisis. This requires determining how much media technology can be developed and used within the fixed limits of environmental sustainability. Finally, Anderson and Graber (1993) examine the cyclical nature of media attention to environmental issues, contending that the coverage is largely influenced by its perceived importance on the political agenda. The authors posit that during times of economic recession, environmental issues struggle to compete in the media, as other issues take precedence. However, they suggest that the market for environmental stories will increase in the long term, particularly among the younger generation, leading to an improvement in the quality of environmental coverage in the media. The authors establish a cyclical pattern of media attention to environmental issues, presenting instances of peaks and

troughs in coverage over time, and contend that the media's coverage plays a pivotal role in shaping public opinion and influencing policy decisions concerning environmental issues.

2.5.1 Social media and environmental activism

This literature review examines the relationship between media and activism in the context of people's perceptions of environmental issues. The studies reviewed suggest that media, especially digital media, play a crucial role in shaping environmental attitudes and promoting environmental activism (Karahan & Roehrig, 2014; Chung et al., 2020; Clifford & White, 2021; Ronco & Allen-Robertson, 2020; Di Ronco et al., 2019; Di Ronco & Chiaramonte, 2022; Lyon & Montgomery, 2013).

Karahan and Roehrig's (2014) research on social networks highlights the potential of these platforms to enhance students' environmental awareness and activism through social interactions, discussions, and experiences. The authors emphasize the importance of constructionist and social constructivist learning processes in environmental education, which suggest that students construct their own understanding of environmental issues through interaction with others. The authors also suggest that environmental education can promote positive attitudes and awareness about environmental issues and encourage environmentally responsible behaviours. Similarly, Chung et al.'s (2020) study underscores the multifaceted influence of social media, traditional media, and social networks on individuals' understanding and practices regarding environmentally friendly lifestyles. The authors stress the need for effective environmental information and appeals to encourage sustainable practices, given that people's eco-friendly behaviours are shaped by their perspectives, attitudes of family and friends, and level of environmental education. Clifford and White's (2021) study of media coverage of the Murray-Darling Basin controversy demonstrates the influence of media framing on public

understanding of environmental matters. The authors critically analyse the normative frames adopted by the media, which are viewed in terms of state corporate interests, industry capture of regulators, and environmental harm caused by excessive water extraction. The study highlights the impact of the media's framing of crimes committed by powerful actors, such as large agricultural companies and state government agencies, on public understanding of environmental matters. Di Ronco and Allen-Robertson's (2020) study examines the representations of environmental protest in both online and offline spaces, highlighting the ways in which activists used visual markers of resistance and technology to enhance their efforts. The study provides a nuanced perspective on the relationship between online and offline activism and the need to balance the benefits of online connectivity with the risks of surveillance and privacy infringement. Di Ronco et al.'s (2019) and Di Ronco and Chiamonte's (2022) work on the use of Twitter by environmental movements underscores the importance of including people's perceptions and local knowledge in the study of environmental harms. They argue that corporations and states tend to ignore environmental harms until they become irreparable, while environmental activists and affected populations denounce these harms before they occur. The authors stress the need for a politically informed and nuanced approach to mapping and analysing the intersection of public and digital spaces in the context of environmental issues. Finally, Lyon and Montgomery's (2013) article explores the impact of social media on corporate greenwash, a phenomenon where companies misrepresent their environmental practices to appear more sustainable than they are. The authors argue that social media has created new opportunities for consumers and activists to call out greenwashing and hold companies accountable for their environmental claims. They highlight the role of social media in enabling consumers to organize boycotts and other forms of collective action against companies that engage in greenwashing.

2.6 Conclusion

In conclusion, this literature review has presented an extensive review of scholarly literature spanning green criminology, Southern green criminology, policing green crime, challenges and effective strategies for green policing in contemporary law enforcement. This overview has included literature from both the global north and the global south, facilitating a critical analysis of prevailing practices and challenges in green policing within these contexts. Throughout this review, complexities inherent in addressing green crimes within both global north and south contexts have been explored, emphasizing the intertwined relationship between environmental degradation, socioeconomic factors, and institutional limitations. Urgently needed is a more integrated and proactive approach to policing green crime, one that not only enhances enforcement mechanisms but also addresses systemic issues contributing to environmental exploitation. By acknowledging the complexity of these challenges, this research aims to bridge disciplinary divides and offer a holistic framework for understanding and combating green crime in Bangladesh.

With the positioning of the global south in mind, the forthcoming chapters will explore empirical investigations aimed at elucidating the dynamics of green crime in Bangladesh and proposing actionable strategies for its prevention and mitigation. By synthesizing theoretical frameworks with empirical evidence, the research aims to offer a nuanced understanding of green crime dynamics and inform evidence-based policy interventions. Notably, this study holds distinctive value in the Bangladeshi context; as such a study has not yet been undertaken. Consequently, this research represents a unique contribution from the perspectives of green criminology and southern green criminology. Furthermore, this research aims to explore the policing of

environmental crime in Bangladesh, focusing on the challenges law enforcement faces in addressing both current and potential future environmental offences. It does not engage with the debate on whether environmental harm should be criminalised, as that is beyond its scope. Instead, the study examines how effectively the police address existing environmental crimes and how they might cope with additional offences if criminalised in the future. The study remains neutral on the criminalisation of environmental harm, concentrating on the practical difficulties encountered by the Bangladesh Police in their enforcement activities.

Chapter-Three: Methodology

3.1 Introduction

The research aims to investigate the policing of environmental crime in Bangladesh, focusing specifically on the challenges faced by law enforcement in addressing existing and potential future environmental offenses. It does not investigate into the debate on whether environmental harm should be criminalised, which would be the subject of a separate thesis. Instead, it seeks to understand how efficiently the police can tackle current environmental crimes and how they might handle additional offenses if they were to be criminalised in the future. The study refrains from taking a stance on the criminalisation of environmental harm but rather concentrates on the practical obstacles encountered by the Bangladesh Police in their enforcement efforts.

As a criminological study, this research is focused on understanding the challenges and opportunities of policing green crime in Bangladesh, with the goal of contributing to the existing literature on green criminology and southern green criminology. The study has three specific objectives: 1) evaluating the current state of policing and law enforcement strategies for addressing green crime in Bangladesh; 2) investigating the obstacles faced by law enforcement agencies and environmental organisations in preventing and detecting green crime; and 3) developing evidence-based strategies to strengthen the effectiveness of green crime policing in Bangladesh. These objectives are reflected in the study's three research questions, which are as follows: 1) what are the current strategies employed by law enforcement and environmental agencies to address green crime? 2) what are the obstacles faced by these agencies in preventing and detecting green crime? and 3) what measures can be taken to address the challenges faced and promote a sustainable and eco-friendly society in Bangladesh? To answer these research

questions, the study employs an exploratory and qualitative research approach, which allows for a nuanced exploration of the complex issues surrounding green crime, including its social and environmental implications and the perspectives of affected communities and law enforcement officials.

I conducted a total of 36 interviews with diverse stakeholders, including police officials; officials from the DoE; WCCU; environmental lawyers and judges of the environmental court; environmental journalists; researchers; members of civil society; development practitioners; and officials from NGOs. The following chart has represented the total number of respondents of my study:

Table-3: Total Interviews

Stakeholders	Number of interviews
Department of Environment(DoE)	06
Bangladesh Police	17
Wildlife Crime Control Unit(WCCU)	01
Public Prosecutor of Environmental Court	01
Judges of Environmental Court	03
Environmental Journalists	03
NGOs/Voluntary Organisation	02
Researcher	01
Development Practitioner	01
Member of Civil Society	01
Total	36

The interviews were conducted using digital platforms such as Skype and WhatsApp (total-19 interviews), as well as face-to-face interactions during field visits. I conducted these interviews in three different phases. In the first phase, from March to May 2021, I utilized digital platforms (Skype, WhatsApp and Zoom). My plan was to travel to Bangladesh to conduct in-person

interviews, but this plan was disrupted by the COVID-19 pandemic, which forced me to adjust to digital platforms. In the second phase, from September to October 2021, I continued the interview process through relevant digital platforms as the following chart represents:

Table-4: Interviews through the digital platforms

SI	Digital platforms	Number of interviews
01	Zoom	07
02	Skype	02
03	WhatsApp	10
	Total	19

Finally, in the third phase, from June to August 2022, I was able to conduct face-to-face interviews during my field visit in Dhaka, Bangladesh. Being physically present in the research location allowed for a more immersive experience and facilitated direct interaction with participants. The following chart shows the number of interviews during my fieldwork:

Table-5: Face-to-Face Interviews during the field visit

Stakeholders	Number of Interviews
Bangladesh Police	11
Department of Environment(DoE)	02
Public Prosecutor	01
Environmental Journalist	01
Development Practitioner	01
Member of Civil Society	01
Total	17

This chapter will provide information on (among others) the research design, the research objectives and questions, ontological and epistemological considerations, as well as the methods for data collection and analysis. During the research I faced many challenges such as adapting to

remote learning due to the COVID-19 pandemic, conducting interviews in different time zones and locations, and translating transcripts accurately. However, I overcame these challenges through strategic planning, resilience, and unwavering commitment to my research.

3.2 Research design

There was no prior research in my area in Bangladesh; therefore, my research is necessarily exploratory. Additionally, considering my research questions, I have chosen a qualitative approach for the study, which is the most suitable method for addressing the specific research questions I have formulated. In this study, I have crafted a research design that incorporates several key elements to ensure a comprehensive investigation. The foundation of my research design rests on well-defined research objectives and research questions, guiding the entire inquiry. I have taken into consideration both the ontology and epistemological assumptions underlying this study. These assumptions shape the way I perceive and understand the nature of reality, as well as the process by which knowledge is acquired and interpreted. Furthermore, axiological assumptions play a crucial role in shaping the values and perspectives that inform my research. These assumptions help guide my ethical considerations, ensuring that the study is conducted with integrity and respect for all parties involved. In order to explore the subject matter thoroughly, I have opted for an exploratory research approach. As Bows (2018) notes that exploratory research is employed when limited information is available, aiming to generate preliminary understanding rather than definitive conclusions about a subject or phenomenon. This type of study is conducted to either explore a less-explored area or to assess the feasibility of conducting a specific research study (Kumar, 2011). Therefore, this study approach allows me to delve into the topic with an open mind, uncovering new insights into green crime in Bangladesh.

To capture the richness and depth of the research phenomenon, I have chosen to employ a qualitative study design which will enable me to gather detailed and nuanced data, embracing the complexity of human experiences and perspectives. By combining these elements, I aim to provide a comprehensive and insightful analysis of the subject matter at hand. Through rigorous exploration and qualitative inquiry, I hope to shed new light on the research questions and contribute to the existing body of knowledge in the field of green criminology.

3.2.1 Ontological, epistemological and axiological considerations

Qualitative research, influenced by interpretivism, focuses on understanding the subjective meanings people attribute to reality (Lynch & Bogen, 1997). It rejects the positivist notion of objective reality and emphasizes that scientists construct their own understanding based on preferences, biases, and interactions with others (Bachman and Schutt, 2018). The constructivist paradigm, advocated by Guba and Lincoln (1989), explores how stakeholders construct their beliefs and aim to reach a consensus on the focus of inquiry. This interactive research process fosters understanding among participants (Guba & Lincoln, 1989). The study of policing green crime in Bangladesh requires careful consideration of philosophical concepts such as ontology, epistemology, and axiology. Adopting a subjectivist perspective and social constructivist ontology allows me to understand the complexities of green crime and law enforcement challenges in Bangladesh from multiple perspectives. The axiological considerations, including my values and biases, also play a potential role in shaping the research philosophy and methodology and potentially influencing research outcomes. By acknowledging and reflecting on these considerations, I can ensure that the study is rigorous, objective, and relevant to the diverse range of stakeholders involved in policing green crime in Bangladesh.

Ontology and epistemology are two fundamental philosophical considerations that shape the way researchers approach their studies. Ontology, according to Bryman (2016: 693), 'is the study of the nature of reality and in the social sciences, it offers a theoretical framework for understanding the nature of social entities, social phenomena, and their meanings'. Similarly, Searle (1995) explains that ontology is concerned with the study of being, whereas epistemology is concerned with the study of knowledge. 'There is no singular 'correct' ontological understanding of the social world, and that instead there are multiple ontologies or multiple understandings of reality and that each has validity. This acknowledgement can influence our understanding and measurement of social phenomena and the meanings we ascribe to them (Heap and Waters, 2018:117)'. Williamson (2000) explains that ontology is concerned with the nature of reality, while epistemology is concerned with the nature of knowledge and justification. Regarding ontology in criminology, Scott (2018) notes that criminologists refer to 'ontology' as the understanding of the nature and reality of a society or set of social conditions, including their impact on the potential for positive social change. These considerations are particularly relevant in a study of policing green crime in Bangladesh, which aims to understand the challenges faced by law enforcement, environmental agencies, and society in addressing environmental crime. In this study, my ontological assumption is that the social reality of green crime in Bangladesh is constructed by the perceptions and actions of social actors. I adopt a subjectivist perspective that embraces nominalism, which suggests that social phenomena are created by us as researchers and by other social actors through the use of language, conceptual categories, perceptions, and consequent actions (Saunders et al., 2019).

Epistemology, as described by Bryman (2016), is the philosophical study of knowledge, encompassing the exploration of our knowledge acquisition methods, the process of understanding and accepting truths, and the validation of knowledge within specific fields like

criminology. Heap and Waters (2018) note that valid knowledge in criminology is commonly defined by criminologists as evidence derived from rigorous and systematic research, contrasting it with hearsay or "common sense" knowledge that may rely on speculation or rumours; however, the specific nature of valid knowledge is subject to debate and dependent on one's epistemological perspective. Similarly, Scott (2018:141) notes that 'the ontological assumptions about the nature of social reality inevitably impact on 'epistemology' – that is, understandings of the nature of knowledge and how researchers attempt to distinguish between claims of what is true and what is false (that is, legitimate knowledge)'.

Epistemology plays a crucial role in shaping researchers' questions and the evidence they gather, influencing the understanding of society and challenging existing assumptions, as researchers with varying ontologies and epistemologies generate diverse forms of knowledge (Scott, 2018). According to Crow and Semmens (2006:26), "the epistemological positions play a significant role in the development of criminological thinking". Crow and Semmens (2006) note that the empiricist emphasizes the need for scientific studies to understand crime, while the rationalist believes that conclusions about crime can be derived solely through reasoning.

The pragmatist would argue that we can never achieve a universal understanding of crime – instead, we must focus on studying crime-related phenomena in the contexts of specific cultures or within social groups. By understanding the tension which exists between these epistemological views, we can better understand the development of knowledge in our discipline and also determine how best to design our own research, taking into account the potential strengths and weaknesses of different approaches.

Crow and Semmens (2006: 26)

This perspective is aligned with social constructionism, which posits that reality is constructed through social interaction (Burrell and Morgan, 1979). As such, I acknowledge that there is no single external reality or constant truth, but rather multiple realities constructed within social contexts through human interaction. The epistemological stance of this study is based on social

constructivism, which asserts that individuals want to understand their world through their own experiences, making multiple subjective meanings (Creswell and Creswell, 2018). This study recognizes that knowledge of environmental crime and law enforcement challenges is contextual and realized from a specific context (DeCuir-Gunby and Schutz, 2017). As a researcher, I conduct interviews and interact with various stakeholders, such as police officers, environmental agencies, journalists, practitioners, researcher, judges of the environmental court, public prosecutors and voluntary organisations working on environmental issues. This diverse group of participants provides multiple perspectives on green crime and the reality of law enforcement regarding green crime. I am interested in understanding different opinions and narratives from different social actors to account for different social realities and complexities of policing green crime in Bangladesh.

Axiology, as a branch of philosophy, is concerned with the nature of values and their role in human life (Schwartz and Bilsky, 1987). In research, axiology refers to the researcher's values and how they may influence the research process and outcomes (Maxwell, 2013). Saunders et al. (2019) note that the research philosophy reflects the researcher's values and their choice of data collection techniques. For example, I have chosen qualitative methodology which covers the use of digital interviews, face-to-face interviews, and telephone interviews with a diverse group of stakeholders reflecting my belief in the importance of personal interaction and rapport-building with participants. Furthermore, my study involves a wide range of stakeholders, including police officers, environmental agencies, journalists, development practitioners, researchers, NGOs, judges, public prosecutors, and voluntary organisations. My choice of data collection techniques and research philosophy reflects my commitment to hearing the diverse perspectives and experiences of all stakeholders involved in policing green crime in Bangladesh. However, it is essential to acknowledge and address the potential influence of my values and biases as a

researcher on my research outcomes. Therefore, it is crucial to reflect on my values and beliefs, recognise potential biases, and take steps to minimise their impact on my research. According to Bachman and Schutt (2018:150),

'Openness about research procedures and results goes hand in hand with honesty in research design. Openness is also essential if researchers are to learn from the work of others. Despite this need for openness, some researchers may hesitate to disclose their procedures or results to prevent others from building on their ideas and taking some of the credit. Scientists are similar to other people in their desire to be first. Enforcing standards of honesty and encouraging openness about research are the best solutions to this problem'.

3.2.2 Exploratory research

This study is a form of exploratory research as it aims to investigate a novel and relatively understudied area within the pre-existing research landscape of policing green crime in Bangladesh. It seeks to uncover new insights, expand the existing body of knowledge, and contribute to the advancement of scholarly discourse. As Babbie (2016) points out, exploratory research is essential when the subject of study is new, and the researcher seeks new insights into a research topic. In this case, the study seeks to explore the challenges of enforcing laws against green crime in Bangladesh. Reiter (2013) notes that exploratory research is useful in measuring and understanding reality in new and innovative ways. Here, I examine phenomena not previously understood, related to green crime in Bangladesh, as well as understanding and interpreting the challenges faced by law enforcement and environmental agencies in curbing green crime. Moreover, exploratory research is an approach to testing the feasibility of undertaking a more extensive study and developing methods to be employed in any subsequent study, as noted by Babbie (2016). Therefore, this study is essential in laying the foundation for

future research into green crime in Bangladesh. Although exploratory research is considered inductive and qualitative (Stebbins, 2001 and Creswell, 2003), it provides knowledge about unknown aspects of a phenomenon, as noted by Teddlie and Tashakkori (2009).

3.3.4 Qualitative study

The qualitative research approach is appropriate for studying the policing of green crime in Bangladesh for several reasons. Qualitative methods allow for a nuanced exploration of the research topic and can provide a more comprehensive understanding of the issues under investigation (Miles & Huberman, 1994; Merriam, 2009; Denzin & Lincoln, 2011; Creswell, 2013; Patton, 2014; Creswell, 2014; Charmaz, 2014). My extensive experience in the Bangladesh Police helps me in understanding the complexities of policing green crime and the challenges encountered by law enforcement in this domain. By engaging with the research process, I can facilitate a more in-depth analysis of the research data. Furthermore, my expertise in law enforcement, coupled with my familiarity with the institutional frameworks and policies surrounding policing, can provide insight together with my understanding of the local socio/cultural context that impact law enforcement. This can facilitate a more nuanced analysis of the research data. Secondly, the qualitative research approach is widely recognized for its systematic and comprehensive approach to knowledge creation. It enables researchers to delve into the various dimensions of the social world, including the texture and weave of everyday life (Mason, 2002; Silverman, 2016; Flick, 2018; Bryman, 2016; Denzin, 2017, and Denzin and Lincoln, 2018). As there is no prior research in policing green crime in Bangladesh, a qualitative research approach is necessary, enabling me to examine the perspectives of affected communities and law enforcement officials, which can provide valuable insights into the complex interplay of social, economic, and political factors that shape the incidence and

enforcement of green crime in Bangladesh. However, other approaches, such as the quantitative research approach, can draw inspiration from my study findings. By utilising a qualitative research approach, I can gain a more in-depth understanding of the issues and challenges which can lead to the development of effective strategies and policies to address green crime in the country. Moreover, the findings from this study can contribute to the existing literature on green criminology, particularly in developing countries where this type of research is limited.

In particular, it can identify the perspectives of different stakeholders, such as environmental agencies' officials, law enforcement agencies, judges of the environmental court, environmental activists, environmental journalists, and affected communities, on the nature, extent, and causes of green crime. By exploring the subjective experiences of these stakeholders, I can develop a comprehensive and nuanced understanding of the complex dynamics of green crime, and the challenges and opportunities for addressing this issue. Therefore, qualitative research has the potential to shed light on the hidden aspects of this phenomenon and offer insights into its broader social and environmental implications. It can also provide valuable data for policymakers and practitioners, informing the development of more effective strategies for preventing and addressing green crime, and promoting environmental justice in Bangladesh and beyond.

3.2.1 Research objectives and research questions

Crow and Semmens (2006: 27) note that 'all research begins with the development of a research question and the setting of aims and objectives.' Criminological research, 'like any social research, typically begins by identifying a question or problem to address, which 'may be a response to a specific problem, such as an apparent rise in a particular type of crime' (Crow and Semmens, 2006:13). Therefore, criminological research typically begins by formulating a

research question, driven by addressing emerging crime problems, policy issues, literature gaps, or the need for updates (Crow and Semmens, 2006). In my study on green crime in Bangladesh, I identified three research objectives, which read as follows:

Objective 1: To evaluate the current state of policing and law enforcement strategies for addressing green crime in Bangladesh by analysing existing literature and available data gathered from participants during data collection, on the extent and types of environmental crimes in the country. This objective aims to provide an understanding of the effectiveness of current strategies and identify potential gaps and areas for improvement.

Objective-2: To investigate the obstacles faced by law enforcement agencies and environmental organisations in preventing and detecting green crime in Bangladesh, such as inadequate resources, corruption, weak legal frameworks, and lack of public awareness and cooperation. This objective will involve the collection of data through interviews with relevant stakeholders and will aim to identify key challenges and barriers to the effective policing of green crime.

Objective-3: To develop practical and evidence-based strategies and recommendations to strengthen the effectiveness of green crime policing in Bangladesh and promote sustainable and eco-friendly practices and behaviours in society. This objective will build on the findings of the research activities involved in the previous objectives and will also involve engaging with key stakeholders to identify feasible and impactful solutions, such as enhancing training and capacity-building of law enforcement and environmental personnel, strengthening legal and regulatory frameworks, engaging civil society and local communities, and fostering international cooperation and partnerships.

To achieve the objectives of this study, I will investigate three specific research questions which will be rigorously examined through a systematic and comprehensive research methodology,

with the aim of providing meaningful insights into the topic of study. The following are the three research questions that we will examine thoroughly:

RQ-1: What are the prevailing strategies implemented by law enforcement and environmental agencies in mitigating green crime in Bangladesh? This inquiry will be explored in Chapter-4 through a rigorous examination of data collected from law enforcement agencies and environmental agency operating within Bangladesh.

RQ-2: What challenges do law enforcement agencies and environmental organisations face when policing green crime in Bangladesh? This inquiry will be addressed in Chapter-5 through a comprehensive analysis of data obtained from law enforcement agencies and environmental organisations.

RQ-3: What measures can be taken to address the challenges faced by law enforcement agencies and environmental organisations in policing green crime in Bangladesh and promoting a sustainable and eco-friendly society? This investigation will be thoroughly examined in Chapter-6 through the analysis of data collected from various sources, including law enforcement agencies, environmental organisations, civil society groups, environmental journalists, development practitioners, researchers, and non-governmental organisations (NGOs) and volunteer organisations.

3.5 Methods of data collection

In my research study, I employed semi-structured interviews as an effective method to gather data using a snowball sampling technique. Recognizing the impact of COVID-19, I initially conducted the interviews using digital platforms. These digital interviews enabled me to reach a diverse pool of respondents from various locations, despite the physical limitations posed by the

pandemic. However, as soon as the COVID-19 restrictions were lifted, I seized the opportunity to conduct face-to-face interviews during my field visit to Dhaka, Bangladesh. This decision allowed me to establish a deeper connection with the participants, fostering a more personal and nuanced understanding of their experiences and perspectives. Additionally, conducting face-to-face interviews enabled me to observe non-verbal cues, body language, and contextual factors that can significantly enrich the data collected.

3.5.1 Semi-structured interviews

An interview, a qualitative research method, involves asking a series of questions to collect data, information, or opinions, often used in conjunction with other research methods (Davies and Francis, 2018). Therefore, interviews are typically characterized as formal meetings or dialogues involving personal and social interaction (Davies, 2006). Interviewing is a ‘key instrument at the disposal of criminologists and other social researchers’ (Yar, 2018:421). Chamberlain (2013) notes that the interview method enables researchers to collect valuable qualitative data by directly interacting with participants, allowing for in-depth exploration of opinions and experiences, which is highly valued in interpretive research.

As a means of collecting data firsthand, interviews can be an invaluable source of information that generates valid, representative and reliable data. They enable you to follow up and probe responses, motives and feelings and in many of their forms, non-verbal communications, facial expressions and gestures, for example, can enrich the qualitative aspects of the data.

Davies and Francis (2018:20).

As my study is qualitative in nature, I seek to uncover the challenges faced by agencies and environmental organisations when it comes to policing green crime in Bangladesh. Furthermore, I aim to identify measures that can be taken to address these challenges and promote a

sustainable and eco-friendly society. In interviews, I have personally engaged in formal meetings and dialogues, involving personal and social interaction, as described by Davies (2006). The purpose of these interactions is to explore the opinions and experiences of various stakeholders involved in dealing with green crime in Bangladesh, as highlighted by Chamberlain (2013).

As Noaks and Wincup (2004) note, the appropriateness of interviewing for a research task needs to be considered before deciding on the style of an interview to be adopted. The interview strategy employed is influenced by factors such as the characteristics of the research population, the sensitivity of the topic, the interview location, and timescales, with interviews in the criminological field frequently involving vulnerable groups. The geographical context of Bangladesh, the diverse composition of the research population, and the duration of my study has led me to employ a semi-structured interview method as a means of eliciting information from the participants.

A semi-structured interview facilitates the exploration of unforeseen ideas and issues during the conversation while still addressing the original research questions (Secrave and Milivojevic, 2018). Semi-structured interviews allow interviewers to probe for more detail and gain a broader understanding of the answers, going beyond the initial responses given by asking for more explanation or additional questions based on the answers provided (Dantzker et al., 2018). This form of interview, “enables the researcher to have a consistent set of themes or questions that guide each interview and allows for consistency across the interviews so that key issues are addressed to some extent in every interview” (Secrave and Milivojevic, 2018:349). Moreover, semi-structured interviews are particularly advantageous when investigating complex phenomena that have evolved gradually (Crow and Semmens, 2006). Therefore, semi-structured interviews allow for the exploration of unforeseen ideas and issues while still addressing the

original research questions. They provide flexibility in gathering data on the prevailing strategies implemented by law enforcement and environmental agencies in mitigating green crime, the challenges faced by these agencies and organisations, and the measures that can be taken to address these challenges and promote a sustainable and eco-friendly society. Furthermore, using a consistent set of themes or questions in each interview ensures some level of consistency across the interviews. This helps ensure that key issues associated with the prevailing strategies, challenges, and potential measures are addressed to some extent in every interview. Lastly, semi-structured interviews are particularly advantageous when investigating complex phenomena that have evolved gradually, which is likely the case with green crime in Bangladesh. They allow for a deeper exploration of this complexity and a better understanding of the prevailing strategies, challenges, and potential measures in mitigating green crime.

Moreover, Bows (2018) notes that face-to-face semi-structured interviewing, commonly employed in social research aims to explore individuals' contextual experiences and the associated meanings. This method involves open-ended questions that empower interviewees to guide the interview process, with probes used to encourage additional information, facilitating the collection of detailed data while placing the interviewee at the centre of the research and gathering information in a natural setting (Bows, 2018). The dialogic nature of semi-structured interviews provides a platform for the interviewees to express their experiences, perceptions, and attitudes towards the topic, enabling a deeper exploration of the research questions (Flick, 2018; Gubrium & Holstein, 2012). By employing the semi-structured interview method, my study aims to gather insights into the strategies currently employed by law enforcement and environmental agencies in mitigating green crime, as well as the challenges they face in Bangladesh. This methodological approach allows for the collection of rich and detailed data on the policing of green crime in Bangladesh, as it enables interviewees to freely express their experiences,

perceptions, and attitudes regarding this issue. Through engaging in dynamic dialogue, my study aims to explore and elucidate the multifaceted dimensions of green crime in Bangladesh, delving deeper into the prevailing strategies, challenges, and potential measures, thus enabling a comprehensive exploration of the research questions.

The complexity of green crime enforcement in Bangladesh demands an in-depth and nuanced understanding of the challenges faced by various stakeholders such as the Bangladesh Police, DoE, WCCU, public prosecutors, judges of the environmental court, environmental journalists, researchers, development practitioners, NGOs, and voluntary organisations. Semi-structured interviews offer a means of capturing the challenges and providing a rich source of data that can be analysed using qualitative methods to identify patterns, themes, and commonalities among the stakeholders (Saldaña, 2016).

The dialogic approach of semi-structured interviews enables researchers to be sensitive to the interviewees' perspectives, which is particularly important in the context of green crime enforcement in Bangladesh, where views and experiences of various stakeholders may be shaped by cultural norms, social expectations, and historical contexts. The reflexivity and responsiveness to the research context offered by semi-structured interviews facilitate a more nuanced understanding of the research topic (Flick, 2018; Silverman, 2017; Kvale & Brinkmann, 2015). Moreover, the method is consistent with recent developments in qualitative research that emphasize the importance of trustworthiness, transparency, and rigor in data analysis. Researchers using this method have demonstrated that it can promote the credibility and validity of research findings (Saldaña, 2016; Creswell, 2014; Charmaz, 2014). I opted not to utilise the survey method as it wasn't well-suited to my research questions. Furthermore, surveys are commonly used for gathering data from a large number of people quickly and affordably

(Bachman and Schutt, 2000). However, my sample population was not extensive, and I needed to gather in-depth insights and from various stakeholders. Surveys often rely on standardized questionnaires that may not be suitable for all respondents and lack flexibility to accommodate changes during the research process (Dantzker et al., 2018). Most importantly, surveys are limited in obtaining depth of information and may fail to capture detailed and nuanced insights from participants (Lindemann, 2023). With their structured and predefined response options, questionnaires can constrain participants' ability to provide in-depth responses, thus restricting the level of detail obtained and potentially leading to a loss of important context and richness of information (Lindemann, 2023). Given the complexity of the researched topic, particularly in understanding environmental crime and law enforcement strategies and challenges, I found it more appropriate to conduct in-depth interviews. By employing interviews instead of surveys, I could ensure that I captured the diverse range of opinions and experiences among my stakeholders, thus enhancing the depth and quality of the research findings.

3.5.2 Sampling Technique

Sampling refers to the process of selecting a specific element or entity, such as people, organisations, places, objects, or events, as the unit of study for research purposes. (Crow and Semmens, 2006). Crow and Semmens (2006) note that sampling involves selecting a representative subset (sample) from a larger group (population) to make accurate inferences about the population, as studying the entire population is often impractical, enabling estimates about population characteristics. According to Jupp (1989), there are two broad strategies for sampling: random or probability sampling and non-random or purposive sampling. Jupp (1989) notes that random sampling involves selecting individuals at random, ensuring that each individual has an equal and non-zero chance of being included and non-random sampling. Non-

random sampling, also known as purposive sampling, involves deliberately selecting individuals for a specific purpose. Crow and Semmens (2006) note that the size of a sample is not determined by a strict rule. Generally, larger samples are preferred as they better represent the population, and it becomes crucial to avoid bias in the sample selection process. In practice, the size of a sample is contingent on multiple factors, including the resources at one's disposal, and most of the research is constrained by limited resources. They note that choosing a sampling procedure is crucial and should be supported by theoretical foundations and aligned with the project's objectives and epistemological approach. According to Crow and Semmens (2006:30), 'There are two main approaches to sampling – probability and non-probability sampling. Probability sampling is based on a major assumption – the assumption of homogeneity. The principle is that a sample drawn is representative of a whole and each element has an equal chance of being included in the sample'.

Probability sampling methods are controlled, methodical, and ensure randomness, allowing researchers to claim representativeness (Crow and Semmens, 2006). Non-probability sampling is employed for convenience or when accessing a closed group proves challenging; this sampling approach is commonly used in 'non-positivistic, qualitative research' but can be applied in various approaches. (Crow and Semmens, 2006: 30). Samples which are not chosen randomly, make it impossible to make probability statements or assume representativeness of the population, but they can be the best option in situations where a sampling frame is unavailable, particularly in studies involving challenging social issues (Crow and Semmens, 2006). As I have explained previously, I possess strong connections with the police and other law enforcement agencies. Therefore, I have commenced reaching out to individuals I know who have served as gatekeepers. Subsequently, I have adopted the snowball sampling technique to conduct

interviews with individuals recommended by those whom I have contacted or interviewed. I used a snowball sampling strategy for my study which is commonly used in criminal justice research, whereby researchers begin with a small number of subjects and then ask them to suggest other individuals with similar characteristics to participate in the study (Crow & Semmens, 2006 and Maxwell & Babbie, 2009). Snowball sampling is a qualitative technique (Dantzker et al., 2018) and is often used in exploratory studies when it is hard to find a specific group of people to study (Senese, 1997).

The sampling strategy was designed to achieve maximum variation sampling, which aimed to capture a range of perspectives and experiences from individuals who have direct or indirect involvement in policing green crime in Bangladesh. The respondents were identified as individuals with expertise and experience in the field of environmental law enforcement, and the sample was selected from key stakeholder groups in Bangladesh. The selection criteria were based on the participant's experience, expertise, and involvement in environmental law enforcement. A total of 36 participants were selected from the following stakeholder groups: Bangladesh Police-17, the Department of Environment-06, judges of the environmental court-03, public prosecutors-01, environmental journalists-03, Wildlife Crime Control Unit (WCCU)-01, development practitioners-01, researchers-01, NGOs-01, voluntary organisation-01 and civil society-01(as mentioned earlier). Within each stakeholder group, participants were selected based on their level of authority, years of experience, geographic location, and gender to ensure diversity and representativeness. To further enhance the trustworthiness of the research, snowball sampling was employed, allowing participants to recommend other individuals they thought would be relevant to the study. This approach helped to identify additional potential participants who may not have been included in the initial list, thereby enhancing the sample's diversity. The selection criteria used in this study are consistent with the recommendations of Creswell (2013),

who suggested that purposive sampling should be used to identify participants with specific characteristics, experiences, or perspectives relevant to the research question. The sample size of 36 is consistent with the recommendations of Sandelowski (1995), who suggested that sample size in qualitative research should be determined based on the concept of data saturation, where no new information or themes emerge from additional interviews. Furthermore, the use of maximum variation sampling to capture a range of perspectives and experiences aligns with Patton's (2015) recommendation to ensure participant diversity in qualitative research. To gain a comprehensive understanding of environmental law enforcement and operational activities, I conducted interviews with officials from various levels within the DoE. By diversifying the interviewees, I aimed to capture a broader range of perspectives, insights, and experiences. The following chart provides an overview of the different categories of officials I interviewed:

Table-6: Different levels of officials of the DoE

Different levels of Officials	Number of Interviews
Inspectors (Filed level officials)	02
Assistant Director (Filed level officials)	02
Director (Supervisory level officials)	02
Total	06

Similarly, in order to gain a comprehensive understanding of environmental law enforcement and operational activities, as well as the supportive roles of the Bangladesh Police, I conducted a series of interviews with various police officials. These interviews spanned different levels of the police hierarchy, ranging from field-level officers to supervisory personnel. I specifically focused on interviewing Officer-in-Charge (OC) officials, who serve as the chiefs of local police stations and are directly engaged in law enforcement at the district level. By selecting OC officials as primary interviewees, I aimed to gain valuable insights into the local implementation

of environmental laws and regulations. By including perspectives from field-level officers, who are often at the forefront of law enforcement activities, I gained insights into the day-to-day challenges they encounter in enforcing environmental laws. This allowed me to develop a holistic understanding of the realities on the ground and the practical implications of policies and regulations. Furthermore, by engaging with supervisory-level officials, I was able to grasp the broader picture of how environmental law enforcement is coordinated and managed across different districts. These officials provided valuable insights into the strategic decision-making processes, resource allocation, and training initiatives that shape the overall effectiveness of environmental law enforcement efforts in Bangladesh. The subsequent chart presents a comprehensive overview of the participants of the Bangladesh Police selected for interviews within the context of my research study.

Table-7: Different Participants from the Bangladesh Police

Different Participants	Number of Interviews
Officer-in-Charge [Field levels officials]	08
Additional Superintendent of Police [Supervisory level]	02
Superintendent of Police (SP) [Supervisory level)	05
Additional Deputy Inspector General [Senior level]	02
Total	17

3.5.3 Conducting Interviews

During the COVID-19 restriction, I had to collect data using online platforms. Thus, I employed gatekeepers to facilitate access to diverse respondent groups, namely voluntary organisations,

environmental journalists, and environmental lawyers and judges of the environmental court. Gatekeepers can ‘control access to sources of data’ (Davies and Francis, 2018:27) and according to Reeves (2010:317) ‘can help or hinder research depending upon their personal thoughts’. Dwyer and Hayes (2011) note that gatekeepers refer to individuals within a specific field who hold the authority to grant or deny permission for researchers to access research participants. Similarly, Jupp (1989) claims that gatekeepers are individuals who possess the authority to regulate researchers' access to subjects and secondary sources, either through formal permissions or informal control over data sources. Therefore, ‘gatekeepers can exercise a formidable influence on the research process. They can prevent the start of any project, and even if they do not, they can steer the research in particular directions for their own benefit (Jupp, 1989:134)’.

The gatekeepers of my study were four of my colleagues: one working in the civil administration, another holding a position as a joint district judge, a third being affiliated with the DoE and a fourth, an environmental journalist. In criminological research, this encompasses various individuals and entities such as law enforcement personnel, district attorneys, court clerks and officials, correctional facility staff, probation officers, and committees focused on institutional ethics (Fitz-Gibbon, 2017). Fitz-Gibbon (2017:174) notes that ‘at each level of the criminal justice system, gatekeepers play a key role in either opening the system up or actively excluding researchers from accessing those who operate within the system’. “Criminologists, through accessing gatekeepers and engaging them in research, can play an important role in bridging the divide between the insiders and outsiders of the criminal justice system. In recent years there has been a noticeable shift; increasingly, criminologists are gaining access in order to examine the system from the views of those within” (Fitz-Gibbon, 2017:176).

Davies and Peters (2014) note that in social research, the gatekeeper serves as the individual granting access to the research field, often comprising multiple formal and informal gatekeepers, whose distinctions are significant throughout the research process due to potential challenges during the initial stages, suppression or manipulation of findings, and political influence on their interpretation. Therefore, 'good management of relationships with gatekeepers can also have the added benefit of ongoing research access beyond the initial project, as well as the opportunity to utilize them to assist in respondent recruitment and participation' (Fitz-Gibbon, 2017:177). As noted by Berg (2001), gaining entry into different research settings is a complex process that often involves negotiating arrangements or bargains between the researcher and the researched. In this study, all of the gatekeepers were informal and familiar acquaintances of mine. They facilitated access to research participants who would have been difficult to reach from the author's location in the UK, thus contributing significantly to the study's success. Although I did not rely on gatekeepers during my field visit to Bangladesh, they were indispensable when the interviews were conducted digitally while in the UK during the pandemic. Prior research has emphasized the importance of maintaining transparency and building trust with gatekeepers, which is a key to establishing positive relationships (Berg, 2001; Taylor & Bogdan, 1998). Therefore, as a researcher, I provided the gatekeepers with clear and accurate information about the study, engaging in open and consensual negotiations with them to ensure their support. This study underscores the crucial role that gatekeepers can play in facilitating access to research participants and the need to establish and maintain strong relationships with them.

The first phase of the research involved conducting seven (07) interviews with senior police officials from the Bangladesh Police. These officials possessed various educational backgrounds and worked in different roles within the force. Notably, the interviews were conducted on the Skype platform to accommodate the time difference of +6 hours ahead of the UK. The use of

digital platforms for data collection has been discussed by Orlikowski and Scott (2014), who note that they can facilitate communication with geographically distant participants and enable data collection from a wider range of participants. According to Yar, (2018:414), ‘the rapid emergence and global expansion of the internet have significantly impacted how researchers, including criminologists, investigate the social world’. Yar (2018) note that online interviews using the digital platform replicate the real-time interaction of traditional face-to-face interviews, utilizing electronic communication channels, including text-only messaging or video-over-internet services like Skype. Furthermore, Fichten et al. (1992) note that digital interviews, particularly video-based ones, can effectively recreate the real-time engagement of in-person research encounters by incorporating non-verbal cues and paralinguistic communication. ‘Interviews of this nature are popular for reasons of cost-effectiveness and the speed of data collection’ (Davies and Francis, 2018:20).

In the second phase of the research, I conducted six (06) interviews with various stakeholders, including officials from the Department of Environment, the Wildlife Crime Control Unit (WCCU) of the Department of Forest, and voluntary organisations. During this phase, I conducted four (04) interviews with officials from the DoE, one (01) interview with an official from the WCCU, and one (01) interview with a volunteer working on environmental issues in Bangladesh. All the interviews were conducted using WhatsApp. The use of digital platforms for data collection has been discussed by Hine (2015) and Salvati and Carloni (2016), who note that digital platforms can provide an opportunity for real-time data collection and offer flexibility in terms of scheduling interviews. The use of WhatsApp for qualitative data collection has also been discussed by Vaidya et al. (2017), who highlight the potential of using the platform for mixed-methods research. The third phase of the research involved interviews with four (04)

participants on WhatsApp, including two (02) judges from the environmental court and two (02) environmental journalists.

Fieldwork involves immersing oneself in another culture to understand its operations, mechanisms, and meanings, requiring close observations within a natural environment, despite the fieldworker being a stranger whose level of unfamiliarity depends on the culture studied and the fieldworker's background (Hobbs, 2017). The fieldworker, often a stranger in the field, records their observations and reflections as field notes, capturing the shapes, patterns, and trajectories of action experienced during their time in the field (Emerson et al., 2011). This involves close observation of actors and their interpretations of a problem and can be conducted intermittently or over an extended period of time, with immersive engagement, withdrawal for reflection, and selective exploration of observed scenes through listening, watching, and note-taking (Manning, 2017). This work means listening to what is said, watching what is done, and selectively exploring some aspects of the scenes you have viewed (Manning, 2017:55). Therefore, the fourth and final phase of the research involved conducting a total of twenty-six (26) interviews during my field visit to Bangladesh from June 2022 to August 2022. The interviews comprised respondents from the Bangladesh Police, the DoE, a judge from the environmental court, the public prosecutor of the environmental court, an environmental journalist, a researcher, a member of civil society, a development practitioner, and an official from an NGO.

Establishing rapport with research participants is a crucial element of successful qualitative research. As an insider researcher with a shared social and cultural background with the participants, I had a distinct advantage in building rapport before the interview (Yow, 2005). The rapport-building process allowed for a more comfortable and natural conversation during the

interview, which is essential for obtaining reliable and valid data (DiCicco-Bloom and Crabtree, 2006). During my study, all interviews were conducted at a convenient time for both the researcher and the participants. As Maxfield and Babbie (2009: 31) note ‘criminal justice research often intrudes into people’s lives. [...] Being selected to participate in any sort of research study disrupts subjects’ regular activities’. Moreover, a noise-free environment was essential to ensure uninterrupted recording of the interviews, which allowed for accurate transcription and analysis of the data (Yow, 2005).

The way the interview is conducted will vary depending on the circumstances. If the interviewee is a member of a criminal justice agency or some other organisation, then the interview is likely to be in his or her office. If they are a member of the public, a victim, or an offender, then it might be in their home, in your office, or it might be in some mutually agreed public space.

Crow and Semmens (2006:120-121)

During the field visit phase, a comprehensive range of interviews was conducted in various locations, encompassing offices, residential dwellings, coffee shops, and canteens. The selection of these venues was contingent upon the preferences expressed by the participants, ensuring their comfort and convenience. Particular attention was paid to creating an environment that encouraged candid and open dialogue. By prioritizing the establishment of a relaxed atmosphere, participants were encouraged to share their thoughts and experiences freely.

Whatever the setting, it is important to try to arrange for privacy, and for the interview to be uninterrupted (e.g., by telephone calls). Bars and cafés are not a good idea.

Crow and Semmens (2006:121).

In social research, ethical principles such as informed consent require subjects to be informed about their participation, obtain their consent, and prevent any harm or disadvantage caused by the research. Noaks and Wincup (2004) note that informed consent is a vital principle in ethical research, emphasizing that participant should have a comprehensive understanding of the

research and its potential impact on them. It ensures that individuals are fully aware of the purpose and implications of their involvement throughout the research process. Moreover, ‘consent includes an assumption of voluntary participation’ (Shaw, 2003:15). Prior to conducting a series of interviews encompassing both digital interviews and fieldwork in Dhaka, I proactively sought consent from the participants. To initiate the consent process, I sent emails to the potential participants, providing them with detailed information regarding the purpose and objectives of the research. The emails explicitly outlined the voluntary nature of their involvement and emphasized their right to withdraw from the study at any point without facing any consequences. In addition, the emails highlighted the confidentiality measures that would be implemented to protect their identities and personal information. Moreover, I personally engaged with the participants to acquire their verbal consent before commencing the interviews. This interaction allowed me to address any queries or concerns they might have had and further emphasized the voluntary nature of their participation. By adopting this dual approach of seeking consent through emails and obtaining verbal consent, I endeavoured to establish a strong ethical foundation for the research project.

The interviews were conducted using semi-structured with open-ended questions, which allowed for a flexible and natural conversation that explored the perspectives and experiences of the participants (Weiss, 1994, Leavy and Harris, 2019). I used a tailored set of questions for each stakeholder group to ensure that I covered all relevant aspects of their roles and perspectives. Noaks and Wincup (2004) suggest using concise notes as a memory aid during the interview and transcribing them in full shortly afterwards. Also, the use of audio recorders enables unobtrusive data collection, particularly with the availability of compact and portable options. During the field visit, I used an audio recorder to record all the interviews. I always tried to effectively communicate with the interviewee and gain their explicit consent for recording, providing them

with the ability to stop the recording if desired, thus empowering them. Interviewers should also prioritize and emphasize the interviewee's prerogative to decline answering questions (Noaks & Wincup, 2004 and Crow & Semmens, 2006).

Decisions regarding qualitative research design, data collection, data management, and transcription should be made at the project's outset, as universities have imposed strict rules on data storage due to heightened concerns about data protection (McMullin, 2021). As da Silva, Nascimento and Steinbruck (2019) note, qualitative studies use interviews to explore the significance of events or facts from informants' perspectives, focusing on social and cultural aspects, with researchers actively interpreting subjective meanings conveyed in interviews using transcriptions. The process of transcribing and translating the interviews proved to be indispensable for the comprehensive analysis of the data in my study. Consequently, I approached this task with utmost care, recognizing its significance. It was imperative to ensure accuracy and fidelity throughout these processes, as they formed the foundation for the subsequent analysis and interpretation of the data. The use of Bengali, the first language of the participants and myself ensured that the interviews were conducted in a language that was familiar and comfortable for all involved.

In my study conducted in Bangladesh, I found it crucial to justify the importance of considering key strategies and challenges in translating interview data, as highlighted by Turhan and Bernard (2022). Factors such as race, gender, class, and social structures have a significant impact on data analysis and research outcomes. Therefore, researchers must be aware of their positionalities to ensure high-quality translations and avoid misrepresentation. An insider position during my fieldwork and data collection proved to be advantageous. It allowed me to establish rapport and build trust with the participants, enabling a deeper understanding of their social and cultural cues.

To maintain the clarity and integrity of the translated data, I employed the strategy of back translation, as recommended by Turhan and Bernard (2022). This technique helped preserve the original meanings, leading to a more comprehensive analysis of the interviews. By combining transcription, translation, and interpretation, my study aimed to contribute to the advancement of knowledge in the field.

3.6 Data Analysis

Qualitative analysis is an ongoing and flexible process that starts with data collection and continues throughout the study, requiring careful planning and organisation (Crow and Semmens, 2006). Therefore, qualitative analysis entails continuously evaluating emerging concepts and their interpretation in relation to the collected fieldwork data (Rose, 1982). It is important to make prior decisions regarding the use of computer-based analysis for qualitative material and whether verbatim transcription of the data is necessary (Noaks & Wincup, 2004 and Crow & Semmens, 2006).

In the light of the variety of data sources that criminologists have available to them it is unsurprising that an array of analytic tools have been developed. Such data can include narrative and textual accounts. Narrative accounts are provided by the multiplicity of social actors that make up the criminal justice process, which include victims, witnesses, offenders and criminal justice professionals. Textual accounts can take the form of court transcripts, police files, charge sheets, witness statements, custody records and others.

Noaks and Wincup (2004:124)

My study research required a rigorous and comprehensive approach to data analysis, and I thus chose to employ the well-established methodology of thematic analysis (Braun & Clarke, 2006; Guest et al., 2012; Nowell et al., 2017). To begin, I engaged in an intensive process of data

familiarization, carefully reviewing the data collected through both digital platforms and face-to-face interviews conducted in Bengali, my native language. To ensure the highest level of accuracy, I listened to the audio recordings multiple times and transcribed all 36 interviews into Bengali. I then translated the transcripts into English, making any necessary adjustments to ensure the translations remained true to the original intent. Using a manual process, I created initial codes for the data using different colours of paper and pen, carefully tracking themes and patterns in the data. Informed by my research questions and objectives, I searched for key patterns and themes that emerged from the data (Noaks & Wincup, 2004; Braun & Clarke, 2019; Flick, 2018; Miles et al., 2020).

With a focus on organizing the data into clear and coherent themes, I refined and categorized these themes and sub-themes, considering each in the context of the study's research questions and objectives (Braun & Clarke, 2006; Saldaña, 2016). My approach to data analysis was both meticulous and rigorous, and the use of thematic analysis allowed me to uncover nuanced insights and draw meaningful conclusions. Ultimately, my approach provided a robust framework for my research and contributed to the generation of new knowledge in my field (Braun & Clarke, 2019; Flick, 2018; Miles et al., 2020).

3.7 Positionality and reflexivity

Lumsden and Winter (2014) note that reflexivity is an active process that encompasses all aspects of research, emphasizing the co-construction of knowledge and understanding between researchers and participants rather than focusing solely on the researcher. Adkins (2002) and Skeggs (1997, 2004) claim that in social research, the focus is often on presenting one's own story rather than considering different perspectives, creating a hierarchy of speaking positions. But in criminological research, the manner in which we amplify the voices of those participating

in our studies and the way we understand and depict their social environments are essential considerations for researchers aiming to approach their research critically, transparently, and sincerely, while also acknowledging the obstacles encountered during the process (Lumsden and Winter, 2014). Davies (2018) notes that being self-consciously reflexive involves recognizing that researchers may unintentionally influence their raw data, and this awareness is especially crucial during the process of writing, reporting, and sharing research findings. Reflexivity is crucial in criminological research as it allows for the consideration of social, political, and ethical aspects, and plays various roles, such as assessing the validity which ‘is the extent to which conclusions drawn from a study are plausible and credible and the extent to which they can be generalized to other contexts and to other people’ (Davies and Francis, 2018:29).

Criminological research encompasses both social and political dimensions, involving relationships between researchers, subjects, sponsors, gatekeepers, and audiences. These stakeholders have distinct interests to advance and safeguard, with varying levels of power. This power dynamic permeates the entire research process, from problem formulation to publication of results.

Davies and Francis, (2018:27)

The positionality and power dynamics of a researcher play a critical role in shaping the research process and outcomes (Creswell & Poth, 2018; Keshavarz & Babbie, 2010; Maynard, 2017; Thomas, 2017 and Yin, 2017). In the context of studying policing green crime in Bangladesh, my positionality and power dynamics are multifaceted and shaped by various factors.

Firstly, my status as an insider and expert in the field can lead to power imbalances, as I hold the authority to define the research questions, methodology, and analysis (Harding, 1992 and Stacey, 1988). This authority can be further amplified by my academic credentials and institutional affiliations, which may give me more power and legitimacy than local counterparts. However,

this can also result in epistemological and ontological assumptions that may not align with the lived experiences of participants and the local context (Smith, 2012).

Secondly, my background as a senior police officer in Bangladesh and my social class may affect my relationships with participants and shape research outcomes (Whittaker, 2019). While it can provide me with access to certain stakeholders and informants, it may also create power dynamics based on social status. Furthermore, my positionality may influence the perceptions of participants and their willingness to disclose sensitive information, which could impact the data's validity. My reflection on methodological bias and prejudice within the context of policing is comprehensive and insightful, addressing the intricate relationship between power dynamics and the research process. This includes the influence of hierarchy on participant engagement and data collection. As Simpson et al. (2024) assert the symbolism of the police uniform is deeply intertwined with the essence of policing itself, carrying connotations of authority and power (Johnson, 2017; Nickels, 2008; Johnson et al., 2002). My discussion aptly recognized the psychological impact of the uniform on both wearers and observers, highlighting its role in shaping perceptions of legitimacy and group identity within the policing community.

Wearing the uniform likely influenced how participants perceived my authority and knowledge. This could lead to more guarded responses, potentially skewing the data toward more socially acceptable or conformist answers. Participants might have been less open or honest, fearing repercussions or judgment. This creates a bias where the collected data does not fully represent the participants' true thoughts or feelings. Conversely, without the uniform, participants might have viewed me as more approachable and less intimidating, leading to more open and honest responses. However, some participants might question my credibility or authority without the uniform, potentially impacting the level of respect and the authenticity of the information shared.

My acknowledgment of the hierarchical structure inherent in policing, with senior officers often holding significant power over their junior counterparts, aligns with existing literature (Mastrofski, 2002; Punch, 1983). This power dynamic presented challenges in conducting qualitative research, particularly in ensuring the voluntary and candid participation of junior officers (Crevani et al., 2010; Shamir, 2007). To mitigate power differentials, I implemented strategies such as providing thorough research briefings and categorizing participants based on rank, demonstrating a commitment to fostering trust and openness within the research process (Gravelle, 2014; Skinns et al., 2016). Additionally, my adaptation of the persona of a 'fellow officer' during interviews with junior officers illustrated a nuanced understanding of the importance of rapport and empathy in navigating hierarchical structures (Belur, 2014). Furthermore, my decision to conduct interviews without wearing a uniform and scheduling them outside of officer hours reflected a thoughtful consideration of power dynamics and their potential impact on participant responses (Belur, 2014). By creating a more relaxed atmosphere, I aimed to encourage more candid dialogue and mitigate feelings of vulnerability among participants, particularly junior officers (Adler and Adler, 2002).

Participants, especially subordinates, might have withheld negative feedback or criticisms, fearing it could affect their standing or lead to negative consequences. This can result in a lack of critical data necessary for comprehensive analysis. To mitigate this, I ensured confidentiality and emphasized that their responses would have no impact on their professional standing. Additionally, subordinates might have given overly positive feedback or responses they believed I wanted to hear, skewing the data. To address this, I implemented alternative strategies to mitigate this potential bias. One approach was to emphasize confidentiality and anonymity in all communications and during the interview process, reassuring participants that their responses would not be traced back to them. I also utilized indirect questioning techniques, which helped

elicit more honest responses by reducing the pressure on participants to provide socially desirable answers. Additionally, I provided participants with opportunities for private, written feedback after interviews. This method gave them a chance to express thoughts they might have felt uncomfortable sharing verbally. Incorporating these written reflections helped capture a broader range of perspectives and reduced the influence of immediate power dynamics during face-to-face interactions.

With superiors, the power dynamics are reversed, and there can be a reluctance to critique or question their perspectives. To manage this, I framed my questions in a way that invited open dialogue and demonstrated respect for their expertise while also encouraging honesty. I used phrases like, "In your experience, what are some areas that could benefit from improvement?" This respects their authority while inviting candid feedback. It was crucial to strike a balance between showing respect for their position and critically inquiring about issues. I used respectful but probing questions to uncover deeper insights, ensuring to preface my questions with acknowledgments of their expertise and contributions before delving into more critical or sensitive topics.

By acknowledging potential biases, I clearly stated how wearing or not wearing the uniform might have influenced participants' responses. I discussed steps taken to mitigate these biases, such as using anonymous feedback mechanisms or ensuring confidentiality. Addressing power dynamics, I discussed how power differentials might have impacted the data collection process, both with subordinates and superiors. I explained the strategies used to manage these dynamics and ensure the integrity of the data. Methodological adjustments were highlighted, including employing neutral third parties for data collection or conducting follow-up interviews to verify initial responses. By addressing these points, my methodology section demonstrates a thorough

understanding and handling of potential biases and power dynamics, thereby strengthening the credibility and reliability of my research. In considering the broader implications of power dynamics within policing, my reflection underscored the importance of ethical data collection and knowledge formation (Elwood and Martin, 2000). By recognizing and navigating these dynamics, I contributed to a more nuanced understanding of policing culture and its impact on research outcomes (Reiner, 2000). My reflection effectively integrated theoretical insights with practical considerations, offering a nuanced understanding of power dynamics within policing and their implications for qualitative research.

Thirdly, my research methodology, including the use of digital interviews and field visits, can further impact my positionality and power dynamics (Maynard, 2017). While digital interviews can provide convenience and control, they may also create barriers to communication and rapport-building. Field visits, on the other hand, can facilitate an in-depth understanding of the local context, but may also create power dynamics based on my status, ethnicity, or nationality.

Moreover, the inclusion of an elite participant, such as the CEO of BELA, can create additional power dynamics and influence my analysis and interpretation of the data (Yin, 2017). The researcher must be cognizant of the potential conflicts of interest and biases that may arise from this relationship and mitigate them through reflexivity and transparency.

As a researcher, I try to achieve an understanding of the social, cultural, and political context that shapes the research (Keshavarz & Babbie, 2010), as well as an awareness of the structural power imbalances that exist in the researcher-participant relationship (Whittaker, 2019). By adopting a reflexive and transparent approach to research, the researcher can produce outcomes that align with the needs and experiences of participants (Maynard, 2017) and contribute to more equitable and just research practices (Smith, 2012).

3.8 Limitations of the study

Davies and Francis (2018:2) note that 'doing criminological research is something we can all do, it does require particular disciplinary knowledge, abilities, and skills, and we all need to engage in critical reflection and continue to grow and develop our own thinking and approach to doing it. Often, that can be done by learning from the mistakes and errors we make in research – it does not always go as planned.' Therefore, as a researcher, I faced challenges studying green crime in Bangladesh since environmental crime is a complex social phenomenon. Dantzker et al. (2018) note that research in criminology and criminal justice is uniquely complex due to the involvement of individuals, posing distinct challenges despite the potential for simplicity and ease in conducting research. Furthermore, throughout the course of my fieldwork, regrettably, I encountered challenges in conducting interviews with key stakeholders involved in green crime, thereby limiting my ability to glean their valuable insights regarding the intricacies of green crime and the efficacy of environmental law enforcement within the context of Bangladesh. Crow and Semmens (2006:8) note that 'researching criminology does have certain distinctive features. For a start, doing criminological research usually involves the study of things that are illegal. The criminological researcher is likely to learn about illegal acts and meet people who have committed such acts.' Therefore, a potential limitation of my study is the lack of insight into the individuals who are engaged in green crime in Bangladesh. During my fieldwork, I was unable to interview individuals engaged in environmental pollution and involved in green crime.

I have utilized semi-structured interviews as the qualitative data in this study, which represents a limitation of the research. Incorporating mixed methods, combining qualitative and quantitative approaches, would enhance the validity of the data in my study. Crow and Semmens (2006:11)

note that 'most modern researchers in criminology and related social sciences are fairly eclectic about their research methods and recognize the limitations of their data, however obtained. Indeed, many researchers would advocate the use of combined methods to improve the validity of their research.' Bows (2018) note that mixed methods research, combining qualitative and quantitative approaches, is gaining recognition among researchers for its ability to triangulate research and enhance internal validity, challenging the traditional notion of their distinct and incompatible nature. Triangulation in research improves quality and validity by integrating multiple methods and addressing potential weaknesses of a single method (Crow and Semmens, 2006). Data triangulation in research involves utilizing diverse data collection methods to enhance reliability, which is being recognized as a desirable feature in criminological research.

Unfortunately, in my study, I could not use secondary data to support my primary data. Organisational documents offer valuable insights into professional cultures and should be recognized as informative resources about the organisation itself. Police forces are required to provide annual reports that offer detailed information on their structure and activities, making them valuable for police researchers and for comparing different forces. Additionally, 'external regulators and inspection bodies produce reports on criminal justice organisations, which are publicly available and provide significant insights into typically closed institutions, serving as another important source of information' (Noaks and Wincup, 2004:108). 'Documentary evidence can be particularly functional for social researchers in facilitating access to organisational cultures and related representations of them. Official reports will typically be available to researchers (increasingly on the Internet) and provide an important perspective on how the organisation or group chooses to manage its public representation. Furthermore, annual reports and other outputs produced by organisations can provide significant insights into shifts in organisational culture and climate' (Noaks and Wincup, 2004:108).

Court records play a crucial role in understanding criminal justice matters and have been extensively used in quantitative studies within criminology (Hood, 1992). However, they also hold value for qualitative researchers, as prosecution files and trial transcripts offer detailed information and evidence (Noaks and Wincup, 2004). However, in my study, I could not find any court records to support the primary data I obtained from the interviews with different stakeholders. I could not use government statistics because Bangladesh has no database on green crime. Neither the Department of Environment (DoE) nor the Bangladesh Police and the Wildlife Crime Control Unit (WCCU) have any central database that I could use as my secondary data sources.

Incorporating secondary data sources would have strengthened the validity and reliability of my study by providing additional perspectives and complementing the primary data. However, due to the limitations and unavailability of such secondary data in the context of green crime in Bangladesh, this aspect remains a potential area for future research and data collection.

3.9 Research challenges

Throughout my academic journey, I encountered several formidable challenges. Firstly, the onset of the COVID-19 pandemic posed significant hurdles to my studies, necessitating my adaptation to remote learning. While this mode of learning presented numerous obstacles, I developed strategies to stay motivated and focused. Moreover, I conducted data collection using digital platforms to interview stakeholders residing in two different time zones, the United Kingdom and Bangladesh. Given the time difference, I formulated a comprehensive schedule that allowed me to conduct interviews seamlessly and efficiently, with minimal disruption.

During my fieldwork in Bangladesh, I encountered various logistical challenges, including the sweltering summer heat and heavy traffic congestion. Nevertheless, I was able to complete my

interview schedule promptly and efficiently. Furthermore, inadequate internet and mobile network connectivity in Bangladesh hindered the smooth flow of interviews during both fieldwork and digital data collection. I mitigated this obstacle using alternative digital platforms and by ensuring that my equipment was sufficiently charged at all times.

Locating interviews in cafes, canteens, and restaurants presented a unique set of challenges, such as ambient noise that interfered with my communication with the respondents, so I endeavoured to schedule interviews in quieter locations or employed noise-cancelling equipment to optimize the interview experience. Additionally, scheduling interviews with participants was challenging; I met this challenge by maintaining regular communication with them and following up on their availability, ensuring that I respected their schedules while completing my research.

Lastly, conducting interviews in the mutual first language, Bengali, was instrumental in facilitating a smooth flow of information. However, preparing 36 transcripts of various stakeholders in English posed significant difficulties in capturing the essence of the information accurately.

3.9 Ethical considerations

Dantzker et al.(2018) claim that confidentiality and privacy are critical ethical considerations in social research, particularly in fields like criminal justice and criminology, where researchers often rely on individuals to disclose their thoughts, attitudes, and experiences. Maxfield and Babbie (2009) note that criminal justice research requires awareness of ethical guidelines in scientific inquiry, given the sensitive nature of the subject matter involving illegal behaviour that individuals, including those working in the field, may try to conceal. Researchers must navigate these challenges while maintaining ethical standards (Maxfield and Babbie, 2009). Dantzker et al. (2018) note that ethical neutrality and objectivity in research aim to maintain the integrity of

the study by preventing personal beliefs or biases from influencing data gathering and analysis. However, the researcher's multiple roles, such as being a practitioner, teacher, or citizen, can sometimes conflict with their objective approach, making it essential for researchers to remain vigilant in maintaining objectivity (Dantzker et al., 2018). Personal morals and values can also impact research, and managing ethics becomes more challenging when intertwined with other roles, emphasizing the importance of individual judgment in prioritizing personal ethics (Dantzker et al., 2018). Bows (2018:107) notes that "ethical concerns are at the heart of social research and are the key principles which inform and shape research practice. To truly understand others, researchers must adopt their perspectives, language, and meanings, and be attentive to unconventional modes of communication (McCormack, 2014). In my study, I conducted semi-structured interviews with various stakeholders, including the Department of Environment (DoE), the Bangladesh Police, the Wildlife Crime Control Unit (WCCU), environmental journalists, judges of environmental courts, prosecutors of environmental courts, development practitioners, NGOs/volunteer organisations, researchers, and members of civil society. 'When adopting an ethically based approach, researchers routinely follow a policy of non-disclosure, providing research participants with assurances about confidentiality, commonly using pseudonyms to maintain privacy and confidentiality' (Noaks and Wincup, 2004:48). During my study, as a researcher, I always tried to maintain confidentiality and anonymity and I ensured this to my all participants so that I could get their confidence. To ensure anonymity, participants were given numerical identities (like Interview-1,2,3....see chapter-4,5, and 6) and I obtained verbal consent before starting the interviews. The use of pseudonyms or abbreviated identities is a common practice in qualitative research that helps to protect the privacy and confidentiality of participants (Allen and Wiles, 2016).

When conducting social research, adherence to ethical standards is paramount. Researchers are obligated to comply with these principles to ensure the well-being and rights of their participants. To align with these ethical guidelines, I have followed the University of Essex's Guidelines of Ethical Approval in 2021 (The University of Essex's Guidelines of Ethical Approval, 2021) in my research on policing green crime in Bangladesh. This includes upholding principles such as confidentiality, anonymity, informed consent, and other ethical considerations specific to the study.

3.10 Conclusion

As the researcher, I adopted an exploratory and qualitative research approach to provide a comprehensive understanding of the subject matter. The research objectives encompassed evaluating the current state of policing and law enforcement strategies for addressing green crime, investigating the obstacles faced by law enforcement agencies and environmental organisations in preventing and detecting green crime, and developing evidence-based strategies to enhance the effectiveness of green crime policing in Bangladesh. To ensure a robust foundation for this study, I considered the ontology, epistemology, and axiological assumptions that underlie the research. By doing so, I shaped my perception and understanding of the nature of reality, as well as the process of acquiring and interpreting knowledge. Moreover, ethical considerations guided by axiological assumptions were paramount in conducting the study with integrity and respect for all parties involved. The choice of an exploratory research approach allowed me to approach the topic with an open mind and uncover new insights into green crime in Bangladesh. By employing a qualitative study design, I aimed to capture the richness and depth of the research phenomenon, embracing the complexity of human experiences and perspectives. I utilized interviews with diverse stakeholders using a snowball sampling strategy,

which was conducted through both digital platforms and face-to-face interactions during a field visit. This comprehensive approach ensured a holistic understanding of the subject matter. Despite challenges such as the COVID-19 pandemic, which necessitated remote learning and interviews conducted in different time zones and locations, I overcame these obstacles through strategic planning, resilience, and unwavering commitment to the research. These efforts ensured the collection of valuable data and the generation of meaningful insights into the challenges and opportunities of policing green crime in Bangladesh.

Chapter-Four: Current Activities of the Environmental Law Enforcement Agencies

4.1. Introduction

This chapter presents a qualitative analysis of the current activities of law enforcement agencies in Bangladesh in addressing green crime and harm, thereby answering the first research question of this study. The research question guiding this chapter is: "What are the current activities of the Bangladesh Police and other law enforcement agencies in dealing with environmental crime and harm?" The chapter utilised 24 semi-structured interviews with stakeholders, including key personnel from the Department of Environment, Bangladesh Police, and Wildlife Crime Control Unit (see the appendix).

Thematic analysis is used to analyse the interview data and identify key themes and subthemes. The chapter identified three broad themes, each focused on one specific actor: the Department of Environment (the first), the Bangladesh Police (the second), and the Wildlife Crime Control Unit (the third). The main themes are articulated under three main headings: environmental law enforcement activities by the Department of Environment (henceforth: DoE); the role of the Bangladesh Police in environmental law enforcement; and people's participation in environmental protection. The subthemes under each broad theme provide a more nuanced understanding of the strategies and approaches used by law enforcement agencies in addressing green crime. The theme of enforcement measures and operations by the DoE highlights the agency's efforts in enforcing environmental laws through mobile court operations and imposing fines and penalties through investigations. This theme underscores the importance of enforcement measures in addressing green crime and harm. The theme of the role of the

Bangladesh Police in environmental law enforcement underscores the supportive role played by the police in coordinating and cooperating with other agencies, conducting investigations of environmental crime, patrolling and surveying environmental hotspots, and engaging in cross-border cooperation in wildlife trafficking. This theme highlights the crucial role that law enforcement agencies play in addressing environmental crime. The theme of people's participation in environmental protection highlights the importance of community engagement and social awareness campaigns. The subthemes of people's engagement through community/beat policing by the Bangladesh Police, social awareness campaigns by the DoE, and community engagement by the WCCU demonstrate the agencies' efforts to mobilise the public in environmental protection.

4.2 Enforcement measures and operations by the DoE

To gain a deeper understanding of the DoE's approach towards environmental issues, interviews were conducted with officials from the department. The study found that the DoE employs two primary strategies - monitoring and enforcement - to address environmental issues. Under the enforcement strategy, the mobile court system emerged as the most effective tool for quickly penalising environmental offenders. Beyond monetary penalties, the DoE undertakes investigative and inquiry procedures to prosecute environmental wrongdoers. This chapter underscores the importance of proactive measures to protect the environment and suggests that the mobile court system is a powerful tool for ensuring environmental compliance. However, it also highlights the need for continued investment in monitoring and enforcement measures, as well as in public education and awareness-raising, to foster a culture of environmental stewardship.

In addressing the notion of plural policing and its relevance to environmental regulation and enforcement, it's crucial to recognize the multifaceted nature of contemporary policing, which extends beyond traditional law enforcement agencies. Academic literature on plural policing emphasizes the diversification of policing functions across various actors and institutions, reflecting the fragmented nature of policing in modern societies (Jones & Lister, 2015; Bayley & Shearing, 1996).

In Bangladesh, for instance, the Department of Environment (DoE) plays a significant operational and investigative role in enforcing environmental regulations and combating environmental crimes. This involvement underscores the collaborative approach necessitated by the complex nature of environmental challenges, involving not only governmental agencies like the DoE but also other government departments, private sector entities, NGOs, and local communities. Drawing from international examples such as the United Kingdom, regulatory bodies like Ofwat and Ofgem illustrate how institutions beyond traditional law enforcement agencies are better equipped to handle certain types of environmental offenses. Ofwat, established in 1989, oversees the water and sewerage industry, employing a combination of criminal and civil enforcement powers to ensure environmental protection while maintaining service quality (Ofwat, 2024). Similarly, Ofgem, as the independent energy regulator, emphasizes consumer protection and environmental sustainability within a regulatory framework, fostering collaboration with various stakeholders to achieve broader societal objectives (Ofgem, 2024). Moreover, the Environmental Protection Agency (EPA) in the United States serves as a prime example of an institution dedicated to safeguarding human health and the environment through regulatory oversight and stakeholder engagement (EPA, 2024). By involving diverse sectors of society in environmental management and risk mitigation, these regulatory bodies demonstrate the effectiveness of plural policing strategies in addressing

complex environmental challenges. Leveraging the expertise and resources of multiple stakeholders, plural policing approaches offer comprehensive and sustainable solutions to environmental issues. Thus, the literature and international examples cited align with the concept of plural policing, highlighting the importance of collaboration and partnership among diverse actors and agencies, both within and beyond the public sector, to effectively address environmental problems.

4.2.1 Environmental law enforcement through mobile court operations

The interviews conducted with officials from the DoE shed light on the department's strategies for addressing environmental issues. It was found that the DoE employs two primary strategies (Interviewees- 1, 2,3,4,5 and 6). As a DoE official notes,

The DoE basically works on two strategies: monitoring and enforcement. Offices at the divisional and district levels report instances of environmental pollution under the monitoring strategy. The enforcement strategy includes a mobile court by the executive magistrate and the enforcement wing, which assesses damages to the environment and imposes fines on polluters for the losses incurred [Interview-06].

These strategies represent essential pillars of environmental management that can help ensure the protection and preservation of natural resources. The monitoring strategy employed by the DoE involves the deployment of officers at the divisional and district levels to monitor environmental pollution and harm by assessing environmental damage and sending reports to the DoE headquarters. This strategy is critical in identifying pollution hotspots and addressing environmental violations before they cause significant damage. It is also an essential tool for ensuring compliance with environmental regulations and standards. The enforcement strategy, on the other hand, includes measures such as mobile courts and assessments of damage to the environment. Mobile courts impose fines on polluters on the spot, a crucial tool for deterrence. The imposition of fines can help hold polluters accountable for their actions and deter others

from engaging in similar behaviour. However, filing a case for environmental damage is a rare phenomenon regarding environmental law enforcement in Bangladesh (Interviewees-2, 3 and 4).

A DoE official says,

Although regular case filing at the environmental court is lengthy, mobile court operations are the best solution because they are effective in penalizing polluters and criminals with instant fines. The mobile court provides a speedy trial, whereas regular court cases are lengthy and subject to procrastination [Interview-04].

The interviewee's analysis reveals the inadequacy of the traditional court system in handling environmental pollution cases. The extensive time required to file a case and the potential for delays in the regular court system may discourage individuals or organisations from pursuing legal action against polluters. In contrast, mobile courts offer a rapid trial process and prompt penalties, which can serve as a powerful deterrent to other potential polluters. Thus, mobile courts present a viable alternative to traditional courts for addressing environmental pollution cases. Furthermore, the use of mobile courts can foster greater accountability among polluters, as it ensures that they are held responsible for their actions. The prompt penalties that mobile courts impose can serve as a strong incentive for polluters to adhere to environmental regulations and avoid future infractions.

5.2.2 Imposing fines and penalties through investigations

The empirical data collected through the study suggests that in addition to imposing monetary penalties by the mobile court, the DoE undertakes investigative and inquiry procedures to prosecute environmental wrongdoers (Interviewee-1,2,3,4,5, and 6). Whenever they get any information regarding a violation of environmental laws and regulations, they send the report (as mentioned earlier) to the Director General (DG) of the DoE and file cases against the polluters at

the police station as a complainant, and they investigate the case with the prior permission of the DG. As a DoE official describes,

After receiving any complaint, we usually conduct a preliminary enquiry. Then, with the permission of the Director-General of the DoE, we file a case at the police station. An inspector of the DoE then investigates this case. We commence the investigation with a First Information Report (FIR) and send it to the special magistrate or environmental court [Interview-01].

The interviewee explains that the procedure encompasses several essential steps that need to be adhered to for an efficient and effective investigation of the issue at hand. This approach underscores the collaboration between the DoE and the legal system to ensure that environmental matters are addressed and resolved expeditiously.

The need for clarity on the tangible benefits of bringing certain environmental harms within the remit of criminal courts and enhancing police investigative powers, without changing sanctions or procedures, is crucial. This discussion highlights several key points, each supported by relevant information and literature, to articulate the rationale and anticipated outcomes of these proposed changes. Currently, in Bangladesh, various forms of environmental harm—such as illegal fishing, mine extraction, hill cutting, deforestation, and noise pollution—are not defined as criminal offenses under the Bangladesh Environment Conservation Act of 1995. This legal framework treats all environmental harms broadly as pollution but does not criminalize them. By defining these harms as criminal offenses, police would gain the authority to investigate and prosecute these acts more effectively. Establishing a specialised police unit for environmental crimes is feasible under existing laws, which provide a legal basis for such a unit without requiring new legislation (Reiner, 2000; Martin, 2022).

Specialised policing can significantly enhance the management of complex cases, which is particularly important given the rise in cybercrime and transnational crime in Bangladesh. Increased specialization and authority could help address severe environmental pollution and

climate change issues more effectively (Reiner, 2000; Martin, 2022). This shift towards criminalization would likely lead to better enforcement of environmental laws and greater public awareness of their importance.

Treating certain environmental harms as criminal offenses would ensure consistency in legal responses and enhance public understanding and adherence to environmental laws. The inconsistency in the application of environmental laws often leads to minor infractions being overlooked, undermining the seriousness of environmental crimes (Nellemann et al., 2016). By criminalizing these offenses, the legal system can ensure that such harms are treated with the gravity they deserve, promoting better environmental protection and compliance. The criminalization of environmental harms underscores their severity, potentially enhancing public perception and acting as a deterrent. Historical instances, such as increased investment in environmental protection following stringent government regulation in China, demonstrate the effectiveness of such deterrents (Yun et al., 2016). For Bangladesh, criminalizing environmental harms aligns with the existing criminal justice system's emphasis on deterrence (Khondaker and Lambert, 2015). This approach can change public perception, making people more aware of the serious nature of environmental crimes and fostering a culture of compliance.

Bangladesh's current sentencing policies are incoherent and lack contextual balance, often exacerbating issues rather than resolving them (Rahman, 2017). The need for a legal change is evident, particularly in post-colonial societies where traditional approaches may not suffice. There are significant global disparities in sanctions for environmental offenses, often not stringent enough to ensure robust environmental protection (Nellemann et al., 2016). By reforming environmental legislation, Bangladesh can underscore the societal importance of environmental protection and create a more effective legal framework.

The integration of restorative justice principles could complement the criminalization of environmental harms. Traditional punitive approaches often fail to address the underlying harm caused by environmental crimes (Nurse, 2020). Restorative justice emphasizes repairing harm and involves offenders in the resolution process, fostering a sense of responsibility and providing an alternative to costly and delayed legal proceedings (Nurse, 2020). This approach can include dialogue, apologies, and reparation, ultimately benefiting both victims and offenders and promoting a more holistic resolution to environmental disputes (Eva and Urbi, 2021).

The shift towards criminalizing environmental harms, supported by enhanced police powers and specialised units, offers a multifaceted approach to addressing environmental issues in Bangladesh. It ensures consistency in legal treatment, enhances public perception and deterrence, and underscores the necessity for legal changes. Moreover, integrating restorative justice can provide a balanced approach, focusing on repairing harm while maintaining the punitive aspect necessary for deterrence. These combined efforts can lead to more effective enforcement and greater public compliance with environmental laws.

4.3 Role of the Bangladesh Police in environmental law enforcement

Based on the empirical data, the study provides insights into the Bangladesh Police's role in addressing environmental crimes and the significance of coordination and cooperation among different law enforcement agencies. The findings reveal that the Bangladesh Police consistently assumes a supportive role by collaborating with the DoE and other environmental law enforcement agencies. The data suggest that the police have the authority to investigate cases related to environmental crimes, particularly those concerning illegal mining, sand extraction, and stone extraction. Furthermore, the study emphasizes the importance of patrolling and surveillance at environmental hotspots in reducing environmental crimes. The active presence of

police officers in these areas serves as a deterrent to environmental offenders, according to interviewees. However, the study also highlights the challenges and obstacles to effective coordination and cooperation among different agencies. These difficulties, as pointed out by some interviewees, hamper the effectiveness of environmental protection measures (which I have discussed in the next chapter). Additionally, the study sheds light on the transnational organized crime issue of wildlife crime, which requires regional and international cooperation to combat it effectively. The key stakeholders in the field recognise the need for cooperation to address this problem, given its cross-border nature and the challenges it poses to law enforcement agencies worldwide.

4.3.1 Supportive role of the police through coordination and cooperation

The testimonies of all police officials interviewed (Interviewees-11-25) unanimously underscore the pivotal role that the Bangladesh Police plays in addressing green crime while lending its support to other law enforcement agencies. Furthermore, DoE officials noted that the police provide unwavering support and cooperation to the DoE, with coordination between the two entities occurring when deemed necessary (Interviewees-1-6). However, the research findings also suggest that effective collaboration among individuals or groups is frequently hindered by various difficulties and obstacles, and rarely achieved without any challenges, as pointed out by interviewees 18 and 24 (which I discuss in the next chapter).

The role of the Bangladesh Police in combating green crime is primarily supportive in nature, and the effective handling of green crimes demands a multi-disciplinary approach that encompasses various stakeholders. The joint operations and special drives undertaken by the local police station and local government officials reflect a concerted and synchronized

endeavour aimed at protecting the environment (Interviewee-20 and 16). As a police officer highlights,

The local police station always works with the Upazilla Nirbahi Officer (UNO) and Assistant Commissioner Lands (AC Lands) of the local administration. The local administrations, along with the local police, go for special operations in dealing with environmental crime and harm. We usually provide security and confiscate vehicles and other materials used for illegal sand extraction with a proper seizer list following the legal procedures [Interview-20].

The data highlights the significance of a multi-disciplinary approach in addressing environmental crimes effectively. The involvement of the local administration and the police station in joint operations reflects a coordinated effort towards environmental protection. In a similar vein, a police official (Interviewee-16), emphasises the supportive role played by the local police station in coordinating and collaborating with the local administration during a special operation aimed at curbing illegal mining and hill-cutting activities. According to the official,

As a local police station, we always support the local administration, UNO/AC Land, in a special drive against illegal sand extraction, illegal stone extraction, hill cutting, and other environmental crime activities [Interview-16].

The police's visible presence in uniform has instilled confidence in the public, and their willingness to engage in information sharing has facilitated effective collaboration. The police's dedication and commitment are crucial in ensuring the success of environmental protection measures and a safe and sustainable Bangladesh. Furthermore, sharing of information between agencies is considered to be a crucial factor that can facilitate coordinated action and enhance the effectiveness of law enforcement efforts in preventing and responding to environmental crimes [Interviewee-19]. Besides, the local police work in coordination with sharing information about green crimes. As a police official highlights,

Suppose we receive any information concerning environmental crime and harm, we typically undertake a special operation with the local civil administration, led by the Upazila Nirbahi Officer (UNO) and other law enforcement agencies [Interview-19].

In this interview, the official provides valuable insights, specifically, the official underscores the importance of information sharing as a crucial factor in the effective management of environmental crimes. Besides, the term "special drive" and 'information sharing' indicate a proactive and targeted approach to addressing pollution, which reflects the police's commitment to promoting environmental sustainability. The involvement of the UNO, a government official responsible for overseeing the administration of the sub-district, further underscores the importance of local participation in environmental initiatives. The concept of information sharing is crucial in environmental crime management as it plays a crucial role in the early detection of potential risks, which can be addressed proactively. Information sharing facilitates the rapid flow of information between different agencies, allowing them to act swiftly and efficiently to mitigate any harm or criminal activity.

Similarly, the collaborative efforts between the police and other authorities emphasize the significance of inter-agency cooperation in tackling environmental issues (Interviewee-18). This highlights the importance of a coordinated approach that involves multiple government agencies and demonstrates the value of a supportive approach by the police towards other agencies in dealing with environmental challenges. As the official notes,

The BD Police, particularly the local police station, collaborates with special task forces that deal with local environmental pollution. We work alongside the local administration, which includes the UNO, Executive Magistrate, BGB, Ansar, and the DoE [Interview-18].

The interviewee emphasises that the police work hand-in-hand with other local authorities such as the Upazila Nirbahi Officer (UNO), Executive Magistrate, BGB, Ansar, and the DoE to effectively address environmental issues, which have significant implications for public health and well-being. Moreover, the interviewee underscores the importance of inter-agency cooperation in tackling environmental pollution, citing the involvement of a range of government agencies in this endeavour.

The Bangladesh Police, in addition to their special operations, special drives, and information sharing, play a significant role in facilitating the filing of environmental crime cases at local police stations by the DoE and subsequently forwarding such cases to the DoE for investigation, considering the latter's legal mandate to investigate such offences (Interview-21). As the police official notes,

I used to work at another local police station a couple of years ago, and I witnessed the DoE filing cases as a complainant at the police station against hill cutting. The police station then forwarded the case to the DoE for investigation, and subsequently, the DoE carried out an investigation into the matter [Interview-21].

The interviewee's experience in his current police station area indicates a lack of emphasis on green crime, such as hill cutting and illegal stone extraction, as no cases had been filed against these crimes in the past two years. In contrast, the interviewee's experience in the other police station highlights the efficacy of inter-agency collaboration in enforcing environmental laws. This example demonstrates the crucial role played by the DoE in enforcing environmental laws and regulations. Furthermore, the Bangladesh Police play a significant subordinate role in the preservation of the environment, by virtue of their mandate to apprehend perpetrators of environmental offences, subject to the issuance of an arrest warrant from either the specialised magistrate court or the environmental court (Interviewee-23). As the police official says,

In my police station, for one year, I just got one case filed against hill cutting, and the DoE investigated the case. Generally, police do not investigate this type of case. But if any warrant is issued from the environmental court against the criminals/polluters, only then the police arrest the polluters/criminals and produce them to the environmental court [Interview-23].

This indicates that either such crimes are not commonly reported or that the police station in question is not actively pursuing cases related to green crime. The interviewee references that the DoE investigated the case, indicating that there is a specialised agency tasked with investigating green crime. This suggests that while the police may not actively investigate such crimes, there

are other agencies responsible for doing so. The interviewee further clarifies that the police only arrest criminals or polluters if there is a warrant issued by the environmental court against them. This suggests that the Bangladesh Police require a legal mandate to take action against green crime. The interviewee's comments imply that the police are not proactive in dealing with environmental crimes but rather respond to legal mandates issued by the environmental court.

The data from the study highlights significantly that the Bangladesh Police plays a crucial role in providing support to the DoE during mobile court operations against environmental pollution (Interviewees 1-6). They are an important partner of the DoE in environmental governance and are always willing to work closely with the DoE to ensure the effective implementation of environmental laws and regulations through mobile court operations (Interviewee 6). Additionally, the DoE conducts mobile court operations that involve plainclothes officers, which may raise concerns about their authority in the eyes of the public. Still, the police can assist by displaying visible symbols of authority, such as uniforms and weapons, and utilizing their expertise in law enforcement to identify targets and apprehend offenders (Interviewee 2).

A significant role played by the police in supporting mobile court operations conducted by the DoE in various administrative jurisdictions highlights a well-established and mutually beneficial relationship between the two departments- the Bangladesh Police and the DoE (Interviewee-4).

As a DoE official highlights,

We always get police support in our mobile court operations, and they are always ready to help us in the metropolitan areas, divisional levels and district levels. Sometimes, we do not get an executive magistrate from civil administration at the local level, which hampers mobile court operations. But the police are always supportive in this case [interview-04].

The official's acknowledgement of the police department's constant support in metropolitan, divisional, and district areas suggests the presence of a well-established and mutually beneficial relationship between the two departments. Furthermore, the statement underscores the potential challenges that the DoE may face when executing mobile court operations at the local level, particularly in the absence of an executive magistrate from the civil administration. Such scenarios may disrupt the DoE's activities and hinder its ability to enforce environmental regulations, which can have detrimental consequences on public health and the environment. Moreover, the interview sheds light on the significance of mobile court operations in enforcing environmental laws and regulations. The operations serve as a means of deterring environmental violations, raising public awareness of environmental issues, and ensuring compliance with environmental laws. Given the importance of these operations, it is reassuring to know that the DoE and the police department are working together to ensure their successful implementation.

Moreover, the DoE seeks assistance from the police during mobile court operations because while DoE officials are in plain clothes, the police provide a distinctive identity by carrying guns and wearing uniforms. Consequently, the presence of police personnel not only guarantees the safety of DoE officials but also lends credibility to mobile court operations in the eyes of the general public (Interviewee-2). As a DoE official remarks,

We usually get support from the police, especially when we make a special drive with a mobile court headed by an executive magistrate. This support is important to us because we all are in plain clothes and do not have a uniform. Police have uniforms and guns, and they are visible to the people. People do not count on us, and thus we need to take police assistance [Interview-02].

This may raise concerns regarding the perceived authority and legitimacy in the eyes of the public. Without the visible symbols of authority that a uniform and visible weapon provides, the public may not be confident in the ability of DoE officers to carry out their duties effectively.

This is where the police can play a crucial role in supporting them. As a more trusted and credible authority in the eyes of the public, the police can provide a sense of legitimacy and authority to the operations of the DoE team. The police uniforms and visible weapons help to create an image of authority and professionalism that is reassuring to the public and can help to minimise any potential misunderstandings or conflicts. Furthermore, the police's training and expertise in law enforcement can also prove to be invaluable to the success of special drives conducted by the DoE. The police can provide guidance and support to the DoE team in identifying potential targets and apprehending individuals engaging in illegal activities as well as assisting in establishing communication with the public during these special drives. They can explain the purpose and goals of the operation, address any concerns or questions from the public, and ensure that everyone understands the importance of the DoE's efforts.

The chapter findings reveal that the process of collaboration is frequently impeded by difficulties and obstacles and is rarely a completely smooth and effortless endeavour (Interviewees-18 and 24). Although there is good collaboration between the local police station and the local administration-UNO/AC lands, there seems to be a lack of cooperation between the DoE and the police at the grassroots level and this might be due to a lack of trust or understanding between the agencies or bureaucratic obstacles (Interviewee-18). Furthermore, the police work with other law enforcement agencies to tackle environmental crimes, but they have not effectively collaborated with the DoE (Interviewee-24). It is unclear why this collaboration does not exist and whether any efforts are being made to establish it.

There seems to be inadequate coordination between the police and the DoE at the local level, which may be attributed to a shortage of trust, bureaucratic impediments, or insufficient

institutional support for inter-agency collaboration (Interviewee-18) As a police official describes,

I have been working with the local police station for a long time. The local police cooperate with the local administration-UNO/AC lands. But the DoE at the Divisional levels does not want to work with us who are at the grass roots level [Interview-18].

The cooperation between the local police station and the local administration-UNO/AC lands demonstrates that collaboration among agencies can lead to effective enforcement of environmental laws. However, the absence of collaboration with the DoE at the Divisional level suggests that there may be a lack of trust or understanding between the agencies, or perhaps there are bureaucratic hurdles that need to be overcome. This lack of cooperation can have a negative impact on environmental protection and law enforcement efforts, allowing environmental offenders to act with impunity. It also suggests that there may be an inadequate level of institutional support for inter-agency collaboration and cooperation, which is crucial for the effective enforcement of environmental laws.

The police department's partnerships with the local administration and other law enforcement bodies are commendable; however, there is room for improvement in their collaboration with the DoE to combat environmental crimes effectively (Interviewee-24). As the officer expresses,

We used to coordinate well with the local administration and the Forest Department. But unfortunately, we did not have any coordination or collaboration with the Department of Environment [Interview-24].

It is unclear why the collaboration has not continued, and if any measures are being taken to restore it. It is important to note that environmental crimes, such as illegal logging, wildlife trafficking, and pollution, are complex issues that require a multi-agency approach to address them effectively. Thus, improved coordination and collaboration between the police department

and the DoE is crucial in developing a more comprehensive and integrated response to environmental crimes.

It can be concluded that the Bangladesh Police plays a pivotal role in addressing environmental crime through its supportive role and cooperation with the Department of Environment and other relevant law enforcement agencies. The unanimous testimony of police officials interviewed underscores the significance of the police in addressing environmental crime, while also providing support to the Department of Environment. The study emphasizes the value of cooperation and coordination. However, the findings also suggest that effective collaboration and cooperation among different individuals or groups are frequently hindered by various challenges and obstacles and are seldom achieved without any difficulties. This suggests a need for continued efforts towards enhancing collaboration and cooperation among different entities to promote effective environmental protection.

4.3.2 Investigations of environmental crime

The empirical evidence presented in this study strongly supports the notion that, while not yet a common practice, the local police station can investigate cases related to environmental crimes (Interviewees 16, 19, 21, and 23). The local police can investigate environmental crime cases, especially those related to illegal mining, illegal sand extraction, and stone extraction, which are filed at the police station (Interviews 16, 21, and 23). They can also submit charge sheets to the environmental court (Interviewee-16). Therefore, the data suggest that the police have investigative authority, albeit within a limited capacity.

Environmental crimes are not always a priority for local police stations because the Department of Environment (DoE) is the mandated organisation for dealing with environmental crime, and it holds the sole investigative authority (Interviewee-19). However, within the legal framework, the

local police station can investigate illegal mining activities such as illegal sand and stone extraction (Interviewee-23). As a police official says,

I work at a local police station, but since joining here, I have not yet received any case against environmental pollution/harm. However, previously I used to work at another police station in the same region, and I filed several police cases at my police station against the illegal extraction of sand and stones from the land, hills and riverbeds [Interview-23].

From this statement, we can infer that the police officer has experience investigating cases related to the illegal extraction of natural resources, which is a common form of environmental crime. Besides, the investigations of illegal mining cases, the police have the authority to file a case at the local police station as a complainant of an environmental crime case (Interviewee-16 and 21). As a police official highlights,

There was a case filed at my police station one year back, and it was filed against a person who was involved in collecting stones from the hills and selling them out to the local markets. He was captured by BGB. The local police station filed the case as a complainant, and police investigated the case and submitted a charge sheet at the Chittagong Environmental Court. The case is still under trial [Interview-16].

The interviewee mentioned that the BGB had caught the perpetrator, and the local police station filed a complaint against him, initiating an investigation into the matter. The investigation was conducted by the police, and a charge sheet was eventually submitted to the Chittagong Environmental Court. The interviewee's account suggests that the police and other law enforcement agencies are committed to investigating and prosecuting such environmental crimes, which is a positive indication of the government's efforts to protect the environment.

Although the DoE has the legal authority to regulate industries and issue environmental clearance certificates for newly established businesses, it appears that its ability to investigate and prosecute local environmental crimes is limited (Interviewee-19). As a result, cases against

individuals engaged in illegal mine extractions are typically handled by local police stations rather than the DoE (Interviewees-16, 21 and 23). As a police official highlights,

The DoE has a legal mandate in dealing environment- it is true. I do not deny the fact. However, the reality is quite different. They just provide environmental clearance certificates for newly established industries, inspect the industrial areas, monitor them and impose fines. Not more than these. But the local police station, at the grass root level in most cases, files cases against the polluters. The DoE does not get involved in this thankless job [Interview- 19].

From the interview, it can be inferred that there is a lack of active involvement from the DoE in the investigation of environmental crime. Although the DoE has a legal mandate in dealing with the environment, its role is limited to providing environmental clearance certificates for newly established industries, inspecting industrial areas, monitoring them, and imposing fines. The official suggests that the local police station, at the grassroots level, is responsible for filing cases against the offenders or polluters, and DoE does not get involved in this "thankless job." This implies that the DoE's primary responsibility lies in monitoring and regulating the activities of industries to ensure compliance with environmental laws and regulations.

4.3.3 Patrolling and surveillance at environmental hotspots

The data in this chapter highlights the significance of patrolling and surveillance by the local police at environmental hotspots in reducing environmental crimes (Interviewees-17, 18, 19 and 23). Such measures have proven useful in catching offenders involved in environmental crime. Although patrolling and surveillance are not their regular duties, the police stations take proactive measures to combat environmental offences (Interviewee-17). While the data do not provide specific details about the extent and frequency of patrolling and surveillance, the active presence of police officers in the area deters environmental offenders. (Interviewees-17, 18, 19

and 23). They target specific areas where illegal activities related to environmental crime may occur (Interviewee-17). As a police official notes,

Besides our regular duties, as a local police station, we always keep our eyes on timber trafficking, illegal mine extraction and other environmental harms through surveillance and patrolling in our jurisdiction [Interview-17].

These measures serve as a deterrent to potential offenders and demonstrate that the police are vigilant in their efforts to protect the environment. The qualitative data analysis also highlights the importance of the police efforts in promoting community awareness and involvement in environmental protection. By making their patrols and surveillance visible to the community, they encourage local residents to report any suspicious activities they may observe.

The local police station plays a vital role in preventing wildlife and forest crimes in the peripheral areas of the Sundarbans, which not only sends a strong message to potential wrongdoers but also serves as a warning (Interviewee-18, 19 and 23). Although forest guards are present, illegal activities persist, but patrolling and surveillance by the police have been effective in apprehending offenders with illegal wildlife goods (Interview-18 and 19). As a police officer highlights,

Wildlife and forest crime are regular phenomena seen in the peripheral areas of the Sundarbans. There are forest guards in the Sundarbans; however, to protect against illegal activities- wildlife and forest crimes, the local police station always does patrol the peripheral areas. We find it is effective to apprehend criminals with illegal wildlife goods [Interview-23].

The interviewee notes that the local police station is actively involved in patrolling the peripheral areas to protect against illegal activities, particularly wildlife and forest crimes. According to the interviewee, this approach has been effective in apprehending criminals with illegal wildlife

goods. It sends a strong message to potential offenders that the law will be enforced, and offenders will be apprehended and prosecuted. Moreover, it provides an opportunity to gather intelligence, which can be used to develop targeted strategies to address environmental crimes.

4.3.4 Cross-border cooperation in wildlife trafficking

The present chapter sheds light on the strategies employed by Bangladesh to combat environmental crime, with a particular focus on wildlife crime, which has emerged as a transnational organised crime issue in recent times. Given the cross-border nature of these crimes, law enforcement agencies worldwide face a formidable challenge in curbing this menace. Bangladesh recognizes the need for regional and international cooperation to tackle this problem effectively, as evidenced by the interviews conducted with key stakeholders in the field (Interviewees-13, 25 and 26). The findings of the chapter highlight the collaborative efforts of Bangladesh with other countries, particularly neighbouring and Southeast Asian countries, in combating environmental crime (Interviewee-13). The Bangladesh Police, in conjunction with the WCCU, Customs Intelligence, BGB, and Rapid Action Battalion (RAB), work in close coordination with INTERPOL to gather intelligence on wildlife crime and disrupt criminal networks operating across borders (Interviewee-25). The success of these joint operations is evident in the apprehension of offenders and the confiscation of illegal wildlife products from various parts of the country (Interviewees-25 and 26). Moreover, the involvement of the WCCU, INTERPOL, and other law enforcement agencies in Bangladesh reflects a commitment to a multi-agency approach in combating environmental crime (Interviewee-26). The participation of these agencies in intelligence sharing, joint investigations, and capacity building is a promising development in the fight against transnational environmental crime.

The ever-growing transnational nature of environmental crime, along with the involvement of sophisticated cross-border criminal networks, has made it an unprecedented challenge for law enforcement agencies worldwide. Consequently, it is imperative that national agencies foster robust partnerships with neighbouring countries, engaging in proactive collaborations across borders to curb these criminal activities (Interviewee-13). The Bangladesh Police are actively collaborating with their neighbouring countries to combat environmental crimes, particularly wildlife crimes, as highlighted by a police official (Interviewee-13). The police officer says,

Environmental crime is gaining a transnational organized crime dimension. As criminals cross multiple borders, it becomes extremely challenging to deal with such crimes. Therefore, we closely collaborate with other countries, particularly our neighbouring countries and Southeast Asian countries [Interview-13].

By acknowledging the complexity of these crimes and the involvement of "multi-border criminals," the officer underscores the necessity of cross-border cooperation in the fight against environmental crime. The officer's use of the term "transnational organised crime" highlights the serious nature of these crimes and the need for a coordinated, cross-border response. Such crimes often involve sophisticated networks of criminal actors that operate across different jurisdictions and borders. As a result, they can be challenging to investigate and prosecute, especially when legal systems and law enforcement protocols differ across countries. The officer's mention of working closely with neighbouring countries and Southeast Asian countries indicates that regional cooperation is a key strategy for addressing transnational environmental crimes.

Furthermore, in the context of addressing wildlife crime, the Bangladesh Police engage in collaboration with the INTERPOL environmental crime unit, by means of sharing information, conducting investigations, and providing specialised training, utilizing their resources (Interviewee-25). Additionally, the police operate in close proximity with other law enforcement

agencies within the nation, such as WCCU and Customs Intelligences. As the police official highlights,

INTERPOL always provides us with information about wildlife crime and criminal networks. Bangladesh Police, along with other law enforcement agencies like WCCU, Customs Intelligence, BGB and Rapid Action Battalion (RAB), has done some excellent operations with the neighbouring countries and arrested criminals and confiscated wildlife from different parts of the country [Interview-25].

This indicates that information sharing is a key component of policing, which helps law enforcement agencies in identifying and targeting transnational criminal networks involved in the illegal wildlife trade. The reference to specialised agencies like the WCCU, Customs Intelligence and BGB, and RAB suggests that there is a focused approach towards addressing wildlife crime in Bangladesh. The existence of multiple specialised units also points towards the complexity and magnitude of the wildlife crime problem. The statement about successful operations, arrests, and confiscations of wildlife from different parts of the country is encouraging and implies that these agencies have made significant progress in detecting and disrupting illegal wildlife trade networks in Bangladesh. However, the interview does not provide any specific information about the types and quantities of wildlife confiscated, the location of seizures, or the modus operandi of the criminals. Such information is crucial in understanding the scale and nature of wildlife crime in Bangladesh and designing effective strategies to combat it. The mention of cross-border cooperation in dealing with wildlife crime is significant. It indicates the need for regional and international cooperation which may involve information sharing, joint investigations, intelligence analysis, capacity building, and legal cooperation. The existence of cross-border cooperation mechanisms also suggests that Bangladesh is not alone in facing wildlife crime and that other countries in the region are also taking steps to combat it.

In addition, the Bangladesh Police and WCCU operate in close collaboration within the country and with the INTERPOL to combat wildlife crime by sharing information, providing cooperation, and coordinating operational activities to identify criminal networks, apprehend perpetrators, and investigate wildlife crime cases (Interviewee-26). This integrated approach, which extends beyond the country's borders, has demonstrated a high level of effectiveness in addressing the issue of wildlife crime in Bangladesh. As an official of WCCU highlights,

As part of the WCCU, we work closely with INTERPOL, Bangladesh Police, Customs Intelligence, and other law enforcement agencies to combat wildlife crime in Bangladesh. This cross-border cooperation has proven to be highly effective in addressing wildlife crime in the region [Interview-26].

This highlights the importance of transnational partnerships and networks in addressing global environmental challenges. The WCCU's collaborative approach to wildlife crime demonstrates its commitment to working with other agencies to achieve their shared goal of protecting wildlife and combating environmental crime. The interview also suggests that the WCCU is leveraging modern technology and information-sharing systems to enhance its cross-border cooperation efforts indicating a sophisticated approach to wildlife crime control. Furthermore, the statement highlights the importance of a multi-agency approach, which recognises that wildlife crime is not limited to a single agency's jurisdiction. The involvement of various agencies indicates a comprehensive approach to the issue, addressing all aspects of the illegal wildlife trade.

4. 4. People's participation in environmental protection

Most of the participants of the study have emphasised the significance of community engagement and awareness programmes in combating environmental crime and protecting natural resources, drawing on qualitative data collected through interviews with police officers, DoE officials and an official from the WCCU. The data finds that community policing

programmes and beat policing are effective tools in increasing social awareness about environmental issues and educating the public about the harmful effects of environmental crimes. These approaches prioritise a proactive and preventive approach to law enforcement and emphasise the importance of establishing a visible and active police presence in the community, which can help build trust and confidence among the public. The DoE implements various social awareness programs, utilizing leaflets, posters, workshops, seminars, social media, and webinars to disseminate information and raise public awareness. These methods are designed to be concise and tailored to the specific needs and interests of the target audience. In addition, the DoE participates in unique outreach initiatives that focus on empowering students to become environmental champions. Through education and action, these initiatives aim to create a generation of environmentally conscious individuals who are equipped to make a difference in their communities. Furthermore, the study highlights the significance of community engagement and awareness programs in conserving forest biodiversity and protecting wildlife. The Department of Forest implements initiatives, along with educational programs, to raise awareness among local communities about the importance of protecting natural resources.

4.4.1 People's engagement through community/beat policing by the Bangladesh Police

The data highlights the positive impact of community engagement in dealing with environmental crime through community policing programs. The interviews reveal that community engagement through community policing is effective in increasing social awareness about environmental issues among the public, and it represents an approach to law enforcement that takes a proactive and preventive approach to crime (Interviewees 11, 13, 15, 16, 17, 18, 19, 20, 21, 23, and 25). Community policing is a great tool for making people environmentally conscious, demonstrating that community policing programs successfully raise awareness about environmental issues and

educate people about the harmful effects of environmental crimes (Interviewees 13, 16, 17, and 20). Moreover, beat policing is an effective tool for creating mass awareness against environmental crime and harm within the community (Interviewees 11, 13, 15, 18, and 23). This approach recognizes the importance of establishing a visible and active police presence in the community, which can help build trust and confidence among the public and enhance the effectiveness of community policing efforts (Interviewees 11, 17, 19, and 25). The interviews also revealed that community policing programs involve engaging with local Union Parishad (UP) chairmen, members, chowkidars, local political leaders, and religious leaders to discuss environmental issues and raise awareness (Interviewees 12, 14, 19, 20, and 21).

The community policing programme implemented in Bangladesh facilitates open communication and fosters trust between the Bangladesh Police and community members. And this collaborative effort enables a mutual understanding of concerns, leading to effective prevention and management of diverse social issues (Interviewee-13). The programme's effectiveness is evident in its ability to successfully address environmental crimes and promotes environmental consciousness among the community (Interviewees-16, 17 and 20). As a police official notes,

As a coordinator of community policing at metropolitan police, I have found that community engagement is working effectively. Social awareness is increasing day by day against different social issues. Thus, community engagement through community policing works as a great tool to make people environmentally conscious [Interview-13].

Based on the statement provided by Police Officer, it appears that the community policing programme is not only effectively engaging with the community to address environmental crimes but also promoting environmental consciousness among the community members. The officer's statement indicates that the community is becoming more socially aware of the issues related to environmental crime, and this is a positive sign for addressing these issues. The

engagement between law enforcement and community members through the community policing program allows for open and honest communication, which helps to build trust and relationships between law enforcement and the community. This relationship-building is an essential aspect of community policing, as it enables law enforcement to develop a better understanding of the community's concerns and tailor their approach accordingly. By working together, law enforcement and community members can develop effective strategies for preventing and addressing environmental crime. The statement suggests that the community policing programme is making a positive impact on the community's understanding of environmental crime, and this is an important step towards addressing these issues.

Alongside the implementation of the community policing programme in Bangladesh, the Bangladesh Police have also initiated a beat policing programme with the aim of closely collaborating with partners to tackle social crimes including drug-related offences, domestic violence, and verbal abuse of females, resulting in substantial success (Interviewee-11). Consequently, in both urban and rural areas, the Bangladesh Police employs this approach to raise environmental awareness through community outreach, educational campaigns, and meetings, supplementing the community policing programme (Interviewees-13, 15, 18 and 23).

As a police official highlights,

Beat policing is doing well at metropolitan police. Therefore, beat policing is now an effective tool, especially in terrorism, drugs, and eve-teasing. Community engagement through beat policing effectively creates mass awareness against environmental crime and harm within the community [Interview-11].

The interviewee provides valuable insights into the success of the beat policing programme in engaging with the community to combat environmental crime. Beat policing is acknowledged as an effective tool in addressing various crimes, including terrorism, drugs, and eve-teasing.

However, the focus of the interview is on the programme's engagement with the community to tackle environmental crime. The interviewee states that beat policing has been successful in creating mass awareness among the community regarding environmental crime and the harm it causes. This highlights the effectiveness of beat policing in engaging with the community to raise awareness about environmental crime and its impact on the community. This could indicate that the beat policing programme has implemented various community outreach programmes, educational campaigns, and community meetings to address the issue. The interviewee's comments suggest that the community has responded positively to the beat policing programme's messages on environmental crime. This could imply that the community recognises the importance of addressing environmental crime and its impact on their daily lives. Furthermore, it could indicate that the community has developed trust in the beat policing programme and its ability to handle environmental crime effectively.

The implementation of community policing and beat policing by the Bangladesh Police involves the utilization of several tools to establish a connection with the community. These tools include the engagement of Union Parishad chairmen, members, chowkidars, as well as local political and religious leaders (Interviewee-21). Through the mobilization of local resources, knowledge, and support, the police are able to address multifaceted social challenges, including environmental pollution and harm (Interviewees-14, 19, 20 and 21). This approach fosters trust between the community and law enforcement while offering an opportunity for local leaders to exhibit their commitment to environmental protection and promote public awareness-raising (Interviewees-14, 19 and 21). As a police official notes,

Through community policing, we usually reach the general people with the help of local Union Parishad (UP) chairmen, members and chowkidars and discuss environmental issues to raise their awareness about environmental crime and harm [Interview-21].

From the interview, it is evident that community policing plays a critical role in engaging local communities in dealing with environmental crime. The officer's emphasis on involving the general public, Union Parishad (UP) chairmen, members and chowkidars in environmental issues demonstrates a community-oriented approach that can foster trust and collaboration between the police and the community. Community policing has emerged as an innovative approach that seeks to address the complex challenges of environmental crime by mobilizing the resources, knowledge and support of local communities. It recognizes that environmental crime is a multifaceted issue that requires a collective effort to address. The involvement of local Union Parishad members and chowkidars in community policing further strengthens community engagement by providing an opportunity for local leaders to demonstrate their commitment to environmental protection. By working together, the police and community can exchange information, share experiences, and develop common goals and strategies for addressing environmental crime. The officer's emphasis on awareness-raising is particularly noteworthy, as it highlights the importance of educating the public on the impact of environmental crime and the importance of environmental protection.

4.4.2. Social awareness campaigns by the DoE

Through an analysis of the data, it is evident that the DoE is committed to employing a multifaceted approach to disseminating information and raising public awareness (Interviewees-1, 2,3,4,5, and 6). The DoE takes proactive steps to combat environmental crime by implementing various social awareness programmes, utilizing a range of methods such as leaflets, posters, workshops, seminars, social media, and webinars (Interviewee-5 and 6). To ensure the effectiveness of these methods, the messages conveyed through leaflets and posters are made concise and easily understood (Interviewees-3 and 4). Workshops and seminars are

also tailored to the specific needs and interests of the target audience (Interviewees-5, and 6). In addition, online platforms like social media and webinars serve as excellent tools for reaching a broader audience, particularly younger individuals (Interviewee-5 and 6). Furthermore, DoE is currently participating in a unique outreach initiative in Bangladesh that focuses on equipping students with the necessary knowledge and resources to become environmental champions (Interviewee-4). By empowering students through education and action, the programme aims to create a generation of environmentally-conscious individuals who are equipped to make a difference in their communities. The DoE demonstrates a steadfast commitment to promoting environmental awareness and action through yearly initiatives such as the Environment Fair and Tree Plantation campaign, prioritizing engagement with the public and observing global events like World Environment Day and International Day of Biodiversity (Interviewee-5).

The DoE has initiated social awareness programmes and campaigns to tackle environmental crime. They employ a range of methods, including distributing leaflets and posters, organising workshops and seminars, and utilizing online platforms like social media and webinars (Interviewee-6). The aim is to disseminate information to a diverse audience, engage citizens, and raise awareness about environmental issues. As a DoE official highlights,

We distribute leaflets and posters among people on different occasions. We also organise workshops and seminars on different environmental issues to build awareness among citizens (Interview-06).

The interviewee outlined the various social awareness programs and campaigns that the department has been implementing to combat environmental crime. One of the methods used by the department is the distribution of leaflets and posters on different occasions. This approach is an effective way of disseminating information to a large number of people, particularly those who may not have access to online resources. However, to ensure the effectiveness of this

method, it is important to ensure that the messages on the leaflets and posters are clear, concise, and visually appealing. Another method used by the department is organizing workshops and seminars on different environmental issues. This approach is particularly useful for addressing complex issues that require in-depth knowledge and understanding. Workshops and seminars also provide an opportunity for citizens to interact with experts and ask questions, making them an effective way of engaging with the public. To ensure the success of these events, it is important to identify the target audience and tailor the content to their needs and interests. In addition, the department has been using online platforms to reach a wider audience. The use of social media, for instance, can be an effective way of engaging with younger audiences who are more likely to use these platforms. The department has also been using webinars and podcasts to provide more in-depth information on environmental issues. These platforms can be particularly useful for reaching audiences who are unable to attend physical events. The DoE's social awareness programs and campaigns appear to be well-planned and comprehensive. The use of a variety of methods, including leaflets, posters, workshops, seminars, and online platforms, is likely to reach a diverse audience and create a greater impact.

Furthermore, the DoE is actively involved in a special school outreach program in Bangladesh, which aims to provide students with the knowledge and tools needed to become environmental advocates (Interviewee-4). This programme is designed to not only raise awareness but also to inspire and mobilise students to take action, empowering them to make a positive impact on the environment. As a DoE official notes,

We believe in empowering the young generation with the knowledge and tools they need to become stewards of the environment. Through our school outreach programs in Bangladesh, we not only raise awareness about pressing environmental issues but also inspire and mobilize a team of young advocates committed to making a positive impact on the planet [Interview-04].

The statement's emphasis on not only raising awareness about environmental issues but also inspiring and mobilizing a team of young advocates is significant. The mention of the special school outreach program in Bangladesh implies that the DoE is actively involved in reaching out to students in schools and providing them with the knowledge and tools needed to become environmental advocates. This is an excellent approach since young people are often more receptive to new ideas and more enthusiastic about making a positive impact on the environment. Furthermore, the statement suggests that the program is designed to not only raise awareness about environmental issues but also to inspire and mobilise students to take action. This is crucial because many young people may feel overwhelmed or powerless when it comes to environmental issues and inspiring them to take action can help them feel empowered and capable of making a difference.

The DoE is deeply committed to fostering environmental awareness and taking action to protect the environment in Bangladesh emphasising its participation in significant global events and national campaigns that demonstrate its unwavering dedication to environmental stewardship (Interviewee-5). By doing so, the DoE actively engages the public and encourages extensive participation in environmental conservation efforts. As a DoE official remarks,

The DoE takes pride in its observance of significant global events like World Environment Day and International Day of Biodiversity, alongside its yearly initiatives such as the Environment Fair and Tree Plantation campaign, all aimed at promoting environmental consciousness and encouraging widespread participation across the nation [Interview-05].

The interview showcases a deep commitment to promoting environmental awareness and action in Bangladesh. The department's emphasis on observing significant global events, such as World Environment Day and International Day of Biodiversity, underscores the importance of these events in raising awareness and promoting global action towards environmental conservation.

Moreover, the DoE's yearly initiatives, including the Environment Fair and Tree Plantation campaign, showcase a strong and consistent commitment towards environmental stewardship in Bangladesh. By organizing these programs and events, the department is actively engaging the public and encouraging widespread participation in environmental conservation efforts. Notably, the Environment Fair can be an essential platform for showcasing innovative solutions and technologies that can help address environmental challenges. The department's efforts towards organizing such events and initiatives indicate a proactive approach towards environmental sustainability.

4.4.3 Community engagement by the WCCU

The data of this chapter shows the significance of community engagement and awareness programmes in conserving forest biodiversity and protecting wildlife, with the Department of Forest implementing initiatives, along with educational programs to raise awareness among local communities (Interviewee-26). As a WCCU official highlights,

In order to preserve the biodiversity of forest areas and protect wildlife, the Department of Environment has launched a number of initiatives. These include the establishment of Co-Management Committees (CMCs), Community Patrol Groups, and Village Tiger Response Teams (VTRTs), which aim to raise awareness among people living on the periphery of the forest and engage them in conservation efforts [Interview-26].

In the interview, the official mentions several innovative initiatives launched by the DoE to achieve this goal, which are worth discussing in more detail. One such initiative is the establishment of Co-Management Committees (CMCs), which are collaborative bodies comprising government officials, forest officials, and community representatives. These committees work towards developing sustainable management plans for forest areas and involve local communities in decision-making processes. This approach helps build trust and

understanding between communities and the government and fosters a sense of ownership and responsibility towards conservation efforts. Another noteworthy initiative mentioned by the official is the use of Community Patrol Groups and Village Tiger Response Teams (VTRTs). These teams play a crucial role in monitoring and reporting illegal activities, such as poaching, in and around forest areas. They are trained to identify and report wildlife crimes and are equipped with the necessary tools and equipment to carry out their duties effectively. Moreover, the official also emphasizes the importance of raising awareness among people living on the periphery of the forest. To this end, the Department of Forest has developed educational programs that use various media channels to reach out to local communities. These programs cover topics such as the importance of biodiversity, the need for conservation, and the benefits of sustainable resource use. Additionally, the department also conducts workshops and training sessions to build the capacity of local communities to participate in conservation efforts actively.

4.5 Conclusion

This chapter examined the current activities of law enforcement agencies in Bangladesh in addressing environmental crime and harm, thus addressing the study's first research question. The study used semi-structured interviews to gather data from key personnel in the DoE, Bangladesh Police, and WCCU. Thematic analysis was used to identify the main themes and subthemes emerging from the data. The study identified three broad themes: enforcement measures and operations by the DoE, the role of the Bangladesh Police in environmental law enforcement, and people's participation in environmental protection. The findings of this study highlight the crucial role played by law enforcement agencies in addressing environmental crime and harm in Bangladesh. It shows that the DoE, Bangladesh Police, and WCCU are all actively involved in enforcing environmental laws, investigating environmental crime, patrolling

environmental hotspots, and engaging the community in environmental protection. The study also highlights the importance of community engagement and social awareness campaigns in protecting the environment. The subthemes of people's engagement through community/beat policing by the Bangladesh Police, social awareness campaigns by the DoE, and community engagement by the WCCU demonstrate the agencies' efforts to mobilize the public in environmental protection.

Chapter Five: Challenges for law enforcement bodies in dealing with green crime

5.1 Introduction

This chapter provides a comprehensive analysis of the challenges faced by the Bangladesh Police and other law enforcement bodies in addressing green crime, thus answering the study's second research question-What challenges do law enforcement agencies and environmental organisations face when policing green crime in Bangladesh? This chapter draws on 28 semi-structured interviews (see the appendix) with key stakeholders from various sectors, including law enforcement agencies, the judiciary, and environmental agencies. Through a thematic analysis, the study identifies several themes and subthemes that shed light on the current state of environmental law enforcement in Bangladesh.

The first theme – poor institutional framework – highlights the critical challenges posed by resource constraints, lack of coordination and cooperation, gaps between law and practice, overlapping jurisdictions, the dominance of bureaucratic authority over the judiciary and law enforcement institutions and limited access to the environmental court. These subthemes emphasize the need for more effective institutional mechanisms and collaborative frameworks to enhance the ability of law enforcement bodies to tackle environmental crimes. The second theme – political corruption – underscores the role of corruption and the misuse of power in exacerbating environmental crimes. This theme highlights the need for more transparent and accountable governance systems that promote integrity and ethical conduct in law enforcement and other relevant institutions. The third theme – lack of political will – emphasizes the importance of political commitment and priority in addressing environmental issues. This theme

suggests that policymakers need to prioritize environmental protection and invest in resources and institutional capacities that support effective environmental law enforcement. Finally, the theme of lack of public awareness underscores the need for greater public education and engagement to promote environmental protection. This theme highlights the importance of public participation and civil society engagement in promoting environmental sustainability and holding institutions accountable for environmental crimes.

5.2 Poor Institutional Framework

The data of this chapter indicates that ‘poor institutional framework’ is a term used to describe the challenges faced by institutions in their efforts to effectively manage and protect the environment. These challenges are often caused by resource constraints, lack of coordination and cooperation, gaps between law and practice, overlapping jurisdictions, the dominance of bureaucratic authority over the judiciary and law enforcement bodies, and limited access to the environmental court. The institutional framework refers to the system of organisations, policies, and regulations that govern and manage the environment at the national and local levels. Resource constraints refer to the limited availability of funds, personnel, and equipment necessary to implement and enforce environmental laws and regulations. This limitation often hinders the effective management and protection of the environment. Lack of coordination and cooperation between different institutions and stakeholders can also pose a significant challenge. In some cases, there may be overlapping jurisdictions between different institutions, resulting in confusion and a lack of accountability. Another significant challenge is the gap between law and practice, where laws and regulations exist on paper but are not effectively enforced on the ground. This gap can be due to a lack of political will, corruption, or insufficient resources. Bureaucratic supremacy over the judiciary and law enforcement bodies can also pose a

challenge, where the executive branch has undue influence over the judicial system, leading to a lack of accountability and a lack of trust in the judiciary. Finally, limited access to the environmental court can be a significant challenge, where citizens have limited access to justice and redress for environmental harm. This limitation can be due to a lack of resources, insufficient legal frameworks, or inadequate public participation.

5.2.1 Resource constraints

The data indicates that resource constraints are a pervasive challenge in environmental law enforcement, referring to the limitations in personnel, funding, and other resources necessary for the effective enforcement of environmental laws and regulations (Interviewees-3, 4, 12, and 15). Since its establishment in 1989 (Interviewee-4), the DoE has faced resource constraints that hinder its ability to enforce environmental laws within its jurisdiction. The department works with a limited workforce and logistics, making it challenging to issue environmental clearance certificates, file cases, and investigate environmental damages effectively (Interviewees-3 and 15). As a result, the existence of the DoE is not widely known among the general public (Interviewee-12). Moreover, the DoE often responds to letters from the environmental court, indicating that they lack investigating officers to submit the report in a timely manner (Interviewee-8). The DoE is understaffed and may not have enough personnel to conduct thorough investigations and submit reports promptly.

The interview with the DoE official (Interviewee-3) highlights several important points regarding the resource constraints of the DoE in the region. Firstly, the official mentions that they are responsible for overseeing more than ten districts with just a handful of staff members, including a director, a deputy director, an accountant, and an office assistant. This indicates a

severe shortage of manpower, which is likely to be a significant constraint on the DoE's ability to carry out its mandate effectively. As the official highlights,

I work at the regional office as an assistant director, covering more than ten districts. We have a director, a deputy director, an accountant, and an office assistant for this regional office to issue environmental clearance certificates, file cases, and investigate environmental damages. It is more than impossible to work with this limited workforce and logistics [Interview-3].

As an assistant director overseeing more than ten districts, the DoE official notes the limited workforce consisting of a director, deputy director, accountant, and an office assistant. This limited staffing, coupled with logistical challenges, makes it increasingly difficult to carry out the office's responsibilities effectively. The interview highlights the complexity of the DoE official's tasks, which include issuing environmental clearance certificates, filing cases, and investigating environmental damages. These tasks require significant resources and expertise to ensure compliance with environmental regulations and protect the ecosystem's health. The DoE official's use of the phrase "more than impossible" underscores the severity of the challenges faced by the regional office.

Despite the DoE's existence for over 30 years, the public seems unaware of its role in addressing environmental issues (Interviewee-4 and 12). This suggests a communication and outreach problem, which could be attributed to the DoE's limited resources. If the DoE lacks the resources to effectively communicate with the public about its work, it could be challenging for people to comprehend the significance of environmental issues and the DoE's involvement in tackling them. As the DoE official notes,

The DoE was established in 1989, and now, after almost 31 years, it has been found that the DoE is not functioning efficiently due to limited resources in terms of manpower and logistics. Despite its existence for more than three decades, the public has not been made aware of the DoE's role in addressing environmental issues [Interview-4].

The data reveals that the DoE has struggled to function efficiently in the past 31 years of its existence, with resource constraints being a significant factor. The interviewee's use of the term "limited resources" highlights the multifaceted nature of resource constraints that the DoE faces. These are likely to be financial, as well as human and logistical, and have contributed to the agency's ineffectiveness in carrying out its mandate. Specifically, the lack of adequate resources has constrained the DoE's ability to investigate and enforce environmental laws, implement regulations, and engage in research and development of sustainable solutions. The public being largely unaware of the DoE's role in addressing environmental issues can also be attributed to limited resources, as the agency has not been able to engage in widespread awareness campaigns due to financial constraints.

The DoE provide essential services to other government stakeholders with limited resources (Interviewee-15). With a small workforce, investigating complex environmental crimes and issuing environmental clearance certificates becomes challenging. These certificates are essential for businesses and organisations to operate in compliance with environmental regulations. Furthermore, the Department's limited capacity can affect its ability to maintain official records, leading to delays and backlogs in processing applications. As the police officer points out,

We applied for an environmental clearance certificate for a police officer at the local level. I went to the DoE divisional office and found that they had just ten members in the divisional office to cover huge areas. With this workforce, they have to support other districts. It was nearly impossible to investigate such a complex crime like environmental crime and issue an environmental clearance certificate and maintain official works [Interview-15].

The interviewee highlights the resource constraints faced by the DoE in the issuance of environmental clearance certificates to other government stakeholders like the police. This

highlights the severity of the resource constraints faced by the DoE and the potential negative consequences of such constraints on the environment. The limited workforce of only ten members, covering a large area and supporting other districts, indicates that the DoE is stretched thin and may not have the necessary resources to effectively carry out its mandate. The inability to investigate complex environmental crimes could result in a lack of accountability for environmental offenders, further harming the environment. Furthermore, the interviewee's assertion that it is nearly impossible to issue environmental clearance certificates due to resource constraints could indicate a backlog of pending applications, resulting in a delay in project approvals. This delay could have negative consequences for businesses and have an impact on the environment, as projects may not be adequately scrutinised before approval.

In addition, the shortage of resources affects the DoE's ability to investigate and submit reports to the court in a timely manner (Interviewee-8). This indicates that the DoE is struggling to keep up with the demands placed upon it by the court, likely due to the scarcity of resources available to them. The lack of investigating officers is particularly concerning since it suggests that the DoE may not have the capacity to conduct thorough investigations into environmental issues. As a judge of an environmental court says,

DoE has a scarcity of resources. They lack human resources and logistics. Whenever the environmental court issues a letter for submitting the report by the DoE, they reply they lack investigating officers to submit the report timely [Interview-8].

This interview suggests that the lack of resources may significantly impede the DoE's ability to effectively carry out its statutory obligations. For instance, the dearth of human resources may hinder the enforcement of environmental regulations or prosecution of the offenders who violate them. Similarly, the scarcity of logistical support may interfere with the performance of regular inspections, compliance monitoring, and response to environmental emergencies. Furthermore,

these constraints may negatively affect the functioning of the environmental court as well. The court's ability to make informed decisions may be compromised if the DoE is unable to provide prompt and precise information. Consequently, delays in the adjudication of environmental cases may occur, creating distrust in the court's ability to enforce environmental regulations effectively.

5.2.2 Lack of coordination and cooperation

According to the data, there is a significant gap in coordination and cooperation among different environmental law enforcement bodies. Interviewees (3, 4, 7, 8, 9, 11, 13, 24, 25, and 27) all reported a lack of coordination and cooperation between different agencies tasked with enforcing environmental laws in Bangladesh. One specific example of this lack of coordination and cooperation is between the Bangladesh Police and the DoE. Interviewee (11) reported that while the police may have valuable information, their response with other agencies is frequently impeded by ineffective coordination (Interviewee-13). This can result in delays in enforcement action and reduced effectiveness in protecting the environment. Another area where there is a concerning lack of coordination and cooperation is between the DoE and the environmental court (Interviewees- 3, 4, 7, 8, and 9). This lack of coordination can lead to delays in environmental court proceedings and may reduce the effectiveness of enforcement action taken by the DoE. Furthermore, when the DoE requires assistance from the district civil administration and executive magistrates for mobile court operations, they encounter a lack of interest and cooperation (Interviewee-4). This can further hinder the effectiveness of enforcement actions taken by the DoE.

Upon observing the existence of pending cases concerning environmental crimes and harm, I have undertaken the initiative to dispatch letters to various law enforcement agencies regarding this matter.

Regrettably, the response from the concerned agencies, particularly the DoE, has been notably absent [Interview-11].

Based on the statement, it appears that the police officer has identified pending cases related to environmental crimes and harm and has taken the initiative to reach out to other law enforcement agencies to coordinate and collaborate on the matter. However, the response from the DoE has been notably absent, indicating a lack of coordination and cooperation among the agencies. The lack of response from the DoE is concerning as they are a primary agency responsible for enforcing environmental laws and regulations. This could indicate a lack of prioritisation or resources to address environmental crimes and harm.

Although the police receive valuable information, they struggle to respond quickly in coordination with other agencies (Interviewee-13). The official acknowledges that establishing effective coordination between agencies is challenging, possibly due to bureaucratic hurdles or a lack of a unified approach. These issues could result in delayed response times, confusion over responsibilities, and failure to prevent or address criminal activities. As the police official notes,

Effective coordination among different organisations remains a persistent challenge. While the police may receive valuable information, the ability to respond rapidly and in conjunction with other agencies remains a critical hurdle. In addition, establishing effective coordination between various agencies often proves to be an arduous task [Interview-13].

The official also recognises that establishing effective coordination between different agencies is an arduous task, implying that there may be bureaucratic hurdles or a lack of a unified approach to law enforcement. This could lead to delays in response times, confusion over roles and responsibilities, and even a failure to prevent or address criminal activities. This breakdown in the process has the potential to perpetuate harm to the environment and endanger the health of individuals in affected areas. As the DoE official highlights,

Following the amendment of the Environmental Court Act 2005, I was appointed as an investigative officer (IO) and subsequently summoned to appear before the environmental court after a lapse of five years from the initial filing of the case. To my dismay, upon appearing, I was informed that the case had been dismissed. The court contended that a notification had been dispatched; however, we were purportedly remiss in responding [Interview-03].

The interview highlights the fact that the investigating officer was not informed about the dismissal of the case until they appeared in court suggesting a lack of communication between the two entities. Furthermore, the contention that a notification had been dispatched but not responded to imply a breakdown in the process of handling environmental cases. The responsibility of the DoE to respond to notifications from the environmental court is critical in ensuring that cases are effectively resolved. This lack of collaboration could have significant consequences for the environment and the people who rely on it.

Additionally, the lack of coordination and cooperation between the environmental court and the DoE results in significant delays in investigations, and reports are issued long after the fact (Interviewee-8). This issue has a negative impact on the functioning of the environmental court, with some cases remaining unresolved for years. As a judge of an environmental court remarks,

Too often, investigations into environmental issues are plagued by lengthy delays, resulting in reports being issued by the DoE long after the fact. It can take as long as five to ten years for the DoE to release their findings, with countless letters having been sent beforehand. This is a clear example of a lack of coordination and institutional procrastination because of communication breakdowns, leaving many cases deadlocked [Interview-08].

The judge emphasizes that investigations into environmental cases often suffer from long delays that lead to reports being issued by the DoE long after the fact. This is a clear indication of the lack of coordination between the two entities, which results in the environmental court being unable to proceed with cases that are dependent on the DoE's findings. The judge expresses

frustration at the lengthy delays and communication breakdowns that are causing cases to remain unresolved for years. The judge's use of the word "plagued" highlights the severity of the issue and the negative impact it has on the functioning of the environmental court. The judge's statement also indicates that the delays can be extensive, with some cases taking as long as five to ten years before the DoE releases its findings. This kind of delay can make it difficult for the environmental court to operate efficiently and effectively. The judge's use of the phrase "countless letters having been sent beforehand" indicates that the issue is not a one-time occurrence, but rather a recurring problem that has been highlighted repeatedly. This suggests that the environmental court and the DoE have failed to address the issue effectively, and this lack of action has left many cases deadlocked.

Moreover, the efficient and effective functioning of the court system requires consistent and timely cooperation from the DoE, but the lack of responsiveness and cooperation from the DoE due to conflicting priorities can potentially hinder the proper execution of justice, resulting in delays and inconvenience for all parties involved (Interviewee-9). As a judge of an environmental court points out,

The efficient and effective functioning of the court system requires consistent and timely cooperation from the DoE throughout the entire legal process. However, it is regrettable that the court often encounters a lack of responsiveness and cooperation from the DoE due to conflicting priorities [Interview-09].

The judge's statement implies that the lack of coordination and cooperation between the two entities can potentially hinder the proper execution of justice. If the DoE fails to cooperate with the court, it may result in delays in the legal process, which can cause frustration and inconvenience for all parties involved. Additionally, conflicting priorities may suggest that the DoE has other responsibilities or obligations that take precedence over working with the court.

This can indicate a lack of communication between the DoE and the court, which can lead to misunderstandings and misinterpretations of legal requirements.

The lack of communication between the DoE and the environmental court may make it difficult for the environmental court to stay informed about environmental protection initiatives and could result in delays in processing cases and making decisions (Interviewee-7). This lack of communication hinders the proper functioning of the environmental court. As a judge of the environmental court says,

How can progress be made if there is no exchange of views or consultation meetings? Over the past eighteen months, I have not had the opportunity to meet with anyone from the DoE to discuss important matters [Interview-07].

Without regular exchanges of views or consultation meetings between the two parties, it may be difficult for the environmental court to stay informed about the latest developments, initiatives, and regulations related to environmental protection. This could lead to delays in processing cases and making decisions that impact the environment. The absence of meetings between the environmental court and the DoE over the past eighteen months is a cause for concern. It suggests that there may be deeper underlying issues between the two entities that need to be addressed.

There is a recurring issue of poor coordination and cooperation between the local civil administration and the DoE (Interviewee-4). This lack of cooperation hinders the DoE's ability to address environmental crimes during mobile court operations, possibly due to personal connections between the civil administration and those responsible for environmental harm. This implies a conflict of interest that could limit the effectiveness of the DoE's enforcement of environmental regulations. The DoE official highlights,

Oftentimes, when we require the aid of the district civil administration and executive magistrates for mobile court operations, we encounter a lack of interest and cooperation. It is possible that their reluctance stems from their personal connections with those who are responsible for environmental crime and harm [Interview-04].

The official speculates that the lack of cooperation may be due to personal connections between the civil administration and those who are responsible for environmental harm. This implies that there may be a conflict of interest between the civil administration and the DoE's objectives. Furthermore, the use of the term "oftentimes" suggests that this is not an isolated incident but a recurring problem, which has the potential to hinder the DoE's ability to enforce environmental regulations effectively.

5.2.3 Gap between the law ‘in the books’ and the law in practice

The data suggest that there is a gap between the law in the book and the law in practice (Interviewees-3, 4 and 11). In Bangladesh, there is a gap between environmental laws and their implementation (Interview-11). The lack of expertise and experience within the judiciary leads to inconsistencies in the enforcement of environmental regulations, highlighting a gap between environmental law and practices and furthermore, the existing legal framework may not be flexible enough to address complex environmental challenges (Interviewee-4). This gap between environmental laws and their implementation leads to confusion and inconsistency in handling cases (Interviewee-3). This highlights inadequacies in legal provisions and enforcement and questions the capacity of institutions to implement them effectively.

Despite having a comprehensive framework to address environmental crime and harm, there is a lack of effective implementation of policies and laws (Interviewee-11). This highlights the need for a strong enforcement mechanism to ensure compliance and deter violations. The lack of

effective enforcement undermines the credibility of the laws and policies and makes it difficult to hold those responsible for environmental harm accountable. As the police official highlights,

[.....] the true measure of a nation's commitment lies in the effective implementation of its laws and policies. In Bangladesh, while there exists a comprehensive framework to address environmental crime and harm, the gap between policy and enforcement remains a significant challenge [Interview-11].

The police officer's statement highlights the importance of the effective implementation of environmental laws and policies. Laws and policies alone are not enough to ensure environmental protection. There is a need for a strong enforcement mechanism to ensure compliance and deter violations.

The gap between environmental law and its enforcement, caused by a lack of expertise and experience within the judiciary, leads to inconsistencies in the enforcement of environmental regulations. This suggests that the current legal framework may not be sufficient to address complex environmental challenges and may require innovative solutions. As the DoE official remarks,

The prevalence of anomalies within environmental courts is arguably attributed to a dearth of expertise and experience. This, in turn, creates a discernible gap between the existing legal framework and its effective enforcement [Interview-04].

The identified gap between environmental law and practices has emerged as a critical issue, leading to the prevalence of anomalies within environmental courts. The lack of expertise and experience is a problem because environmental laws are often complex and require specialised knowledge to be enforced effectively. Without this knowledge, it is challenging for courts to interpret and apply environmental laws correctly. The official's statement also suggests that the existing legal framework may not be sufficient to address current environmental challenges.

Environmental issues are becoming increasingly complex and require innovative solutions. However, the current legal framework may not provide the necessary flexibility to address these challenges effectively.

Despite the establishment of specialised courts such as special magistrates and environmental courts, the issue of confusion in handling environmental cases persists, indicating a lack of consistency in enforcing environmental laws (Interviewee-3). This persistent gap may be attributed to shortcomings in both the legal provisions and their implementation, leading to questions regarding the effectiveness of existing legal frameworks and the institutions tasked with their implementation. The DoE official points out,

There exist 18-20 special magistrate courts for environmental crime and harm and three environmental courts that operate to ensure environmental compliance. However, a degree of confusion still persists, as cases are frequently dispatched to various courts indiscriminately. This creates an anomaly that may be attributed to significant gaps in both legal provisions and actual practice [Interview-03]

This raises questions about the adequacy of existing legal frameworks to address complex and dynamic environmental issues, as well as the capacity of institutions and stakeholders to implement them in a coherent and effective manner.

5.2.4 Overlapping jurisdictions

The data from the interview show that overlapping law enforcement jurisdiction leads to confusion among environmental law enforcement bodies (Interviewees-11, 12, 14, and 15). The unclear jurisdictional boundaries in enforcing environmental laws cause challenges, including difficulty in assigning responsibility and inconsistent enforcement (Interviewee-15). This leads to confusion and delays in response time, potentially harming the environment and public health (Interviewee-11). Moreover, enforcing environmental laws is challenging due to overlapping

jurisdictions involving numerous laws, regulations, and agencies, further complicated by unclear definitions of environmental crimes and harms (Interviewee-12). Finally, overlapping jurisdiction makes it challenging to coordinate efforts and share information effectively, hindering the identification of potential environmental violations and holding responsible parties accountable (Interviewee-15). The lack of clear jurisdictional boundaries can also lead to inconsistent enforcement, which can create confusion and undermine the credibility of environmental laws. As the police official highlights,

The implementation of environmental laws poses a significant challenge due to the lack of clear jurisdictional boundaries. This is exemplified by instances such as the enforcement of noise pollution laws, where multiple organisations, such as the metropolitan traffic police, DoE, and BRTA, may be involved and their overlapping jurisdictions may lead to implementation difficulties [Interview-15].

During the interview, it was evident that the implementation of environmental laws faces significant challenges due to the lack of clear jurisdictional boundaries. The officer cited noise pollution laws as an example, where multiple organisations with overlapping jurisdiction, including the metropolitan traffic police, DoE and Bangladesh Road Transport Authority (BRTA), may be involved in enforcing these laws, leading to implementation difficulties. One of the major challenges highlighted was the determination of which organisation is responsible for handling a noise pollution complaint. The officer noted that in cases where the noise originates from an area under the jurisdiction of multiple organisations, it becomes challenging to assign responsibility, leading to delays in response time. Such delays can cause further harm to the environment and the health of individuals living in the affected area. Moreover, overlapping jurisdiction can lead to confusion among law enforcement agencies about their roles and responsibilities. This can lead to a lack of coordination and collaboration, ultimately hindering the effective implementation of environmental laws. The officer emphasised the need for better

communication and coordination between organisations responsible for enforcing environmental laws to ensure effective implementation. Different organisations may interpret laws differently, leading to varying enforcement standards. This can create confusion and frustration among the public and can undermine the credibility of environmental laws.

The lack of clear lines of jurisdiction among environmental law enforcement bodies can create response delays to execute environmental protection mandates effectively (Interviewee-11). For example, if two or more agencies have overlapping jurisdiction over a particular environmental issue, such as water pollution, it can be difficult to determine which agency has the responsibility to investigate and take enforcement action. This can result in a lack of accountability, and no action being taken to address the issue. As the police official highlights,

The effective execution of environmental protection mandates is contingent on a coordinated effort between the Department of Environment and other law enforcement bodies, where each needs to have a clearly defined role and jurisdiction. Failure to establish such delineations can create confusion among law enforcement agencies [Interview-11].

During the interview, the officer highlighted the need for a coordinated effort between different government agencies, including the DoE and the police department, to effectively execute environmental protection mandates. The officer explained that when there is a lack of clarity about jurisdiction, it can create confusion, delays in response, and potential hazards to the environment. The overlapping jurisdiction is a significant challenge for environmental law enforcement due to the multitude of environmental laws, regulations, and agencies involved (Interviewee-12). Determining jurisdiction in cases of green crimes can be difficult and can involve multiple agencies. The lack of a clear definition of green crimes and harms can exacerbate this issue and make it challenging to enforce environmental laws. The police official states,

Environmental laws are plentiful, yet the absence of a clear definition for environmental crime and harm within these laws results in ambiguity in determining the jurisdictional boundaries for law enforcement bodies [Interview-12].

The officer highlighted that in cases of environmental crime; multiple agencies might get involved, including local civil administration, the police department, the DoE, Forest Department, Department of Fisheries. Furthermore, the officer pointed out that the lack of a clear definition of environmental crimes and harms can make it challenging to determine whether an action constitutes a violation of environmental laws. This issue can exacerbate the problem of overlapping jurisdiction and create further complications for law enforcement agencies.

It is difficult to determine which agency has primary responsibility for environmental law enforcement, leading to confusion and delays in responding to incidents, especially those that crossed jurisdictional boundaries (Interviewee-14). The lack of clarity in roles and responsibilities also made it challenging to coordinate efforts and share information effectively, hindering the identification of potential environmental violations, thorough investigation of incidents, and holding responsible parties accountable. As the police officer asserts,

Ambiguous laws give rise to a state of disarray, where overlapping jurisdictions and conflicting authorities create uncertainties as to the delineation of roles and responsibilities. This often leads to the duplication or undermining of efforts, causing inefficiencies and inconsistencies [Interview-14].

Based on the data, it can be concluded that overlapping law enforcement jurisdiction creates significant challenges in enforcing environmental laws. These challenges include confusion in assigning responsibility, inconsistent enforcement, delays in response time, potential harm to the environment and public health, and difficulty in coordinating efforts and sharing information effectively.

5.2.5 The dominance of bureaucratic authority over the judiciary and law enforcement agencies

Based on the empirical evidence, it can be inferred that the dominance of bureaucratic authority over the judiciary and law enforcement agencies makes law enforcement institutions in Bangladesh poor and ineffective (Interviewees-7, 8, 11, 12, and 14). The bureaucratic system prioritizes the preservation of power for civil bureaucrats at all levels. This situation highlights the marginalization of law enforcement agencies and their inability to maintain order due to the lack of coordination and collaboration within the bureaucratic system (Interviewee-14). Bureaucratic agencies have the primary responsibility for enforcing laws, which can create confusion and a lack of clarity about roles and responsibilities. Many laws lack provisions granting authority to the police for enforcement; yet they rely on policing assistance to uphold these laws (Interviewee-11). However, the DG of the DoE in Bangladesh is not willing to seek assistance from the Bangladesh Police for investigations due to prioritizing bureaucratic processes and departmental hierarchy over practical considerations, which raises concerns about the efficiency of law enforcement in the country (Interviewee-12). The complex relationship between the bureaucracy and judiciary in enforcing environmental laws indicates that the bureaucracy may have more control than the judiciary (Interviewee 8). It suggests that conflicts of interest between the two groups can weaken the effectiveness of environmental laws, and bureaucratic regulations may not always provide sufficient protection for the environment. Furthermore, the DoE's desire for a judge-like role through mobile court operation and imposing fines may limit impartiality and give them undue influence over decision-making (Interviewee-7). The bureaucratic hierarchy in Bangladesh is characterized by a complex system of authority

and power, where civil bureaucrats at all levels seek to preserve their power and maintain the status quo (Interview-14). As the police official highlights,

The Smoking and Tobacco Products Usage (Control) Act, 2005 (Amendment, 2013) empowers Upazilla Nirbahi Officers (UNO) as authorised officers to enforce tobacco control laws in public places, but the UNO is also responsible for chairing 41 committees, making it challenging for them to carry out their duties effectively. The bureaucracy must be held accountable for this situation, as it tries to preserve power for civil bureaucrats at all levels [Interview-14].

Based on the given information, it appears that there is bureaucratic supremacy over law enforcement agencies, specifically in the case of tobacco control laws. The interview with a police officer highlights that the Upazilla Nirbahi Officer (UNO) is responsible for enforcing tobacco control laws in public places, but the UNO is also responsible for chairing 41 committees, which can hinder their ability to carry out their duties effectively. The Smoking and Tobacco Products Usage (Control) Act, 2005 (Amendment, 2013) empowers UNOs as authorised officers to enforce tobacco control laws in public places. However, the bureaucratic system seems to prioritise preserving power for civil bureaucrats at all levels, which is why the UNO is burdened with multiple responsibilities, making it difficult for them to focus on enforcing tobacco control laws. This situation highlights the bureaucratic supremacy over law enforcement agencies, where civil bureaucrats have more power and authority than law enforcement agencies leading to the marginalisation of law enforcement agencies and undermining their ability to enforce the law and maintain order. It also shows the lack of coordination and collaboration between different agencies, leading to a lack of effective implementation of laws and regulations.

The dominance of bureaucratic authority over law enforcement agencies often leads to contradictory and ineffective enforcement, highlighting the tension between civil bureaucracy

and law enforcement agencies (Interview-11). Bureaucratic agencies may have more expertise and resources to enforce specific laws, but when they hold primary responsibility for enforcing laws, it can create confusion and a lack of clarity about roles and responsibilities. As the police official notes,

Many laws lack provisions granting authority to the police for enforcement, yet the enforcement authorities rely on police assistance to uphold these laws. The Environmental Conservation Act of 2005, for example, grants complete control to the DG of the DoE, who can seek assistance from other law enforcement bodies, including the police, to enforce environmental law. However, in reality, this often results in a contradictory and ineffective system of enforcement [Interview-11].

The officer cites the Environmental Conservation Act of 2005 as an example of this issue. The act grants complete control to the DG of the DoE, who can seek assistance from other law enforcement bodies, including the police, to enforce environmental law. However, in practice, this often leads to contradictory and ineffective enforcement. This situation highlights the tension between bureaucratic and law enforcement agencies. On the one hand, bureaucratic agencies may have more expertise and resources to enforce specific laws. On the other hand, law enforcement agencies like the police have a more generalised mandate to uphold the law and maintain public order.

The DG of the DoE shows reluctance to seek help from the Bangladesh Police for investigations, despite their past successes and this reluctance could be a preference for bureaucratic processes and protocols over practical considerations like effective law enforcement (Interviewee-12). This situation raises concerns about the effectiveness of law enforcement in Bangladesh. The DG's reluctance may stem from a desire to uphold departmental hierarchy and adhere to established procedures rather than ensure successful investigations. As the police officer highlights,

Despite the fact that the Bangladesh Police has a rich history of conducting successful investigations, operations, and intelligence gathering, the DG of the DoE seems unwilling to seek their assistance for investigations [Interview-12].

Despite the Bangladesh Police's impressive history of successful investigations, operations, and intelligence gathering, the DG of the DoE appears reluctant to seek their assistance for investigations. The interview suggests that bureaucratic processes and protocols may be taking precedence over practical considerations, such as the need for effective law enforcement. It is possible that the DG of the DoE is more concerned with adhering to established procedures and maintaining departmental hierarchy rather than ensuring the successful resolution of investigations. The interview raises concerns about the effectiveness of law enforcement in Bangladesh, as it suggests that bureaucratic processes and protocols may be hindering practical considerations such as the need for efficient law enforcement.

The bureaucracy may have more power than the judiciary, which limits the judiciary's ability to interpret and influence environmental laws which are instead created by civil bureaucrats to manage environmental activities (Interview-8). This hierarchy can lead to conflicts of interest between the bureaucracy and the judiciary, which may weaken the effectiveness of environmental laws and may not always provide adequate protection for the environment. As the judge asserts,

Environmental laws, in fact, are bureaucratic laws created to provide a framework for civil bureaucrats to regulate environmental activities. However, the effectiveness of these laws in protecting the environment and minimising environmental crimes is subject to debate [Interview-08].

The judge's statement provides a nuanced analysis of the relationship between the bureaucracy and the judiciary in enforcing environmental laws. The judge claims that there may be bureaucratic dominance over the judiciary, which limits the judiciary's ability to interpret and

shape environmental laws. Instead, these laws are created by civil bureaucrats to regulate environmental activities. This hierarchical relationship may result in conflicts of interest between the bureaucracy and the judiciary, which may hinder the effectiveness of environmental laws. As the judge of an environmental court notes,

The DoE prefers a role preferring a role as a judge, as opposed to that of an investigator, which affords one greater authoritative agency. This choice provides the ability to make influential decisions rather than solely engaging in investigations [Interview-07].

The judge expresses concern that the DoE is prioritising its role as judge, which potentially grants them greater agency and potency over the decision-making process. This preference may come at the expense of impartiality and could limit the judiciary's ability to make informed and just decisions. The judge's use of the term "authoritative agency" indicates that they view the DoE's preference for a judge-like role as an attempt to exert greater control over the judicial process. This approach could potentially limit the scope of the judiciary's role, as the DoE may be more concerned with making influential decisions than investigating environmental cases.

5.2.6 Limited access to environmental court

The data support the finding that limited access to judicial remedies is a significant challenge for environmental law enforcement in Bangladesh (Interviewees-7, 8, 10, 27, and 34). This issue, due to bureaucratic processes and the need for DoE approval, coupled with the burden of proof on the plaintiff, which can be exacerbated by limited legal representation and unequal access to environmental justice, poses significant challenges for individuals seeking legal remedies for environmental harms (Interviewee-8 and 10). Moreover, the lack of dissemination of environmental laws and limited access to legal resources, such as environmental courts and police stations, creates a hurdle for the public to seek legal redress for environmental violations

(Interviewee-7). Furthermore, people feel discouraged from entering the environmental court system due to ‘the lengthy procedure, starting from the environmental court (which is a lower court) to the appellate division (High Court) - a long way to go’ (Interviewee-34).

Access to environmental justice is unequal, with corporations and wealthy individuals having greater access to legal representation and more easily navigating the legal system, resulting in a power asymmetry that can restrict the capacity of marginalized communities to pursue environmental justice. As the judge points out,

Access to environmental justice is often hindered by bureaucratic processes, as cases must go through various procedures and receive approval from the DoE before reaching the environmental court. However, if an individual is dissatisfied with the DoE's judgement, they may seek recourse through the environmental court [Interview-08].

The judge noted that even when cases do reach the environmental court, the process can still be challenging, as the burden of proof falls on the plaintiff to prove that the harm caused to the environment was significant enough to warrant legal action. This can be a difficult task, especially for individuals without legal representation. Furthermore, the judge acknowledged that access to environmental justice is not equal, as individuals with greater resources, such as corporations or wealthy individuals, have greater access to legal representation and can navigate the legal system more easily.

Furthermore, the efficacy of environmental laws is contingent upon their alignment with common knowledge, implying that if people are not aware of environmental laws, they cannot use them to protect their environmental rights. The lack of dissemination of laws pertaining to the environment and the lack of access to legal resources such as police stations or environmental courts are identified as key reasons behind this limited access (Interview-8). As a judge of the environmental court identifies,

The efficacy of laws is contingent upon their alignment with common knowledge. However, laws pertaining to the environment, such as the Environmental Court Act, may not be widely disseminated among the general populace, thus limiting their effectiveness. The lack of access to legal resources, such as police stations or environmental courts, poses a challenge to public understanding of the legal avenues for addressing environmental issues [Interview-08].

Moreover, the limited availability of legal resources, including police stations and environmental courts, can make it difficult for individuals to access the legal system and seek redress for environmental harm. The judge's comments also suggest that there may be a lack of accessibility to the environmental court system, which further restricts access to justice. This could be due to a lack of resources or infrastructure to support environmental courts, or it could be due to the complexity of the legal process, which can be daunting for individuals without legal training. As a judge points out,

Upon taking office, it came to my attention that a substantial backlog of approximately 72 cases had accrued at my court, which have remained unresolved for nearly 17 years since the establishment of the environmental court. There appears to exist a prevalent perception that judges presiding over environmental courts remain idle and without professional responsibilities [Interview-7].

This highlights a potential problem with the justice system's utilisation of environmental courts and suggests that the system is not being utilised as effectively as it could be. Moreover, the judge's concern regarding the perception of environmental court judges is particularly noteworthy. The notion that judges presiding over environmental courts are idle and have no professional responsibilities reflects a lack of understanding of the complexity and importance of environmental cases. Environmental cases can be extremely challenging, and judges need to have expertise in areas such as environmental law, scientific knowledge, and social policy. The perception of inactivity may also discourage potential litigants from bringing their cases to court, further exacerbating the scarcity of cases.

The limited access of the public to environmental justice has resulted in a low number of cases being filed in environmental court (Interviewee-10). One of the primary factors contributing to the low number of environmental cases being filed is the lack of access to justice, according to a public prosecutor of an environmental court. In addition, this respondent highlights the shortage of lawyers with expertise in environmental law, which makes it difficult for individuals or communities to find legal representation. With regard to the limited access, the prosecutor notes,

The ordinary courts in Bangladesh are burdened with an overwhelming number of cases, leaving judges with an excessive workload. In contrast, the environmental courts suffer from a shortage of cases, despite the escalating environmental issues in Bangladesh. This discrepancy is largely due to the common people's lack of access to the courts, which remains a significant obstacle in addressing environmental issues [Interview-10].

The interview highlighted the fact that despite the escalating environmental issues in the country, there are not enough cases being filed in the environmental courts. One of the primary reasons for the lack of cases in environmental courts is the common people's lack of access to the courts. The prosecutor indicated that people are not aware of their rights when it comes to environmental issues, and as a result, they do not approach the courts. This highlights the need for greater awareness campaigns to educate people about their environmental rights and the role of the courts in addressing environmental issues. Additionally, the prosecutor noted that environmental courts often lack the necessary resources, including staff and facilities, to effectively address environmental issues. This can result in delays in processing cases and a lack of confidence in the court system, further discouraging people from approaching the environmental courts.

5.3 Political Corruption

Within the framework of plural policing, regulatory bodies like the Department of Environment (DoE) play a vital role in investigating environmental crimes and enforcing environmental regulations. Plural policing acknowledges the involvement of diverse stakeholders beyond traditional law enforcement agencies in maintaining social order and security (Loader, 2000; Crawford, 2008). However, the efficacy of regulatory investigations is often hindered in contexts where political corruption prevails. Bangladesh serves as a pertinent example, where corruption permeates the political and administrative spheres, undermining governance and exacerbating inequality (Haque and Mohammad, 2013; Islam and Rahman, 2020).

In such environment, regulatory investigations are constrained by political interference, lack of accountability, and insufficient enforcement (Islam and Rahman, 2020). The politicization of bureaucracies and the symbiotic relationship between politicians and bureaucrats further exacerbate administrative corruption, impeding the ability of regulatory bodies to conduct impartial and effective investigations (Hasan, 2007; Islam and Rahman, 2020). Moreover, informal norms that prioritize personal favors and bribes over professional standards undermine the capacity of regulatory bodies to address environmental crimes comprehensively (Rose and Peiffer, 2019).

Therefore, while plural policing and regulatory bodies are essential components of law enforcement efforts, they may not suffice in contexts characterized by rampant political corruption. The establishment of a specialised police unit dedicated to tackling corruption and environmental crimes becomes imperative in such circumstances. Unlike regulatory bodies, specialised police units can operate with greater independence and possess the necessary

criminal investigative skills, resources, and training to combat corruption effectively (Holmes, 2015). Such units can help mitigate the influence of political corruption, ensuring that investigations are conducted impartially and leading to more effective outcomes.

The need for a specialised police unit is further underscored by the global nature of environmental crimes, particularly in regions like the Asia Pacific, where weak governance and corruption facilitate fraudulent activities (Walters and Martin, 2014; Elliott, 2007). Environmental crime not only contributes to environmental degradation but also undermines governance, security, and the legitimacy of legal institutions (Elliott, 2009). In such contexts, criminal networks often exploit corrupt officials and weak government institutions, necessitating a robust and independent approach to investigations (Elliott, 2009). While plural policing and regulatory bodies are integral to addressing environmental crimes, their effectiveness is limited in environments plagued by political corruption. The establishment of a specialised police unit can complement existing efforts, providing a more robust and independent mechanism for investigating corruption and environmental crimes, ultimately contributing to better governance and social justice.

The data raises the important issue of political corruption which prevails in Bangladesh (Interviewees-2, 3,4,7,14,19 and 27). The vested interests of politicians in factories and industries that contribute to environmental degradation can have a significant impact on law enforcement agencies, potentially compromising their efforts (Interviewees- 02 and 07). Moreover, political corruption enables powerful entities, such as business elites and local political leaders, to commit environmental crimes in the pursuit of profit-driven projects like resorts, amusement parks, and hotels (Interviewee-19). As a result, environmental law enforcement breaks down, and those with resources and connections receive preferential

treatment, while the environment and local communities suffer ecological consequences (Interviewees-07 and 19). Furthermore, powerful individuals often use their influence to avoid legal consequences while the less privileged face harsh consequences (Interviewee-14). Sometimes, political influence, leading to ‘intimidation’ of the field-level officials of DoE works as a challenge for environmental law enforcement agencies (Interviewee-04). Moreover, the powerful individuals exert pressure on the DoE, compelling it to comply with their requests which suggests that these elites significantly impact how environmental laws are enforced, potentially resulting in decisions that prioritize political and economic interests over environmental law enforcement (Interviewee-04 and 02). Political leaders and business elites who have vested interests in industries that contribute to environmental degradation may use their ‘power and position’ to influence law enforcement agencies, resulting in a failure to enforce environmental laws (Interviewee-07). As the police officer notices,

Environmental degradation poses a serious concern for both the police and local civil administration and other law enforcement bodies as they work together to combat this issue. However, the unfortunate reality is that political influences can hinder the efforts of law enforcement agencies, leaving them feeling helpless in the face of environmental misconduct [Interview-07].

The officer's narrative underscores the significance of the issue of environmental degradation, which is a concern for both law enforcement agencies and local civil administrations. The officer seems to have first-hand experience with this issue, as evidenced by the insights shared in the interview. He talks about how environmental misconduct often goes unchecked due to political interference, reflecting the negative impact of political corruption on environmental law enforcement. He highlights how politicians can influence law enforcement agencies and compromise their efforts to enforce environmental laws. The officer's testimony implies that

political leaders may have vested interests in certain industries or businesses, leading them to turn a blind eye to environmental violations.

Political corruption in environmental law enforcement is a significant issue that leads to unequal treatment of individuals based on their social status and power. This issue is prevalent, with those in the elite class being able to evade punishment for their illegal activities, while those without such influence are left to face harsh consequences (Interviewee-14). As a police officer highlights,

If a forest fire breaks out in the Sundarbans, it is possible that smoke from the activities of day labourers working in the forest [...] members of the elite class who are involved in projects within the Sundarbans' periphery and engaged in wildlife trafficking and land grabbing often escape scrutiny and punishment. These individuals are so powerful that law enforcement agencies are unable to hold them accountable [Interview-14].

The officer highlights the issue of double standards in holding individuals accountable for illegal activities within the Sundarbans. The blame is unfairly shifted onto day labourers working in the forest for forest fires, whereas members of the elite class involved in wildlife trafficking and land grabbing remain unscathed, and law enforcement agencies seem to be helpless in taking action against them. It is a classic case of how the elite and well-connected can use their influence to get away with crimes, while the underprivileged and powerless are left to bear the brunt of harsh punishment.

Commercial and profit-driven projects often cause environmental damage, which is facilitated by collusion between business elites and local political leaders. This collusion leads to political corruption and patronage, as those with significant resources and influence exploit the environment for personal gain (Interviewee-19). As a result, the enforcement of environmental laws and regulations breaks down. The police official mentions,

Environmental crimes are not solely committed by individuals but are often enabled by the collusion of powerful entities. The intersection of local political leaders and business elites in projects like resorts, amusement parks, and hotels can lead to environmental misconduct. Political influence and corruption fuel this problem, allowing those with the most power and resources to exploit the environment for their own gain [Interview-19].

The officer's analysis suggests that environmental crimes are not just isolated incidents of individual misconduct but are facilitated and enabled by those with significant political power, resources, and influence. In particular, the officer notes how political corruption and patronage fuel this problem, allowing those with the most resources and connections to exploit the environment for their own benefit. Such collusion leads to a breakdown in the enforcement of environmental laws and regulations, as powerful interests often receive preferential treatment, while the environment and local communities suffer the consequences.

Environmental law enforcement is plagued by political corruption, as individuals with political connections can bend laws to suit their interests (Interview-04). Despite this, the DoE official believes that their role is to protect the vulnerable, even if it means opposing powerful interests.

As the DoE official says,

Stone quarries not only endanger lives and the environment but also silence the voices of the vulnerable. When a school in Gowainghat-an upazila of Sylhet District raised their concerns about the detrimental effects of the quarries, I took action despite facing intimidation from those with political influence [Interview-04].

The use of the phrase "silence the voices of the vulnerable" suggests that the official views the affected community as marginalized and powerless against those with political connections. This highlights the unequal power dynamic that often exists in environmental law enforcement cases. It also suggests that the DoE official sees their role as a protector of the vulnerable, even if it means going against powerful interests. The use of the phrase "intimidation from those with

political influence" implies that there are powerful individuals who use their political connections to protect their interests, even if it means disregarding environmental concerns. This highlights the political corruption that exists within environmental law enforcement, where individuals with political connections are able to bend or break laws to suit their interests.

It is evident that political and business elites exert pressure on environmental law enforcement agencies, which can lead to decisions that prioritise their interests over environmental protection. But the public servants need to prioritise the interests of the people over special interest groups, thus revealing the potential conflict of interest that can arise in such situations (Interview-3). As the DoE official highlights,

Sometimes political or business elites exert pressure on the DoE, leaving us with little choice but to comply with their requests. However, as public servants, we must ensure that our actions are always in the best interest of the people, rather than providing favours to special interests [Interview-03].

The official's emphasis on the need for public servants to prioritize the interests of the people over providing favours to special interests highlights the conflict of interest that can exist between the public and special interest groups. It suggests that some public servants may be swayed by the influence of these groups, leading to decisions that benefit them rather than the public. This can result in environmental harm, decreased public health, and a lack of transparency and accountability in the enforcement of environmental laws.

Furthermore, the issue of political corruption in environmental law enforcement involves government officials colluding with powerful entities to provide them with favours at the expense of environmental protection (Interviewee-2). This creates a lack of impartiality in the enforcement of environmental laws, which may exacerbate environmental degradation.

Additionally, a culture of impunity within the DoE may compel officials to provide favours to business elites, undermining public trust in the government. As the official points out,

Sometimes political or business elites try to pursue or create pressure on the DoE; in that case, we have nothing to do. Our high officials then request us to do a favour for business elites. Then we have nothing to do without providing a favour for them [Interview-02].

The official states that political or business elites may try to exert pressure on the DoE and that high officials may then request that favours be provided to these elites. This suggests a level of collusion between government officials and powerful individuals or corporations, which can have serious consequences for the environment. The statement also implies that there may be a lack of independence and impartiality in the enforcement of environmental laws. Instead of prioritising the protection of the environment, officials may be swayed by the interests of these powerful elites. This is a serious concern, as it means that environmental laws may not be enforced fairly or effectively, which could lead to further environmental degradation. Furthermore, the statement suggests that there may be a culture of impunity within the DoE, where officials feel that they have no choice but to provide favours to business elites. This can create a corrosive culture where unethical behaviour is normalised, and officials feel that they can act with impunity. This can erode public trust in the DoE and the government as a whole.

5.4 Lack of political will

The findings of the study highlight that the lack of political will of the government is one of the biggest challenges for environmental law enforcement bodies in implementing environmental law in Bangladesh (Interviewees- 3 and 4). Environmental law enforcement bodies face challenges in investigating and prosecuting environmental harm caused by powerful corporations because they have a strong tie with the government (Interviewee-3). Besides, there is a

concerning lack of responsibility and accountability on the part of corporations and the government in protecting the environment (Interviewee-4).

The lack of political will and commitment within the government to enforce environmental laws works as one of the challenges for law enforcement bodies. There is a nexus between corporate bodies and the government that law enforcement bodies cannot penetrate (Interviewee-3). As the DoE official remarks,

When I was tasked with investigating a complaint against the renowned corporate body which was a tri-party agreement, I gathered evidence of environmental damage caused by the project. Despite sending a charge sheet to the court and appearing as an investigation officer (IO) to provide an oral statement, the case was ultimately dismissed [Interview-3].

The official in question investigated a complaint against a renowned corporate body. Despite gathering evidence of environmental damage caused by the project, the case was ultimately dismissed by the court. This case highlights a number of key issues. Firstly, it underscores the significant power and influence wielded by large corporations, particularly when it comes to dealing with regulatory bodies and the legal system. This can make it extremely difficult for government officials to enforce environmental regulations and hold corporations accountable for any damage they may cause. Secondly, the case raises important questions about the role of the government in regulating corporate activities and protecting the environment. The fact that a tri-party agreement was in place suggests that the government was aware of the project and had given its approval. This raises questions about the effectiveness of government regulations and whether they are truly able to prevent environmental damage caused by powerful corporate interests. Thirdly, the case highlights the need for stronger and more effective regulations to protect the environment from corporate activities that may cause damage. This may involve more rigorous environmental impact assessments prior to approving projects, as well as stronger

penalties for companies that are found to be in violation of environmental regulations. The interview with the DoE Official underscores the significant challenges involved in regulating corporate activities and protecting the environment from ecological damage.

In Bangladesh, the power dynamics between the government and corporations frequently prioritize economic development over environmental concerns, as evidenced by the government's tendency to prioritize mega-project implementation without adequate environmental compliance. This trend suggests an absence of the government's political will and commitment to sustainable environmental practices (Interviewee-3). As the DoE official rightly points out,

Both mega projects- Dhaka Metro Mass Rapid Transit (MRT) and Dhaka Elevated Express Way, damage Dhaka city's environment- threaten public health.[....]. Such mega projects of the government do not follow environmental compliance [Interview-3].

The official highlights how the projects have contributed to traffic congestion, air and noise pollution, and other negative environmental impacts. This situation poses a severe risk to public health and the overall sustainability of the city. The interviewee also brings to attention how the projects are a manifestation of the power dynamics between the government and corporations, where economic development often supersedes environmental concerns. The official's role in environmental compliance is highlighted, and the filing of a case against these projects is discussed. Moreover, the official notes that their actions to protect the environment have resulted in criticism and backlash from those who see the projects as a necessary investment for the city's growth.

In the context of sustainable development, the absence of political will and commitment to environmental compliance in Bangladesh represents a crucial obstacle. The detrimental effects of

this phenomenon become particularly pronounced in the context of large-scale infrastructure projects, where a lack of environmental regulation enforcement can lead to irreparable harm to the environment (Interviewee-4). Without proper measures in place to ensure environmental compliance, the potential benefits of such projects may be overshadowed by their significant negative impacts on the environment. As a DoE official indicates,

When I tried to intervene and prevent the cutting of hills for soil during the 4-Lane Dhaka-Chittagong Highway project, [.....]. Despite my efforts to protect the environment, the government megaproject was given priority over the well-being of the community [Interview-04].

This highlights a lack of accountability and responsibility on the part of the government and corporations when it comes to protecting the environment. The official's experience also highlights the prioritization of government megaprojects over the well-being of the community and the environment often resulting in irreversible damage to the ecosystem. Furthermore, the official's experience demonstrates the importance of having proper mechanisms in place to protect the environment and hold corporations and governments accountable for their actions. The lack of support from the local police station and civil administration indicates a lack of enforcement and regulation, which allows corporations to act with impunity and disregard the consequences of their actions on the environment and communities.

5.5 Lack of public awareness

The findings underscore that law enforcement entities confront a formidable obstacle in the form of insufficient public knowledge concerning environmental crimes and pollution. Nearly all of the law enforcement participants unequivocally acknowledged the presence of this challenge (Interviewees-2, 3, 4, 5,6,7,8, 11, 12, 13, 15, 17, 18, 19, 21,22,23,24 and 25).Environmental crimes persist due to a significant gap in public knowledge and inadequate attention towards

environmental conservation, leading individuals to engage in harmful activities with or without awareness of their actions (Interviewees-13, 15, 17, 23 and 25). Furthermore, there is evidence to suggest that individuals are disregarding their environmental obligations and exhibiting a lack of awareness regarding the detrimental impact their actions have on the environment (Interviewees- 3, 5, 7, 11 and 24). Most significantly, individuals who prioritize their self-interest and financial gain over environmental protection and conservation pose a formidable challenge to the enforcement of environmental laws (Interviewees- 2, 4, 6, 8, 12, 18, 19, 21, and 22).

The persistence of environmental crimes suggests that people may not fully understand the importance of environmental conservation, or the potential harm caused by their actions (Interview-13, 15, 17, 23 and 25). The existence of a knowledge gap among the public is a concern because it implies that people may not be taking environmental conservation seriously.

As a police official points out,

It is disheartening to see that people continue to commit environmental crimes, both knowingly and unknowingly. It indicates that the lack of awareness among people is still of the highest-level [Interview-13].

The officer's statement highlights the need for more education and awareness-raising initiatives on environmental issues. It is disheartening to see that despite numerous campaigns and efforts to raise awareness, many people remain uninformed about the importance of protecting the environment. The interview shows that more needs to be done to educate the public about environmental conservation and its impact on their lives. Furthermore, the interview also highlights the need for more stringent measures to deter individuals from committing environmental crimes. The officer's disappointment at the lack of awareness indicates that many people may not realise the seriousness of these crimes. Thus, it is necessary to create stricter

penalties and enforcement mechanisms to deter individuals from engaging in activities that harm the environment.

Public awareness and responsibility regarding environmental issues have been identified as a significant concern by law enforcement bodies (Interviewees- 3, 5,7,11 and 24). Individuals often deny their responsibility to keep the environment clean and healthy. As a DoE official notes,

How civilized can we truly claim to be, when we shirk our responsibility to keep our environment clean and healthy? By believing that waste disposal is solely the duty of city corporations, we turn a blind eye to our own role in polluting the environment through reckless waste dumping [Interview-05].

The official's statement implies that people are neglecting their environmental responsibilities and turning a blind eye to their role in polluting the environment. This attitude is indicative of a lack of understanding and awareness of the consequences of their actions on the environment. Moreover, the official's statement raises an important question about the level of civilization in a society that fails to care for the environment that sustains it. The use of the term "civilized" suggests that responsible and sustainable relationships with the environment are a hallmark of an advanced and sophisticated society. In addition, the interview highlights the pressing need for greater public education and awareness about environmental issues. It is crucial that individuals understand the impact of their actions on the environment and society at large and take steps to minimize their environmental footprint. This requires a deep understanding of the interconnectedness of human activities and the natural world, as well as the adoption of sustainable practices and technologies. The language used in the statement, particularly the phrase "turn a blind eye," conveys a sense of frustration and disappointment towards the lack of public awareness about the issue.

Insufficient public knowledge about environmental concerns obstructs efforts to protect the environment and comply with laws. Individuals further challenge the enforcement of environmental laws, as some prioritize their personal gain over the environment and the nation's interests (Interviewees- 2, 4, 6, 8, 12, 19, 21 and 22).As a DoE official rightly points out,

If human beings are unethical, in that case, it is not easy to enforce environmental law. Environmental compliance is not possible. Unethical people always see their own interest and profit, not the country's overall interest -not even thinking about the environment they live in [Interview-04].

This lack of awareness not only impedes the efforts of those trying to protect the environment, but it can also lead to non-compliance with environmental laws. This statement highlights the need to educate and create awareness among the public about the importance of protecting the environment. By doing so, the public can better understand the impact of their actions and make more informed decisions that prioritize the environment. Furthermore, it underscores the need for a more comprehensive approach to environmental protection that considers ethical considerations and aligns with sustainable development goals. The statement suggests that unethical practices have a direct impact on the environment, making environmental compliance difficult.

The interviews revealed that insufficient public knowledge concerning environmental crimes and pollution is a significant challenge faced by law enforcement entities. Environmental crimes persist due to a significant gap in public knowledge and inadequate attention paid to environmental conservation, leading individuals to engage in harmful activities with or without awareness of their actions. The findings suggest that individuals are disregarding their environmental obligations and exhibiting a lack of awareness regarding the detrimental impact their actions have on the environment. Moreover, individuals who prioritize their self-interest

and financial gain over environmental protection and conservation pose a formidable challenge to the enforcement of environmental laws. Therefore, it is essential to create awareness and educate the public on environmental issues to prevent environmental crimes and promote environmental conservation.

5.6 Conclusion

In conclusion, the chapter provides a critical analysis of the challenges faced by law enforcement bodies in addressing environmental crime in Bangladesh, emerging from the interviews with 28 (twenty-eight) stakeholders. The chapter identifies poor institutional frameworks, political corruption, lack of political will, and lack of public awareness as the main obstacles to effective environmental law enforcement in the country. These findings suggest that addressing environmental crime requires a multi-sectoral approach that involves a range of stakeholders, including law enforcement bodies, policymakers, civil society organisations, and the general public. It underscores the need for collaborative institutional mechanisms, transparent and accountable governance systems, political commitment and prioritization, and public education and engagement to address environmental crime and promote environmental sustainability in Bangladesh (which I discuss in the next chapter).

Chapter-Six: Way Forward

6.1 Introduction

This chapter explores potential solutions to the challenges faced by law enforcement agencies and environmental bodies dealing with environmental crime in Bangladesh as identified in the previous chapter. It addresses the third research question of this study: What measures can be taken to address the challenges faced by law enforcement agencies and environmental organisations in policing green crime in Bangladesh and promoting a sustainable and eco-friendly society? To answer this question, I analysed interviews conducted with 36 stakeholders including the Bangladesh Police, the DoE, the WCCU, the judges and public prosecutors of the environmental court, environmental journalists, development practitioners, researchers, and NGO/voluntary organisations (see the appendix).

This chapter aims to provide a comprehensive perspective on enhancing institutional frameworks through various subthemes that have been identified from the data and research conducted on the subject. The first subtheme is resource allocation, which highlights the need for an efficient allocation of resources to ensure the smooth functioning of institutions. This subtheme underscores the importance of prioritizing the allocation of resources to those institutions that are critical to the overall development of the country as suggested by the data. The second subtheme is law amendment, which emphasizes the importance of regularly reviewing and updating laws to make them more effective and relevant. This subtheme stresses the need to ensure that the laws are in line with the changing needs of society and that they are enforced effectively to promote the rule of law. The third subtheme is the effective judiciary, which emphasizes the need for a well-functioning and independent judiciary that can provide timely justice to citizens.

This subtheme highlights the importance of ensuring that the judiciary is adequately resourced and staffed and that judges are appointed based on merit and qualifications. The fourth subtheme is a specialised police unit, which emphasizes the importance of having a trained and specialised police force to tackle various types of crimes effectively. This subtheme underscores the need to ensure that the police force is adequately trained and equipped to deal with different types of crimes, including cybercrime, terrorism, and organized crime.

The second theme of this chapter is empowering public awareness, which focuses on the influences of mainstream media and social media in shaping public opinions and behaviours. The subtheme of mainstream media emphasizes the need for responsible reporting, which highlights the importance of ensuring that the media reports accurately and fairly on issues affecting society. The subtheme of social media emphasizes the need for effective use of social media for awareness campaigns, which highlights the potential of social media to reach a wider audience and promote positive social change. The third theme of this chapter is political commitment, which emphasizes the importance of political leaders' commitment to implementing policies and reforms that strengthen institutions and empower citizens. This theme highlights the critical role that political leaders play in shaping the institutional landscape and promoting good governance and accountability. The final theme of this chapter is political corruption, which highlights the negative impact of corruption on institutions and society as a whole. It emphasizes the need for measures to prevent and tackle corruption effectively and underscores the importance of promoting transparency, accountability, and integrity in all aspects of governance and public service delivery.

The themes and subthemes discussed in this chapter highlight the critical role that institutions play in promoting good governance, accountability, and transparency and the importance of strengthening these institutions to ensure sustainable development and social progress.

6. 2. Strengthening institutional frameworks

Strengthening institutional frameworks is a critical component of effective environmental management in Bangladesh. A key aspect of this is allocating sufficient resources to the Department of Environment, including adequate manpower, logistics, capacity building, and the use of advanced technology databases. Such resources are essential for the DoE to fulfill its mandates effectively, and a lack of resources can lead to negative consequences such as delays in processing environmental clearance certificates and potential environmental damage. Therefore, the government should prioritize investing in advanced technology, skilled personnel, and efficient logistics for effective environmental monitoring and protection. In addition to providing sufficient resources, amendments to environmental law can also improve the institutional framework for environmental management in Bangladesh. Specifically, environmental law amendments can clarify roles, increase regulatory power, promote public participation, and encourage international cooperation. The legislation should also have strict penalties, including imprisonment, for effective enforcement, and should allow access to an environmental court. The "polluter pays" principle has proven ineffective, and more comprehensive measures are needed to address environmental crimes. Another critical aspect of institutional framework strengthening is improving access to justice for marginalized communities in Bangladesh. Limited resources and time-consuming legal processes have created environmental justice challenges for these communities. To overcome these, a system modelled after India's National Green Tribunal should be established, with access to legal aid and education, more courts, and the adoption of

technology. Collaboration with local stakeholders is also crucial for effective environmental management. Furthermore, Bangladesh needs a dedicated Environmental Police Unit to effectively protect the environment. Collaboration with other relevant departments and direct engagement with the community are highlighted as important factors in ensuring the effectiveness of the unit. The proposed Environmental Police Unit would work collaboratively with the Department of Environment, as the two departments would have complementary roles. However, to make a real difference, there needs to be strict enforcement of existing environmental laws by strengthening the legal framework and improving their implementation. The government must adopt a zero-tolerance approach towards all forms of environmental crime, and the environmental court should be given greater power and jurisdiction.

6.2.1 Resource allocation

The data shows that the effective allocation of resources is crucial for successful environmental law enforcement in Bangladesh. To ensure this, the allocation of resources needs to cover manpower, logistics, capacity building, and the use of advanced technology databases (Interview-4, 5, 6, 10, 20, 21 and 34). The DoE and other environmental law enforcement agencies should prioritize providing additional logistics to ensure effective environmental law enforcement. Adequate allocation of resources is essential for the DoE to fulfill its mandates effectively, and failure to provide sufficient resources can lead to negative consequences, such as delays in processing environmental clearance certificates and EIA, resulting in potential environmental damage or harm (Interview-34). The DoE lacks its own uniformed forces and dedicated executive magistrates. Instead, it relies on the assistance of the Bangladesh Police Force, which may not be sufficient for the department's specific needs. To enhance the department's efficiency in monitoring and enforcing environmental laws and regulations, the

DoE needs its own trained forces and dedicated magistrates (Interview-04). At the district level, establishing a team of reserve police officers in each district office and implementing a 24/7 mobile court would enable more efficient enforcement of environmental laws and response to emergencies occurring outside regular business hours (Interview-10).

To effectively enforce environmental regulations and protect the environment, the DoE requires adequate resources, staffing, and training (Interview-05). The government needs to prioritize investing in these areas to ensure the proper functioning of environmental departments and safeguard the environment. Advanced technology, skilled personnel, and efficient logistics are crucial for effective environmental monitoring and protection. The DoE should prioritize online monitoring and inspecting bypass points, leverage expertise to combat air pollution, invest in advanced technology and develop effective monitoring and enforcement systems (Interview-06). In addition, the current situation demands the creation of a sophisticated and comprehensive database on wildlife crime to safeguard wildlife and uphold environmental laws. The Department of Forest/Wildlife Crime Control Unit should prioritize developing a cutting-edge database that utilizes advanced technology such as AI, machine learning, and data analytics to acquire a more profound insight into the scale and characteristics of wildlife crime (Interview-21). This will enable better enforcement of environmental laws and protect vulnerable wildlife species.

The Chief Executive of the Bangladesh Environmental Lawyer's Association (BELA) advocates for an increase in resources for the DoE to ensure that it can effectively carry out its mandated duties, particularly in terms of personnel and logistics. The Chief Executive emphasizes the importance of environmental law enforcement and the challenges faced by the department in fulfilling its mandate without adequate resources. Failure to provide sufficient resources could

result in delays in processing environmental clearance certificates and EIAs, which could have negative long-term environmental consequences. As the Chief Executive describes,

Effective environmental law enforcement requires adequate resources, both in terms of personnel and logistics. Without these, the DoE is placed in a difficult position and is unable to provide its regular work, such as environmental clearance certificates and Environmental Impact Assessments (EIA), within the mandated timeframes [Interview-34].

By emphasising the need for personnel and logistics, the Chief Executive of BELA implies that the current staffing levels and resources available to the department are insufficient to meet the demands of its workload. The Chief Executive's statement also suggests that failure to adequately resource the DoE may result in negative consequences, such as delays in processing environmental clearance certificates and EIA. This could lead to potential environmental damage or harm, which could have significant long-term consequences. Likewise, an official of the DoE, highlights that the DoE lacks uniformed forces and dedicated executive magistrates, limiting its effectiveness in monitoring and enforcing environmental laws. Having its own trained forces and magistrates would enhance efficiency and decision-making processes regarding environmental issues. As the official recommends,

The DoE relies on the assistance of the Bangladesh Police Force, as it lacks its own uniformed forces like the Department of Narcotics Control. Additionally, its executive magistrates work on deputation from the civil administration, and it is crucial for the DoE to have its own dedicated executive magistrate and equipped uniformed forces in order to enhance its effectiveness and efficiency [Interview-4].

The official also points out the importance of having dedicated executive magistrates for the DoE. This would ensure that the magistrates are specifically trained and knowledgeable about environmental issues, which could help improve the efficiency of decision-making processes related to environmental issues. In the same vein, a public prosecutor of an environmental court suggests allocating resources to the DoE by creating a dedicated team of reserve police officers

in each district office and a mobile court operating 24/7 to enhance its ability to protect the environment and enforce environmental laws effectively at the district levels. The public prosecutor notes,

To improve the DoE's ability to protect the environment, it would be helpful to have a dedicated team of 10 to 15 reserve police officers stationed at each district office. Additionally, if the DoE had its own executive magistrate, it could conduct mobile courts 24/7. This would increase the DoE's effectiveness in safeguarding our environment [Interview-10].

The suggestion of having a team of reserve police officers stationed in each district office is a good one, as it provides additional personnel to focus on the enforcement of environmental laws, which can be complex and require specialised knowledge. The prosecutor recognises the importance of such officers being trained and prepared to handle environmental law enforcement. He likely believes that having such a dedicated team in each district office will help the DoE to respond to environmental emergencies more quickly and effectively. The suggestion to create a mobile court that can operate 24/7 is also a good one, as it would allow the Department of Environment to respond to environmental issues more quickly and effectively. The prosecutor recognises that many environmental crimes take place outside of regular business hours, and having a mobile court would allow the department to respond to these incidents more quickly.

Furthermore, the DoE official has identified a critical need for additional resources, staff, and training to enable the efficient and proactive filing of environmental court cases. This reflects a strong commitment to robust enforcement of regulations while acknowledging the ongoing challenges posed by an overwhelming workload. The official has emphasized the importance of providing logistical support and capacity-building training to enhance staff skills and ensure that the department can effectively execute its mandate. By investing in these vital areas, the DoE can

strengthen its ability to protect the environment and promote sustainable development, benefiting both present and future generations. The official suggests,

The DoE needs to proactively file cases in the environmental court with a streamlined and expedited process. To achieve this, the DoE requires additional logistics, capacity-building training, and human resources, as their workload is consistently overwhelming [Interview-5].

The interview highlights that the department's workload is consistently overwhelming, which necessitates urgent action. The official's statement indicates a clear understanding of the challenges facing the department, as well as the potential solutions. His emphasis on proactively filing cases in environmental court suggests a desire to be more assertive in enforcing environmental regulations and protecting the environment. The mention of the need for additional logistics support highlights the importance of having the necessary resources to carry out the department's duties effectively. This could include access to transportation, communication tools, and other essential equipment that enables the department to monitor and respond to environmental concerns promptly. The emphasis on capacity-building training suggests an awareness of the need to develop and enhance the department's staff's skills and expertise. This could include training on new environmental regulations, technology, and best practices for conducting environmental assessments and investigations.

Similarly, another DoE official highlights the crucial role of advanced technology, skilled personnel, and logistics in effective environmental monitoring and protection. The DoE must prioritize online monitoring of Effluent Treatment Plants (ETPs) and regular inspections of bypass points to prevent the discharge of untreated waste. It should invest in cutting-edge technology to monitor air pollution levels accurately and develop its human resources and logistics systems to investigate and prosecute environmental offenders efficiently. Regarding human resources, logistics and technology, the official proposes,

Effective environmental monitoring requires a comprehensive approach that includes the use of advanced technology, skilled personnel, and adequate logistics. [.....]. By investing in human resources and logistics, the DoE can successfully combat environmental crimes [Interview-06].

The DoE recognises the need to prioritise online monitoring of Effluent Treatment Plants (ETPs) to prevent the discharge of chemical waste directly into rivers. The department must regularly inspect bypass points to prevent the unauthorised discharge of untreated waste into the environment, as this can have significant environmental impacts. To combat air pollution, the DoE must leverage the expertise of lab assistants and senior chemists to analyse air quality data and identify effective mitigation measures. The department must also invest in cutting-edge technology, including advanced air pollution sensors and air quality models, to monitor and measure air pollution levels accurately. Moreover, the DoE must invest in its human resources and logistics to increase its capacity to investigate and prosecute environmental offenders. This includes providing extensive training to personnel and equipping them with the latest technology and tools necessary to carry out their tasks efficiently.

The data show that advanced technology and databases are essential in the fight against wildlife trafficking and in enforcing environmental laws. These tools can be used for tracking and monitoring, data analysis, detection and identification, and collaboration. They help to identify patterns and trends, trace the source of illegal wildlife products, and improve the sharing of information between stakeholders. A police officer highlights the urgent need for an advanced wildlife crime database to protect wildlife and enforce environmental laws effectively. The officer calls for a state-of-the-art database with cutting-edge technology like AI, machine learning, and data analytics, allowing seamless communication within departments and international organisations. The police officer states,

The Wildlife Crime Control Unit (WCCU) must prioritise the creation of a comprehensive database that allows for seamless communication within and between departments, as well as with INTERPOL. With only 200 cases filed over the past ten years, it is clear that we lack sufficient data on wildlife crime. Building a strong database is critical to effectively enforcing environmental law and protecting our wildlife [Interview-25].

The WCCU must prioritise the creation of a state-of-the-art database that allows for seamless communication within and between departments, as well as with INTERPOL and other international organisations. The officer's call to action stems from the fact that only 200 cases have been filed over the past ten years, indicating a lack of sufficient data on wildlife crime. By building a strong database, law enforcement can gain a deeper understanding of the scope and nature of wildlife crime. In addition, the officer recognises the importance of collaboration and information-sharing between agencies and countries. A comprehensive database that allows for real-time information exchange and cross-border cooperation can help identify patterns and trends in wildlife crime, as well as facilitate the development of targeted enforcement strategies.

6.2.2 Law amendment

The data suggest that the amendments to environmental law can significantly improve the institutional framework for environmental management. They can clarify the roles and responsibilities of different institutions, provide greater regulatory power, encourage public participation, strengthen enforcement mechanisms, and promote international cooperation. The legislation should be amended with strict penalties and should allow access for people to the environmental court (Interview-10). Furthermore, although the "polluter pays" principle in environmental law enforcement is well-intended, it has proven to be an ineffective deterrent. Environmental law enforcement requires more comprehensive measures, including imprisonment, to be incorporated into the law (Interview-24). Similar to environmental law, the Wildlife Conservation Act has limitations in providing protection to a diverse range of species,

with only a few species being recognized as offences. This narrow scope makes it difficult to take strong punitive measures against wildlife traffickers, leading to a need for amendments that ensure equal protection for all wild animals and more stringent penalties for offenders (Interview-25). The interviewee's statements suggest a concern for the environment and a desire for justice in cases where environmental harm has occurred. The proposed changes to legislation and penalties could potentially have a positive impact on the environment and the communities affected by environmental crimes. As the public prosecutor of an environmental court suggests,

We must amend the existing legislation that limits the power to file cases in environmental court solely to the DoE. The public must be empowered to file cases in the environmental court to seek justice. Additionally, we need to increase the penalty for such crimes and prioritise imprisonment over fines as a deterrent [Interview-10].

The interviewee argues that the current legal framework limits access to justice by only allowing the DoE to file cases in the environmental court. This not only restricts the ability of affected communities to seek redress but also places an undue burden on the already overburdened DoE. As such, the interviewee suggests that the law be amended to allow for greater public participation in environmental justice, including the filing of cases in the environmental court. The interviewee recommends an overhaul of the penalty regime for environmental crimes. The current system that prioritises fines as a deterrent has not been effective in curbing environmental offences. The interviewee proposes that imprisonment should be the preferred penalty for environmental crimes, as it sends a stronger message and has the potential to deter would-be offenders. Additionally, the interviewee suggests that the severity of fines should be increased to ensure that they are commensurate with the harm caused by the offence. Further, a police officer notes,

Imposing fines by the 'polluter's pay principle' is a well-intended punitive approach. However, relying solely on punitive measures such as fines has proven to be ineffective in addressing environmental

crimes. [...]. Therefore, to combat environmental crime truly, we must re-evaluate and amend our laws to incorporate imprisonment along with comprehensive measures (Interview-24).

While the principle of 'polluter pays' is well-intended, the officer recognises that it has proven to be an ineffective deterrent in practice. His statement indicates a critical analysis of the current approach and recognises the limitations of relying solely on financial penalties to deter environmental crimes. The use of phrases like "well-intended punitive approach" and "proven to be ineffective" reflects an intricate perception of the issue at hand. Furthermore, the officer's recommendation to re-evaluate and amend the laws to incorporate imprisonment and more comprehensive measures shows a proactive approach towards finding a more effective solution. The use of the word "truly" indicates a deep understanding that addressing environmental crime requires a multi-faceted approach that goes beyond simply imposing financial penalties.

Besides, there is a limitation in the current Wildlife Conservation Act, which only focuses on tigers and elephants, making it difficult to bring offenders to justice for other important species. The police officer proposes amendments to the act to provide equal protection for all wild animals with stringent punishments for offenders to deter them from committing crimes (Interview-25). As the police officer suggests,

We should amend the Wildlife Conservation Act to ensure that all wild animals receive equal protection, with stringent punishments for offenders. [.....]The minimal fines and the possibility of receiving bail create a criminal network, enabling offenders to evade imprisonment easily [Interview-25].

The officer suggests that difficulties with current laws in bringing wildlife traffickers to justice stem from its limited scope, with only tigers and elephants being recognised offences. The officer argues that this narrow focus overlooks other important species, such as leopards, crocodiles, and birds, making it challenging to take robust punitive measures against offenders.

Furthermore, the Act's failure to mention other species, such as tortoises and turtles, only exacerbates this problem. The officer proposes amendments to the Act, calling for equal protection for all wild animals with stringent punishments for offenders. The officer's recommendations recognise that the minimal fines and the possibility of receiving bail create a criminal network that enables offenders to evade imprisonment easily. To address this, the officer suggests imposing strict penalties and punitive measures that deter offenders from committing such crimes.

6.2.3 Effective judiciary

Marginalized communities in Bangladesh are facing challenges in terms of environmental justice, mainly due to limited resources and lengthy legal processes to empower these communities and hold polluters accountable, a system modelled after India's National Green Tribunal is needed (Interview-34). However, access to justice in Bangladesh is also hindered by limited access, high cost, time-consuming procedures, and harassment (Interview-8). While the environmental court is an effective institution, improvements such as establishing more courts, providing legal aid and education, and utilizing technology are needed to make justice more accessible. To manage the environment effectively, regulators must engage with local stakeholders and tap into their knowledge by adopting a collaborative approach. Bangladesh's Environmental Court lacks power and jurisdiction. Therefore, revisiting the Environmental Conservation Act-1995, granting greater authority, and improving institutional capacity through training, resources, and coordination with government agencies can better protect the environment and promote sustainable development (Interview-7).

For an effective judiciary system to be part of a good institutional framework, it needs to be reshaped for better access of the general public. The Chief Executive of BELA has highlighted

the challenges faced by marginalized communities in Bangladesh in obtaining environmental justice. The Chief Executive proposes an accessible system for environmental justice, modelled after the National Green Tribunal in India, to empower marginalized communities to hold polluters accountable. As recommended by the Chief Executive,

[The] justice is a lengthy and exhausting process for them, involving multiple levels of judicial hierarchy. A system like the National Green Tribunal in India would provide an accessible avenue for justice for the people of Bangladesh, with its panel of expert judges and open access to all, regardless of social or economic status. Such a tribunal could empower the marginalised to hold polluters accountable, even beyond their lifetime, and extend justice to expatriates seeking to protect the environment [Interview-34].

The Chief Executive of BELA rightly points out that the poor often bear the brunt of environmental pollution while lacking the resources and means to fight back against wealthy polluters. Furthermore, obtaining justice is often a lengthy and exhausting process involving multiple levels of judicial hierarchy. To address these challenges, the Chief Executive suggests an advanced and accessible system for environmental justice, modelled after the National Green Tribunal in India. The proposed system would offer an expert panel of judges and open access to justice for all, regardless of social or economic status. This would empower marginalised communities to hold polluters accountable and extend justice to expatriates seeking to protect the environment. However, simply establishing a National Green Tribunal alone may not be sufficient to achieve environmental justice in Bangladesh. The Chief Executive suggests that environmental regulators should engage with local communities and stakeholders, including NGOs and civil society groups. By involving these groups in the regulatory process, regulators can tap into local knowledge and expertise and build trust with the community. This can help to identify emerging environmental risks and facilitate a more collaborative approach to environmental management. Similarly, a judge of an environmental court points out that access to justice in Bangladesh is limited by obstacles such as high costs, time-consuming procedures,

and harassment, but the environmental court provides an effective platform for individuals to present their cases, and improvements such as more courts and technology utilization can further enhance access to justice. The judge states,

Establishing their judicial rights is something that many people in Bangladesh seem to avoid. The reason for this is that access to justice in the country is limited, expensive, time-consuming, and often harassing. [.....].So, it needs to be easy and accessible for all [Interview-08].

The interview with a judge of an environmental court sheds light on the challenges faced by individuals in Bangladesh when attempting to access justice. Limited access, expense, time-consuming procedures, and harassment are all barriers that hinder individuals from pursuing their legal rights. These challenges can be overwhelming and discourage individuals from filing complaints. In fact, many individuals may not even know where to begin when attempting to access justice. Despite the difficulties, the judge emphasizes the importance of the environmental court as an effective institution within the institutional framework, which allows for easy access to justice. The court provides a platform for individuals to present their cases, and the judge ensures that the cases are heard in a timely and efficient manner. However, there is a need to improve the institutional framework to facilitate easy access to justice for all individuals. The establishment of additional environmental courts, the provision of legal aid and education, and the modernization of the justice system are all essential measures that can be taken to strengthen the judiciary and ensure that justice is accessible to all.

Besides, the limited access of ordinary people to the environmental court, it has limited authority and jurisdiction, which restricts its ability to effectively address emerging environmental issues and hold the government accountable for environmental damage caused by its policies or actions (Interview-06). Policymakers should broaden the court's mandate, grant it greater authority, and strengthen its institutional capacity to handle complex environmental cases effectively. A well-

functioning Environmental Court with adequate power and jurisdiction is essential for promoting sustainable development and protecting the environment in Bangladesh. As proposed by a judge of an environmental court,

The Environment Court's power lies solely within the bounds of the Environmental Conservation Act-1995; any ruling outside this legislation is beyond its jurisdiction. As a lower court, it is not empowered to declare any decision of the government as illegal. Thus, environmental courts need to be more powerful than the DoE which is a bureaucratic institution [Interview-06].

The judge points out that the environmental court's authority is confined to the Environmental Conservation Act-1995, which limits its ability to address emerging environmental issues that are not explicitly mentioned in the legislation. Additionally, as a lower court, it lacks the power to declare any government decision as illegal, further limiting its ability to hold the government accountable for environmental damage caused by its policies or actions. This analysis underscores the need for the environmental court to have greater power and jurisdiction to effectively protect the environment and hold polluters accountable. To this end, policymakers should consider revisiting the Environmental Conservation Act to broaden the court's mandate and grant it greater authority to address emerging environmental issues. This would enable the court to keep pace with evolving environmental challenges and provide better protection for the environment and public health. Furthermore, it is essential to strengthen the environmental court's institutional capacity to ensure that it can handle complex environmental cases effectively. This may involve providing specialised training for judges and court personnel, expanding the court's resources, and improving coordination between the court and relevant government agencies.

6.2. 4. Specialised police unit

Drawing upon empirical data, existing literature, and best practices outlined in the research, several key points have been addressed to facilitate a deeper understanding of the proposed Environmental Policing Specialised Unit (EPSU) and its implications.

The imperative for establishing an EPSU in Bangladesh arises from a comprehensive examination of existing challenges within the environmental governance framework. Despite significant strides in environmental policy development since the 1980s, the empirical data underscore systemic deficiencies that hinder effective enforcement of environmental laws. These deficiencies, ranging from inadequate funding to political interference, have perpetuated environmental violations and impeded progress towards sustainability (Kumu, 2023). Consequently, the proposed EPSU seeks to address these shortcomings by consolidating resources and expertise specifically towards enforcement and regulation, thereby combating corruption, ensuring compliance, and mitigating pollution effectively. Such targeted efforts align with best practices observed globally and underscore the necessity for specialised units dedicated to environmental policing.

By analyzing best practices of environmental policing specialised units in both the Global north and the global south, a comprehensive model for the future EPSU in Bangladesh has been recommended. This model, comprising various wings such as the Enforcement and Compliance Intelligence Wing (ECIW), Rapid Response and Crisis Management Unit (RRCMU), and others, draws upon successful strategies employed globally to address environmental crimes. Each wing is tailored to address specific challenges in environmental law enforcement, highlighting the importance of a multifaceted approach. Importantly, the proposed EPSU can be established within the existing legal framework and constitutional mandate, negating the need for new

legislative reforms. However, it is acknowledged that challenges and limitations may arise in implementing the proposed model, particularly in light of resource constraints and existing policing models worldwide (Hong Kong Police, 2024; Ministry of Environmental Protection of Israel, 2023; Oman Observer, 2018; Mauritius Police, 2024; Environmental Management Authority, 2023; Wunderlich, 2017).

The discourse on police culture, particularly in the context of increased powers and specialisation versus regulation and alternative approaches, is deeply influenced by societal attitudes towards authority, security, and democracy. This is well-articulated by Reiner (2000) and Martin (2022), who provide valuable insights into the complex public reactions to these differing policing strategies. Applying these concepts to the Bangladeshi policing context reveals both challenges and opportunities unique to this region.

In Bangladesh, the reaction to increased police powers can be understood through the lens of Reiner's analysis. During times of heightened fear of crime or political instability, there tends to be greater public support for enhanced police powers and specialised units aimed at maintaining order and safety (Reiner, 2000). This support is often driven by the perception that strong, authoritative policing is necessary to combat serious crime and terrorism, which have been significant concerns in Bangladesh. However, there is also significant apprehension regarding state overreach and potential abuses of power. The history of political policing in Bangladesh, where law enforcement agencies have been used to suppress dissent and political opposition, fuels public skepticism (Reiner, 2000). Instances of police brutality and extrajudicial actions have further eroded trust in the police, leading many to fear that increased powers might exacerbate these issues rather than resolve them (Abidogun, 2023). Martin (2022) notes that increased specialisation can lead to more effective crime-solving and handling of complex cases,

which is a critical need in Bangladesh given the rise in cybercrime and transnational criminal activities. However, there is a risk that this specialisation might distance the police from the community, making them appear more technocratic and less accountable. This perception can be particularly problematic in a country where the relationship between the police and the public is already strained (Uddin and Mozumder, 2019).

Reiner (2000) and Martin (2022) both highlight the growing support for regulatory and community-based approaches to policing. In Bangladesh, such approaches could help address the deep-seated distrust and fear of police misconduct (Moon, 2022). Community policing initiatives, which involve local communities in the decision-making process and prioritise transparency and accountability, can enhance trust and cooperation between the police and the public (Uddin and Mozumder, 2019). The introduction of higher ethical standards and regulatory oversight, as discussed by Martin (2022), could also improve the public image of the police. In a context where police corruption and lack of accountability are significant issues, robust regulation can ensure that police actions are aligned with legal and ethical norms, thereby fostering greater public confidence.

Reiner's (1992) exploration of policing in a postmodern society is particularly relevant for Bangladesh, where rapid urbanisation, social fragmentation, and diverse societal challenges require adaptable policing strategies (Das et al., 2009; Thakur, 2018; Chakraborti, 2018). While increased powers and specialisation might be necessary to tackle sophisticated crimes, these measures must be balanced with approaches that are participatory and inclusive. Public support for regulatory and community-focused approaches is likely to be strong, especially in marginalised communities that have historically faced disproportionate police scrutiny and violence (Modise, 2024).

The Bangladeshi context underscores the importance of balancing increased police powers and specialisation with robust regulatory and community-based approaches. While there is a segment of the population that supports stronger police powers for enhanced security (Shaukat, 2020), there is also significant concern about potential abuses and the need for greater accountability (Human Rights Watch, 2020). Regulatory and community policing approaches, which emphasize transparency, accountability, and community involvement, are crucial for rebuilding trust and ensuring that policing practices align with democratic values and human rights (Islam & Rahman, 2028). By reflecting on these dynamics, policymakers and law enforcement agencies in Bangladesh can develop strategies that are both effective in maintaining public safety and respectful of civil liberties and democratic principles (Momtaz, 2013).

The purpose of granting more power to the police, as articulated in the proposed EPSU, encompasses both prevention and enhanced penalties in court. Leveraging the existing legal framework, notably the Bangladesh Environment Conservation Act of 1995 and Article 18A of the Constitution of Bangladesh, the EPSU aims to enhance the deterrent effect of environmental laws and ensure accountability for environmental offenders (Sharif & Uddin, 2021). It is crucial to differentiate between investigation and criminalization within the broader legal framework to delineate the scope and mandate of the EPSU effectively.

Addressing resource constraints and evaluating alternative approaches are essential considerations in establishing the EPSU. Investment in training programs, equipment, and infrastructure is crucial to empower personnel and enhance enforcement capabilities. Furthermore, coordination with relevant government agencies is essential for seamless operation and enforcement of environmental laws (Bangladesh Environment Conservation Act, 1995; Constitution of the People's Republic of Bangladesh, 1972). The establishment of a specialised

police unit to address environmental harms in Bangladesh requires a comprehensive understanding of the legal framework, institutional landscape, and resource constraints. By critically engaging with empirical data, existing literature, and best practices, policymakers can develop an effective framework for environmental law enforcement that ensures accountability, transparency, and sustainability.

Furthermore, the issue of transnational environmental crime is multifaceted, involving intricate cross-border activities that necessitate more than mere police interventions. White (2011) emphasizes that these crimes span borders and often involve complex networks that include both state and corporate actors. Given the scale and complexity of these crimes, which can generate up to \$280 billion annually (INTERPOL, 2023), the response requires a high level of international cooperation and coordination. Organized environmental crime, noted by Caparini (2022), is the world's third-largest crime sector, generating between \$110 and \$281 billion annually and significantly impacting ecosystems, biodiversity, and human well-being.

To effectively tackle transnational environmental crimes, a robust coordination unit within the police is indeed necessary, but it may not be sufficient on its own. The nature of these crimes demands a holistic approach that integrates political interventions to address systemic issues like corruption and the involvement of high-level actors (Williams, 2024). Wright (2011) highlights the unique challenges of environmental crimes, which require tailored policing approaches that go beyond traditional methods. Additionally, Spapens (2011) calls for a robust legal framework for police cooperation, particularly within the EU, emphasizing the need for mutual legal assistance and standardized protocols.

Franjić (2021) underscores the importance of developing new law enforcement skills and fostering international cooperation through organizations like INTERPOL. While INTERPOL

facilitates information exchange, it lacks direct investigative powers, highlighting the need for a stronger legal framework and better coordination at the national and international levels (Spapens, 2011). Europol (2022) also emphasizes a pan-European response, noting the detection challenges due to law enforcement inefficiency and the need for enhanced cooperation across borders. The Global Initiative against Transnational Organized Crime (2014) also points out that despite significant international attention, environmental crimes have increased in variety, volume, and value over the past decade. Addressing environmental crime is complex, requiring a strategic approach including raising awareness, strengthening legal frameworks, enhancing law enforcement, combating corruption, and fostering political will (Global Initiative against Transnational Organized Crime, 2014:17-34). According to (Global Initiative against Transnational Organized Crime (2014:17-34) transnational environmental crime requires both effective responses and efficient responders:

The responses:

- Political Will: Strengthening legally binding mechanisms and ensuring international enforcement.
- Policy Implementation: Effective national policies need multidisciplinary teams and local implementation.
- Diplomacy Challenges: Diplomatic approaches like naming and shaming offending countries are often avoided.
- Legal Frameworks: Comprehensive responses should combine international policies with focused national efforts.
- Criminal Justice: Effective enforcement requires cooperation between agencies and advanced investigative techniques.

- International Cooperation: Initiatives like Border Liaison Officers and Wildlife Enforcement Networks show promise.
- Promoting Cultural Change: Reducing demand for illegal commodities and improving understanding of crime methods.

The Responders

A coordinated response from various stakeholders is essential for effectively combating environmental crime. These responders include:

- State: National governments hold primary responsibility, focusing on fostering national pride and responsibility.
- Intergovernmental Organizations (IGOs): Address global issues through biodiversity protection, climate change mitigation, and combating environmental crime. INTERPOL, WCO, UNODC, UNEP, and ICCWC play significant roles.
- Donors: Support efforts to combat environmental crime through intelligent funding and well-defined strategies.
- Civil Society and NGOs: Raise awareness, develop policies, and support enforcement.
- Private Sector: Ensure ethical practices and exclude illegal commodities from supply chains.
- Media: Increase transparency and hold officials accountable by exposing environmental crimes.

Training law enforcement agencies, as demonstrated by the collaboration between the Bangladesh Police, INTERPOL, and UNODC, is crucial. This partnership focuses on sharing intelligence and information to better handle transnational organized crimes, particularly in the wildlife sector. Such training enhances the capacity of local police forces to engage in effective

cross-border cooperation and adopt advanced investigative techniques as empirical data indicated. Moreover, the UNODC (2024) highlights the significant profits from trafficking natural resources, underlining the importance of specialised training to combat these sophisticated crimes.

The current legislative framework in Bangladesh, there is a clear need to amend existing laws to better address environmental crimes. While the Bangladesh Environment Conservation Act of 1995 covers various forms of pollution, it does not define activities like illegal fishing, mine extraction, and deforestation as criminal offenses. These omissions highlight the necessity for legal reforms to broaden the scope of what constitutes environmental crime (Bangladesh Environment Conservation Act of 1995). Additionally, none of the relevant laws, regulations, and acts define any act that pollutes the environment as an environmental crime, which needs to be rectified to ensure comprehensive legal coverage.

The establishment of a specialised police unit to combat environmental crimes in Bangladesh is feasible under current laws, but further legislative clarity and expansion are required. A clearer list of harms that should be criminalized must be included in the legal framework. For instance, amendments should explicitly criminalize activities such as air, water, and soil pollution, Illegal waste dumping (domestic, medical, electronic, electrical), Illegal fishing, unregulated mine extraction, and noise pollution, aligning national laws with international environmental protection standards. The Bangladesh Environment Conservation Act of 1995 and the Constitution of Bangladesh provide a legal basis for establishing this specialised unit without requiring new laws, but these laws need to be effectively implemented and enforced.

Implementing these changes will inevitably affect criminal procedures, from prosecution to court proceedings, and the outcomes achieved. A specialised unit would require advanced training in

environmental law and investigative techniques. Effective training resources for addressing transnational environmental crime should encompass a broad range of competencies, including understanding various forms of environmental crime like illegal logging, wildlife trafficking, and hazardous waste disposal, along with advanced investigative techniques such as forensic science, cyber investigation, and financial tracking. Additionally, familiarity with international treaties and frameworks for cross-border collaboration, proficiency in multiple languages and cultural nuances, and training in the use of technology for surveillance, data analysis, and intelligence sharing are essential. The integration of restorative justice practices could also be beneficial, focusing on the restoration of damaged ecosystems and communities rather than solely punitive measures. This approach aligns with the Global Initiative against Transnational Organized Crime's (2014) recommendation for a coordinated response involving national governments, IGOs, NGOs, the private sector, donors, and the media.

Addressing transnational environmental crime effectively necessitates a multi-layered approach involving political intervention, robust legal frameworks, and specialised training for law enforcement. While a stronger coordination unit within the police is essential, it must be complemented by international cooperation and comprehensive legal reforms. This approach will ensure that environmental crimes are adequately criminalized and prosecuted, leading to more effective protection of the environment and communities affected by these crimes.

The data analysis of the interviews with officers from the Bangladesh Police provides valuable insights into the establishment of an environmental police unit and its potential role in protecting the environment. The officers agree that the establishment of this specialised police unit would be a crucial step towards strengthening environmental protection measures in Bangladesh. One important point emphasised by the officers is that the environmental police unit must work

closely with other relevant departments, including the DoE and the Forest Department, to ensure its effectiveness. By collaborating with these departments, the environmental police unit could form a professional and efficient team capable of preventing environmental crimes and curbing pollution. The officers also recognise the importance of direct engagement with the community. They suggest that by establishing a continuous presence and providing round-the-clock accessibility, the environmental police unit could be more effective in addressing environmental challenges that are intertwined with the ecological and geographic features of specific locations. Moreover, the establishment of a dedicated environmental police unit could increase public awareness of environmental crimes and ensure that people know where to turn and what actions to take to protect the environment. Furthermore, the officers note that a specialised environmental police unit would promote the practice of environmental protection among the general public. They point out that while most people are accustomed to contacting the police when reporting crimes, only a small percentage are aware of specialised departments, such as the DoE, which enforce environmental laws. By establishing a dedicated environmental crime police unit, the public would be more aware of the importance of protecting the environment. The officers also suggest that collaborating with other law enforcement agencies, such as INTERPOL, would be beneficial in strengthening efforts to combat environmental crime both within and beyond Bangladesh's borders (Interview-25). In addition, they believe that the proposed environmental police unit would work collaboratively with the DoE rather than conflicting with it, as the two departments would have complementary roles.

The establishment of a specialised environmental police unit, coupled with interagency collaboration and the use of innovative technologies, is necessary to address the complexity of environmental issues and combat environmental crimes effectively. The police officer (Interview-23) advocates for the creation of an environmental police unit that would receive

specialised training and use innovative technologies to handle environmental crimes efficiently. The interviewee stresses the importance of interagency collaboration to address the complexity of environmental issues and suggests that the success of the unit depends on its ability to establish strong relationships with other agencies and respond proactively to emerging challenges. The police officer states,

Establishing an environmental police unit is a step towards strengthening the protection of our environment. [...]By collaborating, we can create a professional and efficient team that is capable of preventing environmental crimes and curbing pollution [Interview-23].

The emphasis on the importance of interagency collaboration between the police unit, the DoE, and the Forest Department highlights the need for a coordinated effort to address environmental crimes and curb pollution effectively. By creating a specialised police unit, the interviewee implies that the team can receive specialised training and knowledge to deal with environmental issues, which can lead to a more professional and efficient approach. Furthermore, the interviewee's call for interagency collaboration indicates a recognition of the complexity of environmental issues and the need for multiple stakeholders to come together to address them.

According to another police officer, law enforcement officials are the most ubiquitous presence in society, with round-the-clock access to communities and extensive knowledge of their jurisdiction and geographical location (Interview-14). By being highly visible in the community, they can create a powerful deterrent against environmental criminals, thereby reducing the incidence of these crimes. As the police officer proposes,

By fostering direct engagement with the community, the police establish a continuous presence and provide round-the-clock accessibility [...]. This highlights the potential for an Environmental Police Unit to operate more effectively, responding promptly to instances of environmental crime [Interview-14].

The interviewee provides a forward-thinking approach to tackling environmental crime by emphasising the need for an environmental police unit. The officer recognises that environmental challenges are complex and intertwined with the ecological and geographic features of a specific location, requiring a comprehensive approach to combat them effectively. By establishing direct engagement with the community, the environmental police unit can build trust and credibility, ensuring that residents are more likely to report incidents of environmental crime. Additionally, a continuous presence and round-the-clock accessibility enable officers to respond promptly to any environmental violations and prevent further damage to the environment.

In a similar vein, another police officer emphasizes the critical role of specialised police in addressing environmental crime. However, the officer raises an important point that is widely recognised by the public - the accessibility of reporting crimes to the police and visiting police stations. It is crucial that the public feel comfortable reporting any form of crime to the police and understand that the police are available and willing to help in any way they can. As the officer states,

Most people are accustomed to contacting the police when reporting crimes, but only 2 to 3% of people are aware of specialised departments, such as the DoE, which enforces environmental laws. By establishing a dedicated environmental police unit, we can increase public awareness and ensure that people know where to turn and what actions to take to protect our environment [Interview-22].

The interview sheds light on a critical issue related to the lack of public awareness regarding specialised police departments dedicated to enforcing environmental laws. Establishing a dedicated environmental police unit can significantly increase public awareness and educate people on the actions to take to protect the environment. Moreover, the establishment of a specialised unit would enable a more comprehensive approach to environmental protection. Prevention, enforcement, and education would be the key components of this approach. By

creating a culture of environmental responsibility, people would be more likely to take proactive steps to protect their environment, such as reporting environmental crimes and engaging in sustainable practices.

Similarly, one police officer believes that a specialised police unit is needed to tackle environmental pollution; other countries such as China, the USA, Sweden, and Spain have established such units. The officer argues that the DoE's mandate is too broad to address the complexities of environmental pollution effectively. The officer suggests that a specialised police unit could have a significant impact on behaviour and attitudes towards the environment. The police officer suggests,

When there is a separate specialised police unit that can legally serve the people and have a special role in environmental pollution [.....]I am not saying that the DoE is not working, but a specialised police unit is a demand of the time since many countries like China, the USA, Sweden, and Spain already have this [Interview-17].

This suggests that there is growing awareness of the importance of environmental protection and that specialised police units can play a vital role in addressing environmental issues. The officer's view is not a dismissal of the DoE but rather recognition that its mandate is too broad to effectively address the complexities of environmental pollution. A specialised police unit would be better equipped to focus exclusively on environmental protection and would be more effective in addressing these challenges.

Moreover, a specialised environmental police unit would combat environmental crime, particularly wildlife trafficking, in Bangladesh in collaboration with cross-border organisations. The officers recognise the importance of establishing a dedicated unit in close collaboration with the Environmental Security Unit-INTERPOL to stay up to date with the latest technology and trends in environmental crime prevention and investigation. By leveraging technology and data

analysis tools and forming partnerships with relevant stakeholders, the specialised unit can gather intelligence, conduct efficient investigations, and promote environmental education and awareness. As the officer suggests,

By working in close collaboration with the Environmental Security Unit-INTERPOL, the Bangladesh Police are taking a strong stance against wildlife trafficking, both within the country and beyond its borders. INTERPOL, several times raises the issue that the Bangladesh Police should have a specialised unit to deal with environmental crime, which could work hand in hand with other law enforcement agencies to further strengthen our efforts [Interview-25].

The interview showcases the need for an advanced and specialised environmental police unit to combat environmental crime, particularly wildlife trafficking, in Bangladesh. With the increasing threats to the environment, it has become critical to establish a dedicated unit that will possess the necessary skills, knowledge, and expertise to tackle environmental crime effectively. It would also enable the unit to access a global network of environmental law enforcement agencies and experts to enhance its capacity to deal with environmental crime. Furthermore, the officer highlights the importance of leveraging technology and data analysis tools to combat environmental crime. By integrating technology, such as drones and surveillance cameras, into their operations, the specialised unit could gather intelligence and conduct more efficient investigations. Additionally, data analysis tools could help the unit detect patterns and trends in environmental crime and identify potential targets for enforcement action. The officer also emphasises the importance of partnerships between the specialised unit and other relevant stakeholders, such as local communities and non-governmental organisations. These partnerships can help the unit gather information, gain public support, and promote environmental education and awareness.

The data show that the Bangladesh Police has 150 years of history of using punitive measures in dealing with crime and criminal activities. The police officer notes that the success of existing

specialised police units, such as the Industrial Police and River Police, is highlighted as evidence that such units can effectively address specific issues (Interviewee-24). The officer notes that the proposed environmental police unit would work collaboratively with the DoE to complement their efforts and achieve common goals. The unit would bring new skills and tools to the table, working in a complementary rather than conflicting way with the DoE. The police officer notes,

Since the establishment of the Industrial Police, there have been no unforeseen incidents in the garments sector, and any issues that arose were resolved amicably. Similarly, the River Police has achieved numerous successes, [.....] the proposal is that if Bangladesh were to establish a specialised environmental police unit, it would work collaboratively with the DoE and this relationship would be supplementary rather than conflicting [Interview-24].

The officer notes that the Bangladesh Police has been developing preventive measures for over 150 years, which has been an effective tool in addressing criminal activity. Establishing a specialised environmental police unit would complement the existing efforts of the police force and work collaboratively with the DoE to address environmental challenges effectively. The officer emphasises that the proposed environmental police unit would not duplicate the efforts of the DoE but rather work together with them to achieve common goals. The collaborative relationship would be complementary rather than conflicting, indicating that the environmental police unit would bring a new set of tools and skills to the table, complementing the existing expertise of the DoE.

Furthermore, the data show that not only all the police officers but also some of the officials of the DoE emphasise the importance of the establishment of a specialised environmental police unit (Interviewee-2, 3, and 4). The official (Interviewee-3) cites an example of a successful collaboration between two organisations in Bangladesh-BIWTA and Bangladesh Ansar highlighting the importance of partnerships in addressing environmental challenges. Additionally, the official stresses the need for a specialised police unit dedicated to

environmental protection to effectively enforce environmental laws and regulations and safeguard our natural resources for future generations. Similarly, another official (Interview-4) of the DoE supports the idea of a specialised environmental police unit in Bangladesh. The official recognises that the police force has an advantage due to its presence at the grassroots level and access to crucial information. However, the current law may need to be amended to delegate non-technical and documentary authorities to the police. Despite potential legal obstacles, the official is optimistic about the benefits of such a unit, especially as the DoE is currently overwhelmed with environmental issues. Furthermore, a DoE official (Interviewee-2) has recommended the establishment of a specialised environmental police unit that would be responsible for enforcing environmental laws and regulations, investigating environmental crimes, and providing support to local authorities including the DoE. The official believes that a dedicated unit is necessary due to the inadequacy of current police support for environmental issues.

Highlighting the success of the collaboration between the Bangladesh Inland Water Transport Authority and the Bangladesh Ansar in curbing water pollution, the DoE official acknowledges the need for a specialised police unit to achieve this goal although previous efforts to establish such a unit have not been successful. The official states,

We have long recognised the need for a specialised police unit to help safeguard our natural resources. Despite past efforts, nothing concrete has materialized yet. However, I have heard that the Bangladesh Inland Water Transport Authority effectively curb water pollution in collaboration with Bangladesh Ansar. So, I think that by establishing a dedicated environmental police force and partnering with the DoE, we could effectively enforce environmental laws [Interview-03].

The official acknowledges the efforts made in the past to address environmental issues but acknowledges that more needs to be done to ensure the effective enforcement of environmental

laws and regulations. Furthermore, the official cites an example of successful collaboration between the Bangladesh Inland Water Transport Authority (BIWTA) and Bangladesh Ansar, a paramilitary force in Bangladesh, which demonstrates the effectiveness of partnerships in addressing environmental challenges, especially in river pollution. This example underscores the importance of exploring alternative approaches to protecting the environment, including collaboration with other organisations and agencies. The official also emphasises the need for a specialised police unit dedicated to environmental protection. Such a unit, by partnering with the DoE, could effectively enforce environmental laws and regulations and prevent harm to our natural resources.

The existing police force has the advantage of being present at the grassroots level and having access to critical information, which suggests that a specialised environmental police unit could effectively combat environmental crimes while utilizing existing resources (Interviewee-4). Although there may be legal obstacles to establishing the unit, the official is optimistic about its potential benefits. The official also acknowledges the limitations of the DoE in addressing environmental issues and believes that the establishment of a specialised unit would alleviate the burden on the department. As the official points out,

The Bangladesh Police has a unique advantage with its grassroots presence and access to vital information and intelligence within its jurisdiction.[.....]. This would alleviate the burden currently placed on the DoE, which is dealing with massive environmental issues [Interview-04].

The official notes that there is an option in the law to establish such a unit, but the current law should delegate some authority to the police that is non-technical and documentary in nature. This suggests that there may be legal hurdles that need to be overcome to establish the unit, but the official is optimistic about the potential benefits. Furthermore, the official acknowledges that the DoE is currently dealing with massive environmental issues, and the establishment of an

environmental police unit would alleviate the burden on the department. This shows that the official is aware of the limitations of the existing system and recognises the need for a more comprehensive approach to tackling environmental crimes. In addition to the proposal of the establishment of an environmental crime police unit earlier, another official (Interviewee-2) from the DoE has suggested the establishment of a specialised environmental police unit which will enforce laws, investigate crimes, and support local authorities and the DoE in addressing environmental issues. As the official suggests,

The DoE's previous attempt to establish a specialised environmental police unit was unsuccessful, but I remain optimistic about the potential benefits it could bring. With such a unit in place, the DoE would receive greater support than it currently does from the police, and it could help us tackle environmental issues more effectively [Interview-02].

The official maintains an optimistic attitude and recognizes the potential benefits that such a unit could bring. An environmental police unit would play a critical role in enforcing environmental laws and regulations and ensuring compliance across all sectors. With a specialised team of experts, the unit could investigate environmental crimes, collect evidence, and provide support to local authorities, improving the effectiveness of environmental protection efforts. The official's statement suggests that the current level of support from police forces is inadequate, emphasizing the need for a dedicated unit to address environmental issues effectively.

However, the data show that there are some respondents who have not supported the idea of establishing a specialised environmental police unit (Interviewee-5, 6, 27, 33 and 34). They believe that specialised environmental police will not solve the issues since the Bangladesh Police has a different mandate. Moreover, the Bangladesh Police can play a significant role within the existing law (Interviewee-6). The DoE official questions the necessity of a specialised environmental police unit in Bangladesh, citing the police's existing role in enforcing

environmental laws although expressing concern about the police's effectiveness in addressing environmental issues. Moreover, police involvement in environmental investigations can lead to misconduct and victimisation, and establishing a specialised unit may have more downsides than upsides (Interviewee-5). As interviewee-34 states, “The extant malpractices of the Bangladesh Police may potentially confer an undue advantage to polluting entities”. Furthermore, there is a need for strict enforcement of existing environmental laws by strengthening the legal framework and improving their implementation and the establishment of environmental police will be a mere shift of the responsibilities from the DoE to the Bangladesh Police (Interviewee-27). Overall, simply establishing a specialised environmental police unit would be insufficient without the government's zero-tolerance approach towards all forms of environmental crime which reflects a strong political commitment by the government (Interviewee-33). As the DoE official says,

Although police can legally conduct investigations, the environmental court prefers the Department of Environment (DoE) to handle them. While creating a specialised environmental police unit seems like a good idea, involving the police in all matters may have negative consequences. [...] It is impossible to create an environmental police force at the grassroots level, and establishing a specialised unit would limit the scope of environmental issues and exclude the police station's involvement. As a result, the idea was abandoned [Interview-05].

While involving the police in environmental investigations may seem like a logical step, the official highlights that it can lead to negative outcomes, such as police misconduct and victimisation. The official points out, citing an example, that even though the Industrial Police Unit is performing well in some areas, there are still discrepancies that raise concerns, indicating that the police may not be the best fit for handling environmental issues. The official further explains that creating a specialised environmental police unit may have more downsides than upsides. The department anticipates that there may be future problems, and the idea did not

receive much attention, indicating that the risks outweigh the benefits. Furthermore, the DoE is situated at the upazila level to address environmental issues at the grassroots level. By establishing a specialised unit, the scope of environmental issues would be limited, and the local police station's involvement would be excluded, making it impossible to create an environmental police unit at the grassroots level. The official's statement recognises the potential pitfalls of involving the police in environmental matters, which is crucial in the context of increased attention to police accountability and reform.

Similarly, another official (Interviewee-6) of the DoE expresses his doubts about the necessity of a specialised environmental police unit, arguing that the police already have a role in enforcing environmental laws. The official acknowledges that the police have the power to take action against environmental violations but questions whether they are doing enough to enforce these laws. The lack of action against illegal brickfields in Bangladesh is used as an example to highlight this issue. As the official points out,

An inherent role of the police is still in environmental laws. If someone creates noise using construction materials after 8 pm, the officer-in-charge (OC) of a local police station can file a case against him. For this, do you think that there should be a specialised environmental police unit? [.....]. So, I do not believe that there is a need for a specialised environmental police unit [Interview-06].

The official suggests that such actions by the police can deter others from engaging in similar behaviour, thereby enforcing environmental laws effectively. However, the official also expresses concern about the continuing problem of illegal brickfields in Bangladesh. He questions the number of cases filed against illegal brickfields by local police stations, suggesting a lack of confidence in the police's ability or willingness to enforce environmental laws. The official acknowledges that the police have the power to take action against environmental violations, such as noise pollution, but questions whether they are doing enough to enforce these

laws. The lack of action against illegal brickfields in Bangladesh is used as an example to highlight this issue. Despite the need for better enforcement of environmental laws, the official argues that creating a specialised environmental police unit may not be the most effective solution. Instead, he suggests that the issue may be more related to the lack of prioritisation and implementation of existing regulations by the police force.

Furthermore, like some of the DoE officials, an environmental journalist is also not in favour of establishing a new specialised environmental police unit. The environmental journalist argues that rather than creating a new specialised environmental police unit, there is a greater need for strict enforcement of existing environmental laws. The journalist believes that the lack of proper implementation of existing laws is the root cause of environmental crimes, and simply adding a new unit may not solve the problem. The journalist expresses,

While the idea of a specialised environmental police unit may seem appealing, I am cynical that its establishment would significantly reduce environmental crime. [.....] Simply shifting responsibilities from the Department of Environment to the police will not necessarily help. Instead, we need strict implementation of environmental laws to address environmental crime [Interview-27].

The journalist is cynical as to whether the creation of a new unit will reduce environmental crime since the root of the problem lies in the lack of proper implementation of existing laws. The journalist's perspective on this matter is reasonable, as it is essential to ensure that existing laws are enforced before creating new ones. Simply adding a new unit may not solve the problem if there is no effective enforcement of environmental laws. Therefore, there is a need to focus on strengthening the current legal framework and improving the implementation of these laws. The journalist's argument is also supported by the fact that criminal laws exist to address crimes in society. However, despite the presence of these laws, crimes like rape, murder, and extortion still occur, indicating that there is a need for a better implementation system.

In the same vein, the development practitioner emphasised the importance of strict enforcement of environmental laws with zero tolerance and the need for political will from the government to take strong action against pollution and environmental crime. So, without this strong political commitment, a specialised environmental police unit might not be effective (Interview-33). As the development practitioner highlights,

A specialised environmental police unit could be established, but this effort will only be successful if the government is truly committed to addressing environmental concerns [.....] Without this strong commitment, the creation of a new agency or specialised unit will not be effective in tackling environmental crime [Interview-33].

The practitioner's emphasis on political will as a key factor in successful environmental governance suggests an understanding of the need for systemic change and political reform to address the root causes of environmental problems. The practitioner's scepticism about the establishment of a specialised environmental police unit highlights recognition of the limitations of top-down approaches to environmental governance and the need for more participatory and inclusive approaches that engage communities, civil society organisations, and other stakeholders in environmental decision-making processes.

6.3. Increasing public awareness

The data show that public awareness about environmental issues is crucial for promoting responsible citizenship and sustainable development. Both mainstream media and social media play a vital role in raising awareness about environmental issues and advocating for stronger enforcement of environmental laws. However, there is a pressing need for more comprehensive coverage of complex and multifaceted topics such as climate change, sustainable development, and biodiversity in the school curriculum. Eco-friendly education needs to be integrated with

environmental ethics to promote an environmentally conscious new generation, address environmental challenges, and foster social and economic sustainability. The media needs to take a more active role in promoting awareness of climate change and environmental pollution and prioritize the public interest over corporate interests. Furthermore, collaboration between media outlets and government agencies is crucial to hold polluters accountable. Overall, promoting public awareness through education and media can contribute significantly to protecting the environment and building a sustainable future.

6.3.1 Influence of mainstream media and social media

Based on the data from the interviews conducted with respondents (6, 17, 10, 27, 24, 12, 25, 20, and 21), it is evident that both mainstream media and social media can have a crucial impact on environmental law enforcement and raising mass awareness about environmental issues. The media can play a vital role in exposing environmental violations, advocating for stronger enforcement of environmental laws, raising awareness about environmental issues, and mobilizing individuals to take action to protect the environment. However, the police officer (Interviewee-25) highlights that the media's contribution to environmental education is currently insufficient, and they need to take a more active role in promoting awareness of climate change and environmental pollution. The DoE official (Interviewee-6) stresses that collaboration between media outlets and government agencies is crucial to hold polluters accountable. The media can also educate the public, provide context and analysis, and encourage behaviour change towards a more sustainable future. Social media, particularly Facebook, can also have a significant impact on creating awareness about environmental crimes and pollution, reaching a broad audience quickly, as mentioned by the officials (Interviewees-5 and Interviewee-21). Social media can also help to identify and bring offenders to justice, provide insights into public

opinion and attitudes towards environmental issues, and complement traditional data collection methods. The DoE official (Interviewee-5) emphasizes the practical benefits of social media in promoting awareness, enabling action, and facilitating communication between stakeholders. However, the police officer (Interviewee-12) notes that although the media can shape individual beliefs and attitudes towards environmental issues, its coverage often lacks compelling messages. Therefore, media outlets should take a more active role in reporting on environmental issues and prioritize the public interest over corporate interests, as noted by the police officer (Interviewee-24). Furthermore, the police officer (Interviewee-20) highlights that wealthy and powerful individuals often bribe journalists to keep environmental issues out of the news, leading to a lack of public awareness and accountability. Therefore, it is essential for the media to maintain their integrity and report impartially on environmental issues.

Both electronic and print media have a significant role in addressing environmental issues, including exposing environmental crimes, promoting sustainable practices, and educating the public about environmental degradation. But there should be a need for collaboration between media outlets and government agencies to hold polluters accountable and prevent further harm to the environment and public health. As the DoE official suggests,

Seventeen lead recycling factories were illegally operating in Dhaka and creating toxic smoke. This information was obtained by the DoE from the 71 TV Channel. Based on the information, the DoE took legal action against them and demolished them. Like the 71 TV Channel [...] should step forward to inform law enforcement agencies and educate the populace about environmental crimes and pollution [Interview-6].

This incident illustrates the potential of media to act as powerful tools for environmental justice, by shedding light on illegal activities and polluting practices that might otherwise go unnoticed or unaddressed. Beyond this specific example, the official stresses the need for the media to take

an active and ongoing role in raising awareness and educating the public about environmental issues. This includes not only reporting on individual incidents of pollution but also providing context and analysis on the broader structural and systemic factors that contribute to environmental degradation. Moreover, the official notes that media can also be a powerful tool for promoting sustainable practices and encouraging behaviour change at the individual and societal levels.

Besides the print and electronic media, the power of social media, particularly Facebook, in raising awareness of environmental issues and enabling law enforcement agencies to take action against environmental crimes could be a potent tool (Interviewee-5 and Interview-21). Social media can complement traditional forms of data collection and analysis and provide valuable insights into public opinion and attitudes towards environmental issues. The practical benefits of social media in promoting awareness, facilitating action, and enhancing communication among different stakeholders could undoubtedly be a powerful tool in modern times. The DoE official recommends,

Social media especially Facebook is a very active and powerful platform. If someone shares a picture, it becomes viral-spreads quickly and widely, on this platform. It is good for the relevant law enforcement agencies to take action against the issue. It is a good platform to disseminate information quickly and reach people easily [interview-5].

The official recognizes the ability of social media to rapidly disseminate information and images, making it an effective tool to reach a large and diverse audience quickly. This can help to raise awareness and understanding of environmental issues, which in turn can facilitate change. The official also highlights the importance of social media in enabling law enforcement agencies to take action against environmental crimes. By providing information and images of such crimes, social media can help to identify offenders and bring them to justice. This can have a deterrent

effect on potential offenders and help to reduce the incidence of environmental crimes. Furthermore, the official's remarks suggest that they see social media as a complementary tool to traditional forms of data collection and analysis. While social media may not provide definitive evidence of environmental crimes, it can provide valuable insights into public opinion and attitudes towards environmental issues.

Likewise, the DoE official, the police officer (Interviewee-24) also highlights the important role of social media in creating mass awareness which needs to be properly explored. The officer further suggests that the mainstream media needs to play a more active role in providing information on environmental crime as they are the products of different corporate bodies in Bangladesh. As a police officer proposes,

The mainstream media, both print and electronic, has made strides in addressing environmental issues through campaigns, round table discussions, and reporting on pollution. [...] As a complementary force to mainstream media, social media has the potential to make a significant impact in the environmental arena. Moreover, the mainstream media need to play a more active role since they are the products of the corporate bodies of Bangladesh [Interview-24].

The officer acknowledges the progress made by the mainstream media in addressing environmental issues through campaigns, round table discussions, and reporting on pollution. This recognition shows that the media can be a powerful tool in shaping public opinion and increasing awareness of environmental concerns. The officer's observation that social media remains an untapped resource for raising awareness and mobilising action on environmental issues is a valid point. Social media has become a ubiquitous platform for communication and can reach a vast audience, including younger people who may not engage with traditional media. There is enormous potential to leverage social media platforms to educate and mobilize citizens on environmental issues, and media outlets must prioritize using social media to amplify their

coverage and reach. However, the officer's comment about mainstream media being the product of corporate bodies in Bangladesh is concerning. It raises questions about the influence of corporate interests on media coverage and whether media reporting is unbiased and independent. The media must maintain their integrity and prioritize the public interest by avoiding sensationalism and reporting impartially on environmental issues.

As media play a crucial role in promoting environmental sustainability by educating and inspiring people, they should create impactful content that highlights the severity of environmental issues and present solutions to motivate individuals and communities towards a sustainable future (Interview-12). In addition, media collaboration with experts and stakeholders in the environmental sector is essential for accurate reporting on complex issues, shaping public discourse, and informing policy decisions. The police officer notes,

When I was young, I vividly remember a television advertisement on tree plantations and the significance of preserving forests in Bangladesh. [...] Let us utilize this medium to educate and motivate people towards a sustainable future [Interview-12].

The officer's personal experience demonstrates the power of media in shaping individual beliefs and attitudes towards environmental issues. However, the officer also notes that media coverage of environmental concerns is often lacking in compelling and inspiring messages. This is a missed opportunity, as electronic media have immense potential to create impactful short films and advertisements that can sensitize people towards climate change and environmental crimes. By creating compelling and inspiring content that resonates with people, the media can be a powerful tool in motivating individuals and communities to take meaningful steps towards a sustainable future. By providing well-researched and balanced coverage, the media can play a critical role in shaping public discourse and informing policy decisions.

The media have a responsibility to educate people about environmental issues such as climate change and pollution, and although their current contribution is insufficient, their role in educating people about these issues is highly significant (Interviewee-25). Therefore, it is urgent for the media to take a more active role in promoting education and awareness regarding climate change and environmental pollution. As a police officer advocates,

Currently, the media's contribution to environmental issues is negligible [...] It is imperative that the media step up and take a more active role in creating awareness and promoting education on environmental issues[Interview-25].

The interviewee's statements demonstrate a clear understanding of the gravity of the situation, and their sense of concern and urgency is palpable. The respondent also acknowledges the lack of public awareness and understanding of these issues and the importance of educating people to find solutions. Furthermore, the interviewee's remarks suggest that the media have a responsibility to fulfil in educating the public. The officer states that current media contribution is insufficient and that they need to step up and take a more active role in promoting education and awareness. However, sometimes the local media are not willing to report environmental pollution. Environmental crimes and pollution often go unreported due to the influence of powerful individuals who bribe journalists (Interviewee-20). To address this issue, the media need to take a stronger and more consistent stand in reporting on environmental issues to raise public awareness and hold polluters accountable. As a police officer suggests,

At the local level, environmental crimes and pollution often go unreported by the media due to the influence of wealthy and powerful individuals. [...] The media have a critical role to play, not only at the local level but also on a national scale, in holding polluters accountable and raising public awareness about environmental crime and pollution [Interview-20].

This situation creates a lack of public awareness and accountability for those responsible for environmental damage. By consistent reporting of environmental issues, people will become better informed about the impact of pollution on the environment. It is important to note that the role of the media is not limited to reporting on environmental issues at the local level but also on a national scale. Similarly, another police officer (Interview-21) emphasises the critical role of ethics and integrity in journalism, particularly in reporting on environmental crimes. The challenges faced by traditional media and local journalists are highlighted, with bribery and intimidation being major impediments to effective coverage. The lack of qualified and ethically responsible local journalists is a significant concern, underscoring the need for greater investment in media education and training. To combat these issues, it is imperative that journalists adhere to high ethical standards and conduct thorough investigations, regardless of the obstacles they may face. As a police officer prescribes,

Local media often fail to adequately report on pollution, particularly when polluters use bribes to suppress news coverage of environmental crimes such as hill cutting [.....] Moving forward, it is imperative that all forms of media - both traditional and social - work with integrity and a strong moral compass to report on environmental issues [Interview-21].

The officer's emphasis on the need for media, both traditional and social, to work with integrity and a strong moral compass is crucial. Ethics in journalism is vital, and the media has a critical role in promoting accountability and transparency. The officer's call for the media to work with integrity and high ethical standards highlights the importance of their role in shaping public opinion and driving social change. The interview also sheds light on the challenges that traditional media and local journalists face in covering environmental crimes. Bribery and intimidation are serious issues that can undermine the credibility of media and hinder the dissemination of crucial information. The officer's acknowledgement of the lack of qualified and

ethically sound local journalists is also significant and underscores the need for greater investment in media education and training.

6.3.2 Incorporating eco-friendly education

The data indicate that eco-friendly education plays a crucial role in promoting responsible citizenship and sustainable development. While many school textbooks cover environmental issues, there is still a pressing need for more comprehensive coverage of complex and multifaceted topics such as climate change, sustainable development, and biodiversity (Interviewee-5). Despite the efforts made towards environmental education in Bangladesh, the current approach falls short of effectively raising awareness and instilling a sense of responsibility for environmental conservation among the population (Interviewee-34). Therefore, it is essential to include education on climate change and environmental pollution in the school curriculum to create environmentally responsible citizens (Interviewees-5, 19, 24, 25, and 34). Furthermore, this eco-friendly education needs to be integrated with environmental ethics into the school curriculum (Interviewees-25 and 34). The current education system in Bangladesh prioritizes religious values over universal values, resulting in a narrow worldview among students (Interviewee-25). The integration of environmental ethics will promote an environmentally conscious new generation, address environmental challenges, and foster social and economic sustainability. However, to create a conscious generation that values and prioritizes the environment, it is important to include specific environmental issues such as river pollution, water pollution, and air pollution in high school curricula. This information should be presented in an engaging and updated manner, and environmental education should be made mandatory in exams (Interviewee-19).

A well-rounded education is necessary for students to address environmental challenges in the future and Bangladesh has made progress in incorporating environmental education into the school curriculum (Interviewee-5). But further development of teaching materials, teacher training, and public engagement is required. As the DoE official suggests,

Almost all textbooks discuss environmental issues. When we were children, we also used to read about them [...] However, there is still room for improvement. The school curriculum should cover everything necessary, but we should also strive for more [Interview-5].

This indicates that there has been significant progress in incorporating environmental education into the school curriculum and that students are already exposed to a wide range of topics related to the environment. However, the official also recognizes that there is still room for improvement. While environmental pollution is already covered, the official suggests that there should be more comprehensive coverage of other environmental issues as well. This is important because environmental issues are complex and multifaceted, and it is important that students are exposed to a range of perspectives and ideas in order to fully understand the issues at hand. Furthermore, the official emphasises the need for the school curriculum to cover everything necessary. This could include topics such as climate change, sustainable development, and biodiversity, which are becoming increasingly important as the world faces environmental challenges. By ensuring that the school curriculum covers all necessary topics, students will be better equipped to understand and address these issues in their future lives. Finally, the official emphasises the need for continued improvement in environmental education. While progress has been made, there is still much work to be done in order to ensure that students receive a comprehensive and well-rounded education in environmental issues. This could involve developing new teaching materials and methods, training teachers, and increasing public awareness and engagement with environmental issues.

Unlike the DoE official, the Chief Executive of BELA holds a different opinion regarding environmental education in Bangladesh. The lack of environmental awareness among the country's populace, especially the younger generation, is a concerning issue. While the government is emphasizing development, there is a pressing need to prioritize climate education to prepare for forthcoming challenges (Interviewee-34). By incorporating an eco-friendly curriculum that prioritizes environmental ethics, Bangladesh can cultivate a new generation that is committed to taking action to mitigate the impact of climate change. As the Chief Executive prescribes,

Environmental education in Bangladesh is inadequate in creating awareness and inspiring people to practise environmental ethics [...] Therefore, we must prioritize climate education and incorporate an eco-friendly curriculum to instil environmental ethics in the younger generation [Interview-34].

The interviewee's argument is persuasive as climate change is a critical global challenge that requires a collective effort to address. The lack of environmental awareness and ethics among the people of Bangladesh, particularly the younger generation, is a concerning issue that needs to be addressed. The Chief Executive of BELA proposes a solution by advocating for climate education and an eco-friendly curriculum that prioritizes environmental ethics. This solution has the potential to create a generation that is more conscious of the environment and its impact on human health and well-being. By educating the younger generation on climate change and environmental ethics, Bangladesh can create a new generation that is more aware of the impact of their actions on the environment and is committed to taking action to mitigate the effects of climate change.

The current education system is flawed as it emphasises religious values over universal values and ethics, leading to a narrow worldview among students (Interviewee-25). Re-evaluating the

school curriculum and integrating environmental ethics will provide students with the necessary tools to address environmental challenges and promote sustainable practices. As a police officer recommends,

In Bangladesh, there is a widespread misconception that ethical and moral issues are solely religious matters.[.....]. It is time for policymakers in Bangladesh to recognize this error and re-evaluate the school curriculum, incorporating environmental ethics to create an environment-friendly new generation [Interview-25].

The officer points out that the current perception in Bangladesh, which sees ethical and moral issues as solely religious matters, has led to a flawed education system. As a result, the education system emphasizes religious values over universal values, leading to a narrow worldview among students. To overcome this limitation, the officer suggests that the school curriculum needs to be re-evaluated, and environmental ethics need to be integrated to create an environment-friendly new generation. This approach will provide students with the necessary tools to address environmental challenges and promote sustainable practices. Moreover, the interview emphasises the need for policymakers to recognize the limitations of a purely religious-based education system and adopt a more holistic approach that incorporates universal values and ethics. The interviewee also highlights the importance of environmental ethics in eco-friendly education. It is crucial to teach children about the value of the environment and the ethical considerations that should guide our behaviour towards it. This way, they can grow up with a deep understanding of the need to protect and conserve the environment.

While Bangladesh has made progress in social forestry and anti-polythene movements, the officer emphasized that education on climate change and environmental pollution must be incorporated into the school curriculum to create a sustainable future (Interviewee-24). This

approach aligns with the UN's Sustainable Development Goals and requires concerted efforts over time from policymakers, educators, and citizens. As a police officer puts forward,

The success of the government's Social Forestry and Anti-Polyethene movements, as well as the replacement of traditional brick kilns, is a testament to the positive impact that concerted efforts towards environmental sustainability can have. However, these efforts must be complemented by a comprehensive approach that includes education on eco-friendly practices, especially in our schools, to ensure a sustainable future [Interview-24].

The officer recognizes the remarkable success of the Bangladeshi government in implementing social forestry, anti-polythene movements, and replacing traditional brick kilns. However, the officer emphasizes that education on climate change and environmental pollution must be incorporated into the school curriculum as the next crucial step towards creating a sustainable future. The officer's advocacy for eco-friendly education reflects a deep understanding of the interconnectivity of environmental and social issues. By educating younger generations, citizens can ignite a social movement that promotes eco-friendliness, sustainability, and responsible decision-making. This approach aligns with the United Nations' Sustainable Development Goals, which emphasise the importance of inclusive and equitable quality education in building resilient and sustainable societies. In a similar vein, another police officer suggests prioritizing certain environmental issues in high school curricula and presenting the information in an engaging way. Making environmental education mandatory in exams will foster an informed and conscious generation that values and safeguards the environment (Interviewee-19). As the police officer recommends,

Though social science textbooks in schools cover environmental pollution to some extent, we must acknowledge the pressing need to prioritize the specific issues of river pollution, and water and air pollution, in high school curricula[.....]And it should be made it compulsory in exams to ensure that every student engages with these critical environmental issues [Interview-19].

The officer's suggestion that the presentation of environmental information should be updated, dynamic, and interesting is a critical point. This approach will help students to engage with and retain information better. An interactive and engaging presentation of environmental issues will help students to understand the criticality of these issues and their impact on the environment and human health. Furthermore, the officer suggests that making environmental education compulsory in exams will ensure that every student engages with these critical environmental issues. This approach will create a more informed and conscious generation that values and prioritises the environment.

6.4. Political commitment

The data suggests that the government of Bangladesh lacks political commitment when it comes to addressing environmental issues (Interviewee-27 and Interview-34). However, the government's focus on development over environmental concerns is cause for concern, as it raises questions about its commitment to democratic values and the welfare of citizens (Interview-34). According to the Chief Executive of BELA, the authoritarian nature of the government has resulted in the bypassing of progressive laws in the name of development, further undermining the rule of law and democratic values. Unfortunately, in countries like Bangladesh where the democratic process has been compromised, law enforcement is often controlled and manipulated. Additionally, when the government controls the media, people feel disempowered and are less likely to speak out. This undermines the rule of law and the public's trust in the justice system (Interviewee-34). Furthermore, political interference in the DoE has led to a lack of political will to enforce environmental laws and regulations. This has resulted in the approval of environmentally sensitive projects with potentially negative consequences (Interviewee-34). The Chief Executive of BELA has expressed concern that the EIA process in

Bangladesh has become a 'greenwash' and emphasized the importance of public participation and genuine consultation. It is necessary to improve environmental governance in Bangladesh with a greater political commitment to transparency, effectiveness, and consultation in the EIA process (Interviewee-34). To effectively enforce environmental laws, Bangladesh needs institutions that are capable of doing so. Unfortunately, the National Rivers Commission, which has limited executive power, has proven ineffective in addressing environmental issues. Additionally, district administration offices have conflicts of interest when taking action against violators of environmental laws (Interviewee-27).

Due to the lack of political commitment, the government prioritizes development over environmental concerns, imposing a developmental model on its citizens (Interviewee-34). The Chief Executive of BELA expresses concerns about the effectiveness and transparency of the environmental judiciary system, as well as its limited scope. The lack of public engagement in the legal process and the authoritarian nature of the current regime raises important questions about the government's commitment to democratic values and the welfare of its citizens. As the Chief Executive asserts,

[...] The environmental judiciary system in Bangladesh has been created from a narrow perspective. This is due to the government's phobia of environmental issues, as it believes that such issues can hinder the developmental process in Bangladesh. The development concept of the government, which is imposed on the people, is debatable. This imposition occurs in an authoritarian regime where the movement tries to bypass all progressive laws. So we need a real democratic government which should have political commitment [Interview-34].

This raises important questions about the government's commitment to democratic values and the welfare of its citizens. It also indicates that the government is not addressing the underlying causes of environmental degradation and instead focusing on superficial solutions. The CEO of BELA raises concerns about the effectiveness and transparency of the environmental judiciary

system in Bangladesh. The narrow scope of the system means that only a limited number of cases are considered, which makes it difficult to ensure that environmental law enforcement is adequately protecting the environment and people's rights. Additionally, the lack of direct access to the environmental court limits the public's ability to engage in the legal process and participate in decisions that affect their environment and health. The interview further highlights the authoritarian nature of the current regime, which bypasses progressive laws in the name of development. This authoritarianism raises questions about the government's commitment to the rule of law and democratic values.

The lack of political commitment along with a narrow institutional perspective in enforcing environmental laws in Bangladesh is a significant issue (Interviewee-27). The National Rivers Commission, for instance, lacks executive powers and can only make recommendations, limiting its effectiveness. Moreover, district administration offices often have conflicting interests and rely on the commission's reports to take action against violators of environmental laws. Additionally, illegal activities such as fish farming in dams continue to go unchecked due to the lack of political commitment and enforcement, further degrading the environment. As highlighted by an environmental journalist,

A National Rivers Commission has been formed, but it does not have any executive powers. The commission is authorized to make recommendations, but it cannot take any legal action [...] While institutions are forming in Bangladesh, they are formed from a narrow perspective. Thus, we need political commitment from the government which will really work for the environment and climate change [Interview-27].

The National Rivers Commission, for instance, was established to oversee the management of rivers in the country. However, the commission does not have any executive powers, and its role is limited to making recommendations. This means that it cannot take any legal action against

those who violate environmental laws, which severely undermines its effectiveness. The journalist further highlighted that district administration offices often rely on the commission's reports to take action against encroachers and violators of environmental laws. However, in some cases, these offices themselves have leased the land to occupants or shown rivers as reservoirs for fish farming. This conflict of interest creates a situation where environmental laws are not enforced effectively, leading to further damage to the environment. Another issue that the journalist raised was the use of dams for fish farming in rivers. This practice is illegal and causes significant harm to river ecosystems. However, due to the lack of political commitment and enforcement, these illegal activities continue to go unchecked, leading to further degradation of the environment.

The importance of a political will cannot be overstated when it comes to effective law enforcement (Interviewee-34). Without it, law enforcement agencies are left without the necessary resources and support to carry out their duties effectively. The lack of political commitment has resulted in a situation where lawbreakers are not being held accountable, and the public is left feeling disempowered and unable to form opinions. This is particularly evident in countries where the government controls the media, which limits the ability of people to speak out and express their views. As the Chief Executive of BELA states,

I disagree with the notion that law enforcement is solely about the police enforcing laws. In my view, there should be a political process involved in law enforcement. Unfortunately, in countries like Bangladesh, the democratic process has been defeated, and this has led to law enforcement being controlled and manipulated. [...]. This means that people feel disempowered and are reluctant to speak out. They believe that taking risks is unnecessary, and as a result, they remain silent [Interview-34].

The Chief Executive pointed out that the lack of political commitment has had a negative impact on the judiciary. The interviewee explained that when the judiciary is not independent, it cannot effectively enforce laws and hold those who break them accountable. This, in turn, undermines

the rule of law and the trust of citizens in the justice system. Moreover, the Chief Executive emphasized the importance of public opinion in law enforcement. She explained that for law enforcement to work effectively, it requires the support of the public.

In addition to the challenges of enforcing environmental regulations, the presence of politically motivated government officials can undermine impartiality and prioritise political interests over the public good(Interviewee-34). This has resulted in a lack of political will to enforce environmental laws and regulations, leading to the approval of potentially harmful projects. The CEO's concerns regarding the flawed environmental clearance process, which is influenced by misinformation and a lack of accountability, further demonstrates the government's disregard for sustainable development. As the Chief Executive of BELA claims,

In most cases, the DG of the DoE is appointed from a political cadre. This implies that our civil service has been renamed as a political cadre service, and this partisan service is also functioning within the DoE. Although the DoE is operational, it lacks the necessary political will. [...] So, why talk about sustainable development when the DoE's actions do not reflect it? So, this institution needs political commitment to work independently [Interview-34].

This interview underlines the DoE lacking the necessary political will to enforce environmental laws and regulations, leading to the approval of environmentally sensitive projects with potentially negative consequences. Moreover, the Chief Executive's statement that misinformation and false information is used to obtain environmental clearance certificates for various development projects reveals a serious problem in the environmental clearance process. This process should be based on accurate and reliable information to ensure the sustainable development of the country. The lack of obligation for the DoE to issue clearance within 60 days is also concerning, indicating that environmental issues are not a priority for the government. The Chief Executive's question about the government's commitment to sustainable development

is crucial. Sustainable development is essential for the long-term well-being of citizens, and it is the government's responsibility to ensure that economic growth and development are sustainable and do not harm the environment or the community. However, the lack of political will to enforce environmental laws and regulations puts the future of sustainable development at risk.

Furthermore, the Chief Executive of BELA discusses the issue of environmental governance in Bangladesh, focusing on the Rampal Power Plant Project as an example. The Chief Executive highlights the need for transparency and effectiveness in the Environmental Impact Assessment (EIA) process, which should be used to evaluate the potential environmental impact of development projects. The Chief Executive expresses concern that the EIA process in Bangladesh has become a 'greenwash,' with a lack of genuine commitment to environmental protection. Public participation in the EIA process is crucial, but the process often lacks transparency and is not genuinely consultative, which undermines its effectiveness. The Chief Executive emphasizes the need for better environmental governance in Bangladesh, with a greater political commitment to improving the EIA process through awareness-raising, capacity-building, and advocacy efforts. As the Chief Executive of BELA recommends,

Environmental Impact Assessments are crucial tools for evaluating the potential effects of development projects. However, in Bangladesh, the EIA process has become nothing more than a 'greenwash' due to poor governance. The Rampal Power Plant Project is a prime example of this, where the government acquired land worth billions before conducting the assessment. It is essential to ensure that the EIA process is transparent and effective, and public hearings should not be used as a facade to give the impression of public consultation [Interview-34].

The Chief Executive highlights the need for transparency and effectiveness in the EIA process, which should be a tool for evaluating the potential environmental impact of development projects. His statement underscores the importance of public participation in the EIA process. It is essential to ensure that the public has a genuine opportunity to express their concerns and

provide feedback. However, in Bangladesh, the EIA process often lacks transparency and is not genuinely consultative, which undermines the effectiveness of the process. The Chief Executive's interview highlights the need for better environmental governance, with a greater political commitment to ensure that the EIA process is transparent, effective, and genuinely consultative. This can be achieved through greater awareness-raising, capacity-building, and advocacy efforts aimed at improving environmental governance.

Similarly, an environmental journalist advocates for a stronger political commitment from the Bangladeshi government to protect the environment and prioritize sustainable development. The journalist cites examples of environmental degradation caused by mega projects and emphasises the need to reconsider such projects in favour of environmental protection. The journalist calls for stronger policies and regulations to prevent environmental harm and highlights the importance of balancing economic development with environmental protection. The journalist proposes,

The government must be held responsible for the environmental degradation caused by its mega projects. For instance, the Matarbari Coal Power Plant in Cox's Bazar has encroached upon the Kohelia River, while the Rampal Power Plant is gradually posing a threat to the Sundarbans. Any project that risks the environment must be reconsidered and not implemented. Bangladesh, a small country with a large population, must prioritize the protection of the environment to ensure sustainable development [interview-27].

The journalist's comments suggest that the government's political commitment to saving the environment is currently inadequate. He argues that the government needs to implement stronger policies and regulations to prevent environmental harm and prioritize the environment over economic interests. In a small country like Bangladesh, with a large population and limited resources, the journalist emphasizes that sustainable development must be a top priority. Furthermore, the journalist's comments highlight the importance of balancing economic

development with environmental protection. It is crucial that the government promotes economic growth while minimizing the impact on the environment. The journalist notes that this requires a coordinated effort across government agencies, civil society organisations, and the private sector.

6.4 Political corruption

The data show that Bangladesh struggles to enforce its environmental laws due to political corruption, despite having regulations in place; enforcement is often inconsistent and ineffective, with powerful entities able to violate laws (Interviewee-10, 13, 15, 17 and 23). Sometimes, the DG of the DoE lacks the authority to enforce laws, leading to a culture of corruption and higher officials escaping accountability (Interviewee-23). Moreover, law enforcement agencies face difficulty in enforcing laws against local political leaders who engage in illegal activities, such as sand extraction, due to political corruption (Interviewee-10,13, 15, and 17) . This can lead to a lack of accountability and a breakdown in the rule of law, affecting the environment and communities. To address this issue, independent institutions and effective regulatory frameworks are essential for investigating and prosecuting illegal activities, regardless of political power or influence.

The issue of political corruption in environmental law enforcement in Bangladesh is seen with the DoE (Interviewee-23). The position of DG is lower in the hierarchy as compared to the secretary, state minister, and minister, and thus it is not fair to hold the DG solely responsible for the enforcement of environmental laws. The journalist points out that fines imposed by the directors of the DoE for environmental law violations are often waived by higher officials, which the journalist identifies as ‘political corruption’(Interview-27). This observation suggests that the

enforcement of environmental laws is not based on objective criteria but is instead influenced by political power and connections. As the journalist suggests,

The position of DG holds a lower rank in the hierarchy as compared to the secretary, state minister, and minister. It is not fair to place all responsibilities solely on the DG. In Bangladesh, it has been observed that when the directors of the DoE impose fines for environmental law violations, either the secretary, state minister, or minister will waive the fines. This has happened frequently in Bangladesh which I say is political corruption. It needs to be addressed [Interview-27].

This power dynamic creates an unfair situation where the DG is expected to bear the burden of responsibility for enforcing environmental laws, while others in higher positions are not held accountable for their actions. The journalist notes that this results in a culture of corruption, where the fines imposed by the DoE directors for environmental law violations are frequently waived by higher officials in the government. This practice is not only unethical, but it also undermines the effectiveness of environmental law enforcement in the country. The journalist's analysis highlights the need for systemic reforms to address these issues and ensure that environmental laws are enforced fairly and impartially. The DoE must be given more authority to enforce environmental laws without interference from higher officials. Moreover, there needs to be a change in the culture of corruption within the government. This can be achieved through measures such as increasing transparency and accountability in government operations, implementing strict penalties for corrupt practices, and encouraging citizen participation in the governance process.

Law enforcement agencies face difficulty in enforcing laws against local political leaders who engage in illegal sand extraction (Interviewee-23). Political corruption and influence can make it challenging to hold these elites accountable, resulting in a breakdown of the rule of law and negative impacts on the environment and affected communities. To combat political corruption

in environmental law enforcement, strong, independent institutions, and effective regulatory frameworks are necessary. As a police officer suggests,

Law enforcement agencies need to work impartially and neutrally [...] Such scenarios present a significant challenge to the rule of law, as the power and influence of these elites can make it exceedingly difficult to enforce legal prohibitions against their illicit activities [Interview-23].

Political corruption can have a significant impact on environmental law enforcement, as local politicians who engage in illegal sand extraction or other environmentally harmful activities may use their influence to protect themselves from prosecution. This can lead to a lack of accountability and a breakdown in the rule of law, which can have serious consequences for the environment and the communities affected by these activities. To combat political corruption in environmental law enforcement, it is essential to have strong, independent institutions and effective regulatory frameworks in place. These institutions must be able to investigate and prosecute those who engage in illegal activities, regardless of their political power or influence. In the same vein, the public prosecutor of an environmental court highlights political corruption in environmental law enforcement, where powerful figures manipulate law enforcement agencies to evade charges of environmental wrongdoing, contributing to environmental degradation. The public prosecutor notes,

Local powerful political and business figures often seek to exert their influence on law enforcement, pushing for the narrative that they are innocent of environmental wrongdoing, and in turn, hindering efforts to protect our environment [Interview-10].

The prosecutor's observations underscore the critical role that politics and business interests play in environmental law enforcement. This practice of undue influence can result in a lack of accountability and, ultimately, contribute to environmental degradation. The interview suggests that these powerful figures attempt to manipulate law enforcement agencies to gain favourable

outcomes for themselves, even at the expense of the environment. The prosecutor's comments reflect the ongoing challenges faced by law enforcement agencies in their efforts to combat environmental violations. These issues highlight the need for strong laws and regulations and independent enforcement agencies to protect the environment effectively.

Similarly, a new dimension of political corruption is revealed through the statement of a police officer (Interviewee-13). The officer explains that local leaders show appreciation for the police arresting criminals for hill cutting but later question their actions and suggest being informed before a special drive. This highlights a conflict of interest where politicians prioritize their interests over environmental law enforcement, implying that they value power over the law and the environment. It also raises concerns about the integrity of the law enforcement process, suggesting that political pressure may influence police actions. As the police officer highlights,

In coordination meetings, we are sometimes appreciated by local political leaders for arresting criminals involved in hill cutting. However, after the meeting, the same local leaders who praised us often question our actions and say, "Why did you arrest those people? They are innocent. They belong to our political party. We need their support. You should inform us before conducting any special drive [Interview-13].

This scenario highlights the conflict of interest that arises when political leaders prioritize their own interests over the enforcement of environmental laws. The fact that the leaders belong to a particular political party and seek the support of individuals involved in illegal activities suggests that they are more concerned with maintaining their power than with protecting the environment and upholding the law. Furthermore, the suggestion that the police should have informed the political leaders before conducting any special drive raises concerns about the integrity of the law enforcement process. It implies that the leaders have some level of control over police actions and that the police may be influenced by political pressure. Other new insights into political corruption have emerged from the data, revealing a troubling reality: corruption is

deeply rooted in local government administration. Businessmen and contractors influence their connections to avoid fines and punishment for their employees, further entrenching the problem.

The police officer highlights,

During special drives and mobile, it is common for labourers and vehicle drivers to be arrested and fined. However, what is particularly concerning is that it is the businessmen or contractors who end up paying the fines. They often assure the labourers and drivers that they have connections with local administrations, highlighting a larger issue of corruption and influence-peddling [Interview-15].

During routine checks and special drives, labourers and vehicle drivers are frequently fined and arrested for environmental violations. However, what is particularly concerning is that fines are being paid by businessmen and contractors rather than the workers themselves, suggesting that they have some form of connections and influence on law enforcement. This interview underscores the need for greater transparency and accountability in environmental law enforcement. All individuals and companies must be held responsible for their actions, regardless of their political connections or wealth. Without such accountability, the integrity of the legal system will be undermined, and environmental protections will be compromised. It is crucial that the rule of law is upheld without the influence of corruption or political connections, in order to ensure a fair and sustainable future for all.

The data suggests that there is a complex criminal network involving local authorities, including the police and the DoE, behind environmental destruction, particularly in hill cutting (Interviewee-17). This implies a systemic issue related to governance and politics. The officer's expertise on the issue enhances the credibility of their statements. The police officer describes,

The criminal network behind environmental destruction, like a tangled web of corruption, relies on the cooperation of the local police, local administration, and the local DoE office. Each plays a distinct role in perpetuating the cycle of devastation, especially in local hill cutting [Interview-17].

The use of the term "tangled web" implies a complex and interconnected system of corruption, indicating that it may be challenging to address this issue. The statement highlights the specific role played by each local authority in perpetuating environmental devastation, particularly in the context of hill cutting. This suggests that the officer has some level of knowledge and expertise on the issue, which could enhance the credibility of their statements. The reference to political corruption in environmental law enforcement implies that the problem not only concerns individual bad actors, but also systemic issues related to governance and politics. This interpretation aligns with broader discussions around corruption in developing countries, where political and economic interests often override environmental protections. Therefore, effective environmental governance in Bangladesh needs to be reformed to address these issues.

6.5 Conclusion

In conclusion, this chapter provides a comprehensive examination of potential solutions to address the challenges associated with the enforcement of green crime in Bangladesh. Through an extensive analysis of interviews conducted with diverse stakeholders, the chapter identifies a range of strategies aimed at enhancing the efficacy of enforcement measures. These strategies encompass improvements in the country's institutional frameworks, efficient resource allocation, amendments to existing laws, the establishment of a robust judiciary, and the creation of a specialised police unit. The implementation of these measures is expected to foster good governance, bolster accountability, and promote transparency in tackling green crime. Furthermore, the findings of this chapter emphasize the significance of cultivating public awareness, particularly through mainstream and social media platforms, to shape public opinions and behaviours concerning environmentally responsible practices. Moreover, the chapter

underscores the paramount importance of integrating eco-friendly education initiatives within the broader educational framework to instil a sustainable mindset among the general populace. Lastly, the chapter highlights the pervasive influence of political corruption on the enforcement of green crime laws and emphasizes the indispensable role of political commitment from the government. Addressing the issue of corruption and ensuring unwavering dedication from governmental authorities in safeguarding the environment is imperative for effectuating tangible progress in combatting green crime in Bangladesh.

Chapter-Seven: Discussion and conclusion

7.1 Introduction

This chapter constitutes a discussion of the key findings derived from the analysis of data collected in a study on policing green crime in Bangladesh. This is the first comprehensive study of the law enforcement system concerned with environmental harms and offending in Bangladesh, and with a specific focus on the police. The study therefore serves as an original contribution to research literature. In some respects, it confirms findings from similar studies in other jurisdictions and in other ways it adds entirely new material (such as descriptions of the innovative mobile courts and of specific forms of environmental crime), to the body of comparative green criminology research.

The discussion integrates empirical results with relevant literature to explore important themes and implications. The first section of the chapter focuses on the current state of green policing activities in Bangladesh. It examines existing initiatives, policies, and practices implemented to address environmental crimes. By analysing empirical data, the strengths and weaknesses of these efforts are identified, highlighting areas in need of improvement. The subsequent section addresses the challenges faced in green policing. The findings reveal a poor institutional framework, lack of political will, limited public awareness, and insufficient collaboration among stakeholders. Understanding these barriers is crucial for devising effective strategies. Finally, the chapter offers potential solutions and a way forward. Recommendations include strengthening the institutional framework, increasing collaboration, establishing a specialised police unit for green crime, engaging the community, leveraging the role of media, and promoting eco-education. By integrating empirical findings with relevant literature, this chapter provides

valuable insights into the discussion and conclusion of the study on policing green crime in Bangladesh. The recommendations offered have practical implications for enhancing green policing efforts in the country and addressing the identified barriers.

7.2 Current activities of the law enforcement bodies and environmental agencies in dealing with green crime in Bangladesh

The analysis of the data yields compelling evidence that underscores the significant involvement of the DoE, Bangladesh Police, and various other law enforcement agencies in combatting green crime within the context of Bangladesh. The research findings indicate that the DoE, serving as the primary governmental entity responsible for environmental oversight, employs a diverse range of strategic measures, including the implementation of mobile court operations and special operations, to effectively enforce environmental laws (for further elaboration, see Chapter 4). In many countries, there is a common trend where police forces mainly provide additional assistance rather than taking the lead in enforcing environmental laws (Holley & Shearing, 2016). In Bangladesh, the situation is similar. Here, the main role of enforcing environmental regulations and laws falls on environmental agencies, with the DoE being the primary entity responsible for this task within the country's borders.

The empirical findings of the study underscore the notable and distinct role played by the Bangladesh Police in mitigating green crime, thereby often surpassing their conventional supportive functions. This unique feature of environmental law enforcement by the Bangladesh Police emphasizes the exceptional nature of the study. The police force in Bangladesh proactively engages in a diverse array of activities, including the investigation of green crime, regular patrolling, and extensive surveillance, all of which are of paramount importance in the

identification and prevention of environmental offenses. Furthermore, the Bangladesh Police extend their efforts beyond national borders through the establishment of robust collaborative networks, particularly with INTERPOL and neighbouring countries. This recognition of the transnational nature of green crime is a testament to their commitment to combating these offenses on a global scale. The collaboration between the Bangladesh Police and international entities such as INTERPOL, in addition to fostering strong ties with neighbouring countries, plays a crucial role in enhancing their efficacy in addressing environmental offenses. Through these cooperative endeavours, the exchange of critical information, the sharing of best practice, and the coordination of joint initiatives are facilitated. This concerted transnational approach amplifies the collective impact of their actions, bolstering the effectiveness of their endeavours in combating green crime worldwide. Consequently, the Bangladesh Police exemplify a proactive and globally aware law enforcement agency, actively engaging in multifaceted strategies to address the complexities associated with environmental crimes. This transnational collaboration underscores the recognition of the global nature of green crime. The findings of this study align with prior research conducted by White (2007), Wunderlich (2017), Tomkins (2005), Wasserman (1994), Gibbs et al. (2015), and Wyatt et al. (2020), which have documented similar patterns of green policing activities elsewhere.

The comprehensive and collaborative approach adopted by the DoE, Bangladesh Police, and other law enforcement agencies reflects the government's commitment to addressing green crime and safeguarding the country's natural resources. This multi-agency cooperation not only strengthens the enforcement of environmental laws but also fosters knowledge exchange and capacity building in the domain of green policing. Both the study findings and existing literature indicated that collaboration and cooperation are crucial for policing green crime. As Pink and White (2016:06) note, enforcement and regulatory agencies, including police, customs, and

environmental agencies, are primarily responsible for addressing environmental crime worldwide. Collaboration among these agencies is essential but can be influenced by their unique mandates, cultural traits, and stakeholder interests. Therefore, “collaboration and collaborative approaches have increased significantly in recent years, both at domestic and international levels. They have increased within the three core agencies, and between these and other key government response agencies” (Pink and White, 2016:06).

In addition, the data and existing literature review (Wyatt et al., 2020; Gibbs et al., 2015 and Tomkins, 2005) indicate that green crime law enforcement, especially wildlife crime cross-border cooperation, has improved. According to Higgins and White (2016:113), ‘fighting transnational crime will frequently and increasingly demand a worldwide response.’ The reason is that the complex and cross-border nature of the crimes requires international cooperation (Higgins and White, 2016). The data signposted that the Bangladesh Police collaborate with the INTERPOL exchanging information and sharing intelligence in dealing with wildlife trafficking because ‘illegal wildlife trade becomes even more complex not only due to the type of actors involved but also by the way enforcement agencies deal with it’ (Polner and Moell, 2016:63). Since INTERPOL plays a central role in global environmental law enforcement at the international level (Higgins and White, 2016), the Bangladesh Police is a member of a strong network. INTERPOL through its different pillars, works globally, as Higgins and White (2006:104) note, it includes: 1) information management and analysis, 2) capacity development and training, 3) operations and investigations, 4) communications and advocacy and 5) network’. Moreover, the data illustrated that the Bangladesh Police also collaborate with other national law enforcement agencies like custom intelligence, WCCU and others. In addition, wildlife trade, unlike other illegal trades, involves the coordination of different authorities such as wildlife

protection agencies, quarantine authorities, customs, police, border patrol, and, in some countries, the military (Polner and Moell, 2016).

In sum, the research findings suggest that the DoE employs strategic measures through mobile court and special operations, while the Bangladesh Police actively participates in investigations, patrolling, and cross-border cooperation. The research aligns with prior studies emphasizing the importance of collaboration in addressing environmental crime (White & Pink, 2015; Dewi et al., 2020; White & Pink, 2017; Susanto & Surono, 2021; Salim & Palullungan, 2021; Harinda et al., 2021; Fitriyono, 2019). Specifically, the Bangladesh Police collaborates with INTERPOL to combat wildlife trafficking, recognizing the complex and cross-border nature of such crimes. The study underscores the government's commitment to environmental protection and highlights the comprehensive and collaborative efforts of these agencies in enforcing environmental laws and safeguarding natural resources.

7.3 Challenges encountered by environmental agencies and other law enforcement bodies in dealing with green crime

The data analysis reveals a multitude of challenges faced by law enforcement agencies in their efforts to combat green crime in Bangladesh. These challenges encompass various aspects of the institutional framework, including resource constraints, limited collaboration among law enforcement agencies, a discrepancy between legislative provisions and their practical implementation, jurisdictional overlaps, the prevailing influence of bureaucratic authority over the judiciary and law enforcement entities, and the restricted accessibility of the environmental court to the general people. The identified challenges present in the data analysis exhibit striking parallels with the prevailing scholarly research conducted by scholars in this green criminology field. Notable among them are Akella and Canon (2004); Nurse (2012), Wyler & Sheikh (2013),

Nurse (2016), Faroque & South, (2020); Nurse,(2018), White (2007), Nurse (2016), South (2014), Holley & Shearing (2016) and Holley (2017). Their comprehensive investigations have explored various aspects of green crime and shed light on analogous issues that are to be found within the institutional framework operating in Bangladesh.

Law enforcement agencies tackling green crime encounter difficulties due to limited resources and the need to enhance their capacity. The findings from the study data show that poor and traditional policing leads to resource constraints and a lack of capacity building within law enforcement agencies. A group of scholars (Wylr and Sheikh, 2013; Nurse,2018; Nurse,2013; Falcone,2004; Eliason, 2011 and Ariffian, 2015) also highlight that the resource constraints and lack of capacity building that prevail in a poor institutional framework will impair police and environmental law enforcement in dealing with green crime. Insufficient resources, including qualified personnel and financial support, pose significant challenges to both effective enforcement programs and capacity-building endeavours (Jones and Honorato, 2016); as Jones and Honorato (2016:39) note, 'building capacity is not limited to training staff'. As emphasized by Akella and Cannon (2004), any deficiencies or shortcomings in the enforcement chain can nullify the deterrent impact of sanctions and penalties. Additionally, every link in the chain necessitates the sufficient capacity to fulfil the essential duties of environmental law enforcement agencies (Jones and Honorato, 2016).

This concept of "capacity" should be considered in its various aspects. As Jones and Honorato (2016:39) claim 'capacity includes the ability of legislatures and parliaments to create laws that can be enforced, the ability of environmental ministries to effectively implement regulations and controls based on the law, the ability of industries and other polluters to understand and adhere to the law, the ability of civil society and the public to oversee and hold the government and

regulated entities accountable, and the ability of law enforcement agencies, inspectors, prosecutors, and judges to inspect, investigate, and enforce compliance with the law'. For capacity building, law enforcement institutions need to have 'physical capacity'-human resources and logistics, 'programmatic capacity'-policies, guidelines, and standard operating procedures which ensure consistency and equity in practice and finally 'intellectual capacity'-appropriate education and on-the-job training (Jones and Honorato, 2016:41).

The establishment of effective collaboration between various environmental agencies and law enforcement is an important issue, as existing studies indicate (White & Pink, 2015; Dewi et al., 2020; White & Pink, 2017; Susanto & Surono, 2021; Salim & Palullungan, 2021; Harinda et al., 2021; Fitriono, 2019). The data suggest that there is a lack of collaboration. Moreover, the data suggest there is a gap between law enforcement bodies and environmental courts in Bangladesh where the DoE, the environmental court and the Bangladesh Police along with other law enforcement bodies have different mandates that create this lack of collaboration. As Pink and White (2016) point out, every agency, organisation, or network operates within specific legal boundaries that define its purpose, authority, and actions. These boundaries, set by legislation, outline the scope and limitations of their functions, powers, and interventions (Pink and White, 2016). A single authority cannot handle all aspects of environmental protection, and this involves different entities working together to ensure environmental enforcement and legal action when needed (Brosnan and Tylor, 2016). Therefore, collaboration across various domains and sectors is essential in addressing environmental crime, which encompasses a diverse range of activities (Pink and White, 2016). Moreover, Brosnan and Tylor (2016) note that if existing bodies lack enforcement capabilities, they must collaborate with law enforcement agencies like the police, prosecutors, and courts.

In Bangladesh, the predominance of bureaucracy supersedes the autonomy of the judiciary and law enforcement agencies, specifically concerning the enforcement of environmental laws. This original study presents the distinctive identification of the issue of green criminology focused on policing in Bangladesh, within the context of the global south. The study data show that bureaucratic dominance over the judiciary and law enforcement bodies is a challenge for implementing environmental regulations in Bangladesh. The challenges faced in enforcing environmental laws can be attributed to the enduring dominance of post-colonial bureaucracy, deeply rooted in the country's colonial history (Rahman, 2014; Mollah, 2011). Rahman (2014) notes that post-colonial states are shaped by their colonial origins, resulting in the perpetuation of colonial political systems and the emergence of internal authoritarianism in the post-independence period. The government and politics of developing nations, including Bangladesh, have been significantly influenced by the colonial legacy inherited in their state bureaucracy (Mollah, 2011). The bureaucratic structure and working patterns reflect the enduring influence of British colonial rule, hindering post-independence reforms and leading to the politicization of administration and governance (Mollah, 2011). Bangladesh, despite being a democratic country, has lacked a strong political commitment to reform and address bureaucratic intransigence (Mollah, 2011). Huque and Ferdous (2019) argue that the decolonization process led to the liberation of developing countries, with the bureaucracy emerging as a dominant and cohesive force in governance. In Bangladesh, administrative reforms have often been influenced by bureaucratic interests, overshadowing national interests and the role of the political executive (Huque and Ferdous, 2019). In Bangladesh, bureaucrats, in alliance with their political masters and the trading bourgeoisie, wield substantial power in policy delivery, implementation, and resource allocation (Alam and JTeicher, 2012). Bureaucratic leadership dominates policymaking

and governmental decisions in developing countries due to factors such as a weak political executive, societal divisions, and irregular government selection (Huque and Ferdous, 2019).

The administrative structure in Bangladesh, shaped by over 200 years of British colonial rule, is characterized by a centralized bureaucratic system dominated by a select group of recruited, indoctrinated civil servants (Zafarullah and Khan, 2001). This bureaucratic system remains steeped in colonial traditions, exhibiting an elitist and disconnected attitude towards the public, leading to limited interaction and a paternalistic approach to accessing public services (Zafarullah and Khan, 2001). Bureaucratic elitism is a prevalent feature of the Bangladeshi bureaucracy, with the Administrative Cadre of the civil service maintaining an elitist tradition and exerting significant power over policymaking (Zafarullah, 2007). This elitism hampers transparency, public engagement, and accountability, thereby negatively impacting governance and administrative performance (Zafarullah, 2007). Smith (2003) asserts that bureaucratic dominance in government and politics stems from factors such as educational attainment, professional expertise, the perceived neutrality of civil servants, job security, and the relative power of the bureaucracy as a political institution. Politicians often rely on the bureaucracy for the implementation of development programmes, reinforcing its influential position in the policy process (Smith, 2003). Therefore, this nexus of power and bureaucracy works as a challenge in institutional reform and a poor institutional framework still prevails in Bangladesh.

The data and the existing studies by Massé (2020), South (2017), von Essen and Nurse (2016), Goyes and South (2019), Crook et al. (2018), Ruggiero and South (2013), Nurse (2013), Solodov and Zębek (2020), Rege and Lavorgna, (2017), Neimark (2019) and Williams (2019) suggest that socio-economic challenges – especially the lack of political will and the corrupt practices – are responsible for weak environmental law enforcement. The data show that environmental

governance is weak due to the lack of political will of the government and the impact of corrupt practices on environmental law enforcement work. Discussion surrounding corrupt connections between state officials, municipal authorities, and loggers has emerged as a significant concern (Pisareva, 2014). Political corruption and corrupt practices pose significant challenges for law enforcement agencies in Bangladesh when it comes to implementing environmental laws. The continuity of power among the political elite in post-colonial states, including Bangladesh, is maintained through the same patterns as under colonial rule, ensuring their grip on power (Rahaman, 2014:57). This perpetuates a relationship between the political and bureaucratic leadership, whereby the political leadership involves bureaucrats in critical decision-making processes, resulting in shared trust, power, and privileges (Huque and Ferdous, 2019). The public administration system in Bangladesh struggles to establish accountability within the public bureaucracy due to the lack of strong institutional means (Biswas and Rahman, 2018). The inherited bureaucracy in Bangladesh has been described as elitist, disconnected from the people, unresponsive to political leadership, corrupt, outdated, authoritarian, and focused on preserving its own status and privileges (Huque, 1997). Consequently, the relationship between civil servants and politicians remains a significant concern (Huque, 1997).

Bangladesh has undergone significant transformation in recent decades, with massive development. However, many changes have fallen short of moral expectations, particularly due to pervasive corruption undermining numerous efforts (Islam and Rahman, 2020). 'Corruption has become a root cause of economic, political, and institutional weaknesses and shortcomings in Bangladesh' (Haque and Mohammad, 2013: 996). Historically, Bangladesh was part of British India until 1947, and then under Pakistani rule until 1971 (Haque and Mohammad, 2013). Consequently, its administrative culture and system are heavily influenced by those of British India and Pakistan, marked by centralisation, hierarchy, and nepotism (Haque and Mohammad,

2013). In Bangladesh, corruption encompasses actions such as offering, giving, soliciting, or accepting inducements or rewards that could influence the actions of individuals in public office (Haque and Mohammad, 2013). Haque and Mohammad (2013) state that political and administrative corruption in Bangladesh includes bribery, abuse of power, nepotism, favouritism, fraud, patronage, theft, and deception.

Corruption is defined as the misconduct of public officials who act against established norms to benefit themselves privately (Haque & Mohammad, 2013). 'Any deed committed by public officials that goes beyond a legal boundary is regarded as corruption' (Woo and Choi, 2018:02). Typically involving the abuse of entrusted power for private gain, corruption includes bribery, clientelism, embezzlement, as well as subtler forms such as lobbying and patronage (Ortiz-Ospina and Roser, 2019). The term "corruption," originally referring to moral impurity, derives from the Latin for 'to spoil, pollute, abuse, or destroy,' but its meaning has evolved over time and varies across cultures (Holmes, 2015). della Porta and Vannucci (2012) argue that corruption is just one type of illicit or dysfunctional operation within the political and administrative sphere. In Bangladesh, corruption is pervasive in both politics and administration, as noted by Khan (2010). Pecuniary bribes are the most prevalent form of corruption, as highlighted by Taslim (1994). Additionally, corruption takes various other forms such as abuse of authority, nepotism, favouritism, fraud, patronage, theft, and deceit (Khan, 2010). Khan (2010) claims that corruption has spread throughout society, becoming pervasive and accepted as a normal part of life. Its influence is so widespread and enduring that many people have resigned themselves to its existence as an unavoidable reality. Therefore, citizens not only accept the phenomenon as part of daily life but also feel powerless to address it (Lewis, 1996).

According to Bryce (1921), corruption encompasses the misuse of money to achieve personal objectives through political channels, which may involve criminal or illegal actions, leading individuals tasked with public duties to abuse their roles and responsibilities. Corruption ranges from basic transactions involving small bribes for minor favours to complex schemes orchestrated by multiple individuals in influential positions, facilitating the transfer of significant sums of money through intricate networks (della Porta and Vannucci, 2012). In fact, the payment of a bribe, whether to a low-level public official or a high-level policymaker with an electronic transfer to a secret offshore bank account, is observable, but due to its illegality, there are no official statistics on bribery (Rose and Peiffer, 2019). In a corrupt service like policing, informal norms prioritise receiving bribes and personal favours as job benefits, with officers often prioritising loyalty to immediate colleagues over adherence to a police code or accountability to higher authorities (Rose and Peiffer, 2019).

Rose and Peiffer (2019) note that corruption, encompassing negative connotations and often synonymous with poor governance, presents divergent philosophical and legal perspectives. Contemporary social science favours quantification for analysis while the legal approach focuses narrowly on written laws defining illegal practices in public service. However, the definition of corruption is fluid and context-dependent, shaped by societal norms and the perspectives of various actors, including social scientists, journalists, politicians, and ordinary people (Rose and Peiffer, 2019). Theoretical explanations of corruption can be categorised into three main perspectives: the sociocultural, the political-economic, and the neo-institutional (della Porta and Vannucci, 2012). The sociocultural perspective focuses on cultural traditions, social norms, and individual moral values as drivers of corrupt behaviour (della Porta and Vannucci, 2012). According to this view, individuals are influenced by their internalised values and social pressures, with higher moral standards acting as a deterrent to corruption. Key terms associated

with this perspective include ethical norms, cultural values, traditions, and civic culture (della Porta and Vannucci, 2012). On the other hand, the economic approach emphasises the role of economic incentives and opportunities in corrupt activities (della Porta and Vannucci, 2012). It views corruption as the result of rational individual choices driven by the pursuit of monetary gains and institutional opportunities. Factors such as the expected utility of engaging in corruption compared to other activities, risks of being caught, and potential rewards influence individual decisions to participate in corrupt exchanges (della Porta and Vannucci, 2012). The political-economic perspective identifies various opportunities and incentives influencing individuals' decisions to engage in corruption (della Porta and Vannucci, 2012). These include costs of political mediation, state intervention in economic and social fields, potential rents for corrupt agents, discretionary power in public authority, administrative and political controls, and bureaucratic procedures. Lastly, the neo-institutional approach considers both external variables (moral values and economic incentives) and the internal dynamics of corrupt networks and exchanges (della Porta and Vannucci, 2012). It focuses on the development of corrupt networks within specific organisational structures and their adaptation to corruption. Governance structures and enforcement mechanisms provide stability to illegal activities; reducing uncertainty and making corrupt exchanges appear more lucrative and morally acceptable within certain contexts. These theoretical perspectives, proposed by della Porta and Vannucci (2012), provide insights into the multifaceted nature of corruption, taking into account cultural, economic, and institutional factors influencing corrupt behaviour. Therefore, defining corruption poses several challenges due to various factors (Gardiner, 2007). Gardiner (2007) identifies these challenges as follows: Firstly, there are multiple distinct yet interconnected issues involved. Secondly, discrepancies exist between how corruption is defined in the official laws of nations, its impact on the public, and the definition according to public opinion. Public opinion plays a

significant role, as citizens are both the ultimate authorities in democratic nations and can either contribute to or prevent corruption through their actions and attitudes. Lastly, significant differences among nations exist regarding how these issues are defined and addressed.

Corruption, ingrained in societies despite existing problems, permeates government, politics, and business, shaping decisions, allocating public funds, and determining the success of politicians and businesses through expectations of bribes and illegal profits (della Porta and Vannucci, 2012). della Porta and Vannucci (2012) claim that corruption isn't an inherent trait of a society's genetics or culture. It's a result of various factors like institutional systems, social dynamics, and shared values. Factors like institutional structure, social networks, and societal norms influence how people view and engage with corruption (della Porta and Vannucci, 2012). Over time, these factors contribute to corruption's growth within both governmental and societal realms, affecting public perception and reinforcing corrupt behaviour. Corruption undermines political systems and regimes by unfairly increasing the power of individual legislators who accept bribes or support for future elections, regardless of whether the system is democratic or autocratic (Holmes, 2015). 'Corruption tends to create a greater sense of 'them' and 'us' in society, both vertically and horizontally' (Holmes, 2015: 48). Vertically, it widens the gap between elites and the public as corrupt officials siphon off wealth, creating a perception of unfair advantage. In alignment with Holmes's (2015) assertion, the context of Bangladesh corresponds to corruption, fostering a sense of vertical societal divisions, thereby exacerbating the 'us' versus 'them' dichotomy. In Bangladesh, the socio-economic gap between rural and urban areas, as well as between more developed and less developed regions, is significant and expanding (Islam and Rahman, 2020). Moreover, this gap also manifests within each area, with noticeable differences between the wealthy and the impoverished (Islam and Rahman, 2020). These disparities not only hinder effective governance but also exacerbate the likelihood of corruption (Islam and Rahman,

2020). Horizontally, it fosters resentment among citizens as those unable to pay bribes feel disadvantaged compared to those who can. Additionally, corruption fuels inequality, particularly when it facilitates obtaining positions and promotions through personal connections rather than merit (Holmes, 2015). Within the context of Bangladesh, Holmes's (2015) assertion regarding the influence of corruption in exacerbating a dichotomy between 'us' and 'them' within society, horizontally, is well-aligned. Furthermore, as highlighted by Islam and Rahman (2020), the pervasive issue of partisan bureaucracy in Bangladesh's administration is characterised by rampant corruption, fund misuse, maladministration, and marginalisation of common people. Both elected representatives and government officials are implicated in unethical conduct, while policies frequently shift between regimes. Public institutions such as the bureaucratic system are politicised, with power concentrated among a select few through familial and party connections (Islam and Rahman, 2020). Islam and Rahman (2020) claim, since 1990, there has been a steady increase in politicisation within public administration, with political affiliation, nepotism, or personal relationships often dictating promotions and lucrative postings. These factors not only demoralise the administration but also impede good governance and exacerbate corruption. In Bangladesh, democratic governments gained control of the bureaucracy by hiring "party bureaucrats" without considering their qualifications (Hasan, 2007). Consequently, this politicisation of the bureaucracy led to its involvement in corruption under successive governments. Consequently, the independence and critical thinking ability of the bureaucracy were significantly diminished (Jahan, 2006). Hasan (2007) claims that partisan influence introduces a new 'accountability mechanism' where civil servants' performance is evaluated based on their political loyalty. This exacerbates administrative corruption as civil servants form partnerships with politicians, creating a symbiotic relationship. Politicians satisfy their supporters, while civil servants benefit from patron-client connections, resulting in a mutual gain

for both parties (Hasan, 2007). The collusion between politicians and administrators in Bangladesh perpetuated corrupt practices (Haque & Rahman, 2003; Jahan, 2006). Political leaders wielded their influence to manipulate recruitment processes and incentivise civil servants to engage in corruption (Hasan, 2007). Consequently, individuals who obtained civil service positions through bribery felt compelled to exploit service delivery systems for profit (Hasan, 2007). Additionally, the predisposition of bureaucrats towards corruption facilitated a symbiotic relationship between politicians and bureaucrats (Hasan, 2007). This partnership inflated the costs for the poor to access essential services, which were intended to be provided free or at minimal cost (Hasan, 2007). Consequently, it impeded the poor's ability to access basic necessities guaranteed by the state (Hasan, 2007).

Corruption diminishes public accountability and transparency, as noted by della Porta and Vannucci (2012), as it restricts the visibility and accessibility of actions taken by those in power. According to Bobbio (1980: 186), accountability relies on the extent to which the actions of the supreme power are open to the public, making them knowable and controllable. Consequently, corruption poses a significant threat to the quality, consolidation, and endurance of democracy (della Porta and Vannucci, 2012). While democracies aren't inherently immune to corruption, the extent of corruption differs notably among democratic nations and even within different sectors and public entities within those nations (della Porta and Vannucci, 2012). Therefore, corruption networks develop through a 'hidden order,' where internal governance encourages actors to accept illegal deals, trust each other, and establish and enforce invisible codes, norms, and reciprocity rules (della Porta and Vannucci, 2012).

Political Corruption

Political corruption involves top-level political figures, such as heads of state and ministers, abusing their power for personal gain, thereby compromising the political system's integrity (Hasan, 2007). It includes creating policies that favour politicians, further eroding the political process (Hasan, 2007).

Systemic Nature of Corruption

Political corruption is a systemic issue embedded in political processes, not merely a trivial societal problem (deLeon, 2015). It extends beyond "speed money" bribes to include a wide array of corrupt practices within various governmental bodies (deLeon, 2015). Special interest groups significantly influence political outcomes through substantial campaign donations, often prioritising their interests over the public's (Represent.US, 2019). This lack of transparency in donations makes tracking money flow difficult, hindering effective oversight by citizens and journalists.

Complexity of Political Corruption

Corruption is not always illegal; it often occurs in morally grey areas (Woo and Choi, 2018). The understanding of political corruption includes legal definitions, public interest perspectives, and public opinion. Legal financial contributions from corporations, though legal, may be seen as unethical. Public interest-focused corruption involves politicians misusing public resources for personal gain, while public perception is crucial in defining corruption levels (Woo and Choi, 2018).

Political vs Bureaucratic Corruption

In Bangladesh, bureaucratic corruption, unlike political corruption, occurs within public administration, obstructing service delivery (Hasan, 2007). Both political and bureaucratic

corruption involve the misuse of public power for private benefits, but political corruption typically involves officials with discretionary power within public organisations, while private corruption involves individuals with access to confidential information (della Porta and Vannucci, 2012).

Impact on Governance and Development

Political corruption undermines government efficiency, economic performance, and trust in democracy (Woo and Choi, 2018). It leads to inefficiency, tax evasion, economic inequality, and political instability, forming a vicious cycle of high corruption and low trust (Uslaner, 2005). In Bangladesh, corruption diminishes trust in political leaders and institutions, hampers economic growth, and distorts governance priorities (Haque and Mohammad, 2013).

Addressing Political Corruption

Effective leadership and robust public ethics are crucial for combating corruption (Islam and Rahman, 2020). In democratic systems with competitive elections and clear accountability, corruption levels are generally lower (della Porta and Vannucci, 2012; Tavits, 2007). However, in Bangladesh, despite democratic elections, corruption remains pervasive due to the politicisation of institutions meant to ensure checks and balances (Asadullah and Chakravorty, 2019).

The relationship between politics and corruption in Bangladesh is a critical issue, leading to public disillusionment with democracy and impacting various institutions such as parliament, elections, and public services (Haider, 2024; Knox, 2009). Effective anti-corruption measures require strong political will, though this alone is not sufficient (Ankamah, 2016; Brinkerhoff, 2000; Ankamah and Khoda, 2017). Della Porta and Vannucci (2012) argue that effective anti-

corruption policies reduce opportunities for corruption and increase its moral costs. They discuss two approaches: incremental, step-by-step reforms, and revolutionary, "big-bang" changes. The incremental approach involves targeted reforms and strong commitment from top political actors, while the revolutionary approach aims for sudden, large-scale changes to disrupt entrenched corrupt practices (Della Porta and Vannucci, 2012; Rothstein, 2007; Johnston, 2005).

In Bangladesh, corruption significantly undermines public administration, law enforcement, and judiciary systems, leading to inefficiency and public distrust (Sarker et al., 2017; Rahman & Jenkins, 2019). The Department of Environment (DoE) is particularly affected, with widespread corruption hindering environmental law enforcement and collusion with polluting industries exacerbating pollution (TIB, 2022; New Age, 2022; Daily Star, 2022; Rahman, 2023; Azaz, 2023).

Globally, environmental crimes like carbon fraud thrive in weak governance contexts, impacting sustainable development and governance structures (Walters and Martin, 2014; Elliott, 2007, 2009). Corruption in environmental sectors is analogous to other transnational crimes, undermining the rule of law and governance.

Effective governance and strict environmental regulations are essential for sustainable development. Corruption negatively affects green growth, and controlling it is vital for both economic and environmental sustainability (Tawiah et al., 2024; Agheli and Taghvaei, 2022). Political regimes and governance systems significantly shape environmental policies and sustainability outcomes (Agheli and Taghvaei, 2022; Della Porta & Vannucci, 2012).

7.4 The way forward for green policing

It is crucial to examine how the proposed special unit in Bangladesh will manage resource constraints and argue for the potential deterrent effects of increased criminalisation and police power on complex behaviours such as environmental crimes. The empirical data in Chapter 4 delineate the current activities of the Department of Environment (DoE) and the Bangladesh Police, including mobile court operations, the imposition of fines, social awareness campaigns, and community involvement. Chapter 5, however, highlights several persistent challenges, such as deficient institutional frameworks, resource constraints, inadequate coordination among agencies, political corruption, lack of public awareness, and bureaucratic dominance. To effectively address these challenges, Chapter 6 proposes several strategic measures:

1. **Strengthening Institutional Frameworks:** Enhancing the capacity of environmental law enforcement agencies necessitates adequate resource allocation to the DoE and amendments to existing laws. These steps are fundamental to building a robust institutional framework.
2. **Establishing a Specialised Police Unit (EPSU):** Creating a specialised unit equipped with advanced knowledge and skills in environmental law enforcement can ensure more effective policing. This unit would adopt a hybrid policing approach, integrating traditional law enforcement with community-based strategies to enhance effectiveness.
3. **Public Awareness and Education:** Increasing public awareness about environmental laws and incorporating eco-friendly education into the curriculum can foster long-term environmental stewardship. This educational initiative can instil a deeper understanding and respect for environmental laws from a young age.

4. **Political Commitment and Anti-Corruption Measures:** Demonstrating strong political commitment and implementing measures to reduce corruption are crucial for establishing a robust enforcement framework. Political will is essential to ensure that enforcement agencies operate without undue influence and are held accountable for their actions.
5. **Utilising Media:** Leveraging mainstream and social media can significantly influence public perception and behaviour towards environmental issues. Media campaigns can raise awareness and support for environmental law enforcement efforts.

By implementing these measures, the special unit can effectively address resource constraints and enhance the enforcement of environmental laws in Bangladesh. Furthermore, the specialised environmental police unit can cope with resource constraints by leveraging various strategies and support mechanisms outlined by the Global Initiative against Transnational Organized Crime (2014:17-34) as responses and responders discussed in Chapter 6. Here's how these strategies align with coping with resource constraints:

- **Political Will and Legal Frameworks:** Strengthening legally binding mechanisms and ensuring international enforcement are crucial. Civil society can help by applying political pressure, though results may vary. It is important to develop robust national legislation tailored to specific issues, ensuring strong protections for natural resources. This legal foundation helps create a more predictable and secure environment for resource allocation and enforcement activities.
- **Policy Implementation and Criminal Justice:** Effective national policies require multidisciplinary teams and successful local implementation. This includes advanced investigative techniques and laws to confiscate the proceeds of crimes, which can help

fund enforcement activities. Cooperation between agencies and creating synergies can reduce redundancies and enhance resource utilisation.

- **International Cooperation:** International cooperation can help pool resources and expertise, making enforcement more effective despite individual resource constraints. Sharing best practices and coordinating efforts can reduce the burden on any single entity.
- **Promoting Cultural Change:** Reducing demand for illegal commodities and improving understanding of crime methods are critical. Effective resource allocation can be supported by focusing on prevention and education, which may require fewer resources than reactive enforcement. Engaging civil society and NGOs can amplify these efforts at a lower cost.
- **Intergovernmental Organisations (IGOs):** IGOs like INTERPOL, the World Customs Organisation (WCO), and the United Nations Office on Drugs and Crime (UNODC) play significant roles in combating environmental crime. These organisations often provide crucial external funding, capacity building, and technical assistance, which can help alleviate national resource constraints.
- **Donors:** Intelligent funding from donors is essential. A "network to counter networks" approach, emphasising intelligence-led funding, can maximise effectiveness against organised environmental crime. Donors should ensure that their funding supports well-defined strategies and avoid influencing projects purely for reputation purposes.
- **Civil Society and NGOs:** These groups can fill gaps left by government efforts by raising awareness, developing policies, and supporting enforcement. They can mobilise

resources, provide expertise, and foster community engagement, thus reducing the burden on state resources.

- **Private Sector and Media:** Companies must ensure ethical practices and exclude illegal commodities from their supply chains. The media plays a role in exposing environmental crimes, increasing transparency, and holding officials accountable. By catalysing action and raising awareness, media coverage can lead to more efficient use of resources by highlighting priority areas for enforcement.

By coordinating efforts across these diverse actors and leveraging their strengths, the specialised environmental police unit can enhance its capacity to cope with resource constraints. This multi-faceted approach helps ensure comprehensive and sustainable solutions to combat environmental crime effectively.

Moreover, the argument for more criminalisation and enhanced police power can be substantiated by the following points, as discussed earlier in Chapter 5:

1. **Public Support for Enhanced Security:** Reiner (2000) explains that during periods of heightened fear of crime or political instability, there tends to be greater public support for enhanced police powers. In Bangladesh, where serious crimes and terrorism are significant concerns, stronger police powers are perceived as necessary for maintaining order and safety. This public support can legitimise the expansion of police powers to combat environmental crimes effectively.
2. **Effective Crime Solving:** Martin (2022) highlights that increased specialisation within police forces can lead to more effective handling of complex cases. In Bangladesh, the rise in cybercrime and transnational criminal activities necessitates specialised units

capable of tackling sophisticated crimes, including environmental offences. Specialised units can leverage advanced techniques and expertise to address these challenges more effectively.

3. **Balancing Powers and Accountability:** While there is apprehension about state overreach and potential abuses of power (Reiner, 2000), balancing increased powers with robust regulatory and community-based approaches can mitigate these concerns. Community policing initiatives and the establishment of higher ethical standards can enhance trust and cooperation between the police and the public (Uddin and Mozumder, 2019). These measures can ensure that increased powers do not lead to abuses but are used responsibly.
4. **Legal Framework:** The EPSU's operations would be supported by the Bangladesh Environment Conservation Act of 1995 and Article 18A of the Constitution of Bangladesh, providing a legal foundation for enhanced deterrence and accountability (Sharif & Uddin, 2021). By clearly differentiating between investigation and criminalisation within this framework, the EPSU can ensure that its mandate is focused on effectively preventing environmental harm and prosecuting offenders.

To make an argument that deviates from traditional criminological literature on desistance and aligns with the unique context of Bangladesh, I must emphasise the distinct environmental and institutional challenges faced by the country. Traditional criminological theories often highlight the limited effectiveness of punitive measures such as court sentencing or fining in achieving long-term desistance from crime (Wright, 2011; Reiner, 2000). However, in the context of Bangladesh, a specialised investigative unit within the police force, focused on environmental crimes, can offer a more tailored and effective approach.

1. **Institutional Framework and Challenges:** Bangladesh faces significant institutional challenges, including weak enforcement capacities, poor coordination, and limited resources (Faroque & South, 2020). These systemic issues hinder the effective enforcement of existing environmental laws. Establishing a specialised police unit dedicated to environmental crimes could mitigate these challenges by focusing resources and expertise on this specific issue, thereby enhancing enforcement efficacy.
2. **Socio-Economic Factors:** Environmental crimes in Bangladesh are often driven by socio-economic factors such as poverty and unemployment, which exacerbate illegal activities like wildlife trafficking and deforestation (South, 2017). A specialised unit could work in tandem with NGOs and community organisations to address these underlying socio-economic issues, providing alternative livelihoods and fostering community engagement in environmental conservation efforts (Massé, 2020; Goyes & South, 2019).

Potential of a Specialised Police Unit

1. **Enhanced Investigative Capabilities:** Traditional law enforcement struggles with environmental crimes due to complex evidentiary and jurisdictional issues (White, 2007; Nurse, 2016). A specialised unit could develop expertise in environmental laws and investigative techniques, improving the detection and prosecution of environmental crimes. This approach aligns with Holley's (2017) call for adaptive and collaborative strategies in environmental governance.
2. **Collaboration with NGOs and International Organisations:** NGOs play a crucial role in filling resource gaps and providing specialised support for environmental crime enforcement (Nurse, 2013). The specialised unit could collaborate closely with these

organisations, leveraging their resources and expertise to enhance investigative efforts and ensure comprehensive enforcement strategies (Wylter & Sheikh, 2013; Global Initiative against Transnational Organized Crime, 2014).

3. **Addressing Governance and Corruption:** Corruption and governance deficiencies are significant barriers to effective environmental law enforcement in Bangladesh (Faroque & South, 2020; Golubev, 2020). A specialised unit, supported by stringent regulatory oversight and transparent operational procedures, could mitigate corruption and improve the accountability and effectiveness of environmental law enforcement.

Clarification of Proposal

1. **New Investigative Unit:** The proposal primarily involves creating a new investigative unit within the police force, specialising in environmental crimes. This unit would require clear procedural guidelines and legal frameworks to operate effectively. The implications for procedure and laws include the need for specialised training, interagency cooperation, and enhanced investigative powers to address the specific challenges of environmental crimes. As noted by Wright (2011), environmental crimes are multifaceted and require tailored policing approaches, which a specialised unit can provide.
2. **Legal and Procedural Enhancements:** While the existing laws, such as the Bangladesh Environment Conservation Act of 1995, provide a legal basis for addressing environmental harms, the establishment of a specialised unit would necessitate procedural enhancements. These might include clearer definitions of environmental crimes, stricter penalties, and improved coordination mechanisms between various governmental and non-governmental stakeholders (Faroque & South, 2020). Holley

(2017) emphasises the need for adaptive and collaborative approaches in environmental governance, which procedural enhancements could support.

Benefits of the Approach

The proposed specialised unit, in conjunction with existing laws and collaborative efforts with NGOs, promises several benefits:

- **Focused Expertise:** Enhanced capacity to address complex environmental crimes through specialised knowledge and investigative techniques (White, 2007; Nurse, 2016).
- **Resource Optimisation:** Better utilisation of limited resources by concentrating efforts on high-priority environmental issues (Nurse, 2013; Wyler & Sheikh, 2013).
- **Community Engagement:** Improved community relations and support through collaborative initiatives and alternative livelihood programmes (Massé, 2020; Goyes & South, 2019).
- **Increased Accountability:** Greater transparency and reduced corruption through stringent regulatory oversight and specialised operational procedures (Global Initiative against Transnational Organized Crime, 2014; Faroque & South, 2020).

These benefits align with the broader criminological literature on effective law enforcement strategies and the unique needs of the Bangladeshi context. By developing a specialised unit, Bangladesh can enhance its capacity to combat environmental crimes effectively, while also addressing underlying socio-economic and governance issues (South, 2017; Reiner, 2000).

The establishment of a specialised environmental police unit in Bangladesh presents a promising solution to the country's significant environmental law enforcement challenges. By addressing

resource constraints, enhancing investigative capabilities, and fostering collaboration with NGOs and international organisations, this unit can play a crucial role in mitigating environmental crimes. The proposed strategic measures—strengthening institutional frameworks, public awareness and education, political commitment, media utilisation, and leveraging international cooperation—provide a comprehensive approach to building an effective enforcement mechanism. Furthermore, increased criminalisation and enhanced police powers, balanced with accountability and community engagement, can serve as effective deterrents to environmental crimes. The distinct socio-economic and institutional challenges in Bangladesh necessitate a tailored approach, and the establishment of the EPSU aligns with these unique needs. By focusing on prevention, specialised enforcement, and collaborative strategies, Bangladesh can make significant strides in protecting its environment and ensuring sustainable development for future generations.

The preceding discussion will highlight the importance of a specialised police unit in Bangladesh, the legal mandate to establish such a unit, the best practices prevailing across the world in both the global south and global north, and the challenges faced by these specialised police units.

The engagement of the Bangladesh Police in addressing environmental crime is substantiated by legal frameworks such as the Bangladesh Environment Conservation Act of 1995 and Article 18A of the Constitution of the People's Republic of Bangladesh, which prescribe measures for environmental protection and sustainability (Bangladesh Environment Conservation Act, 1995; Constitution of the People's Republic of Bangladesh, 1972). Section 4(2)(a) of the Bangladesh Environment Conservation Act underscores the necessity of coordination with entities sharing its objectives, recognizing the intricate nature of environmental crimes necessitating collaborative

efforts among various agencies (Bangladesh Environment Conservation Act, 1995). Given its jurisdiction and investigative authority, the Bangladesh Police can significantly contribute to coordinated endeavors aimed at combating environmental offenses (Sharif & Uddin, 2021). This involvement ensures consistent enforcement of environmental laws across diverse sectors and geographical areas. Furthermore, Section 4A(1) of the Bangladesh Environment Conservation Act empowers the Director General or designated personnel to seek assistance from law enforcement agencies, with the Bangladesh Police positioned as a primary entity capable of providing indispensable support in enforcing environmental regulations (Bangladesh Environment Conservation Act, 1995). Their participation enhances the enforcement capabilities of environmental authorities, facilitating investigations, apprehensions, and compliance monitoring (Sharif & Uddin, 2021). This collaborative approach strengthens the regulatory framework essential for safeguarding environmental interests.

Moreover, Article 18A of the Constitution of Bangladesh mandates the State to safeguard and enhance the environment, emphasizing the preservation of natural resources, biodiversity, and ecosystems for present and future generations (Constitution of the People's Republic of Bangladesh, 1972). As an instrument of the State, the Bangladesh Police assumes a pivotal role in fulfilling this constitutional obligation by actively engaging in the prevention and mitigation of environmental crimes that jeopardize ecological integrity. Thus, their involvement aligns with the State's commitment to environmental conservation and sustainability. The engagement of the Bangladesh Police in addressing environmental crime is substantiated by both legislative provisions and constitutional mandates, underscoring the importance of their role in enforcing environmental laws, fostering coordination among stakeholders, and upholding the principles of environmental stewardship for the benefit of current and future generations.

Models of Green Policing in Global north and Global south:

Numerous models of specialised environmental policing units, such as green police units, are evident across both the global north and the global south. These models proficiently collaborate with the primary law enforcement entities, notably the police, in enforcing environmental regulations. This discourse examines the prevailing models of environmental policing unit in both the global north and the global south. Specialised units dedicated to environmental policing, often referred to as "Green Policing" or "Environmental Policing," play a crucial role in the global north in enforcing environmental laws, protecting natural resources, and promoting sustainability. In the United States, for instance, entities such as the Division of Law Enforcement (DLE) in New York State and the Massachusetts Environmental Police (MEP) exemplify the commitment to environmental stewardship through their missions, functions, and operational strategies.

The Division of Law Enforcement (DLE) in New York State, as outlined on the Department of Environmental Conservation website, operates with a mission to safeguard the environment, natural resources, and public health and safety through the enforcement of Environmental Conservation laws (Department of Environmental Conservation, 2024). Comprising Environmental Conservation Police Officers and Investigators, the DLE focuses on enforcing Environmental Conservation Law (ECL) while also being authorized to enforce all state laws. Their responsibilities encompass a wide range of areas, including addressing poaching and illegal sales of endangered species, ensuring compliance among hunters, fishermen, and commercial fishermen, investigating issues like timber thefts, water pollution, improper pesticide use, and illegal mining. Moreover, the Bureau of Environmental Crimes Investigations within DLE is tasked with handling significant environmental crimes, both misdemeanors and felonies.

Similarly, the Massachusetts Environmental Police (MEP), as described by the Massachusetts government website, is dedicated to safeguarding the environment and natural resources of the state through enforcement, education, and public outreach (Massachusetts Government, 2024). MEP officers enforce fish and game laws, regulate commercial and recreational harvesting of marine resources, ensure safety compliance in boating and recreational vehicles, and engage in environmental education initiatives to promote wildlife protection and conservation. They also conduct investigations into stolen boats and vehicles, patrol forests and parks, and collaborate with other agencies to address environmental crimes.

In Australia, the Australian Federal Police (AFP) plays a crucial role in investigating diverse environmental crimes, as outlined on the AFP website (AFP, 2024). These crimes range from pollution to illegal wildlife trade and often involve serious transnational organized crime, including corruption and money laundering. Notably, the AFP leads investigations into significant environmental offenses, particularly those impacting areas like World Heritage sites. Collaboration with state, territory, and national agencies is integral to ensuring comprehensive protection of Australia's ecosystems (AFP, 2024). Partnerships with agencies such as the Australian Border Force and Australian Fisheries Management Authority further support these efforts (AFP, 2024). Bricknell (2010) notes that responsibility for environmental protection is shared among multiple agencies at different government levels, each focusing on specific aspects such as wildlife, water, pollution, and waste disposal. While these agencies typically operate independently, they occasionally collaborate across jurisdictions for issues requiring a multi-agency approach (Bricknell, 2010).

In Europe, initiatives such as the proposed Environmental Crime Directive by the European Commission, as highlighted by Fuller (2023), underscore the efforts to enhance environmental

enforcement mechanisms. The directive aims to address enforcement gaps in existing laws, targeting offenses such as illegal timber trade and water pollution (Fuller, 2023). It proposes stricter sanctions for offenders, including individuals and companies, alongside measures to improve investigative tools and whistleblower protections. However, debates and negotiations among member states reflect concerns about over harmonization and industry interests, with critics questioning the directive's effectiveness in addressing the root causes of environmental degradation and holding companies accountable amid the pressing challenges posed by the climate crisis.

Norway and Latvia are teaming up to combat environmental crime, with support from the EEA and Norway Grants (Gardarsson, 2023). The partnership involves their respective police forces and centers around a training initiative spearheaded by Norway's environmental police authority, Økokrim. The aim is to strengthen Latvia's capacity to address and deter environmental violations by exchanging knowledge and skills. This collaboration aligns with the objective of enhancing crime prevention and investigation, as outlined in the EEA and Norway Grants programme.

In the global south, specialised units dedicated to environmental policing, often termed "Green Policing" or "Environmental Policing," are vital for enforcing environmental laws, promoting sustainability, and addressing environmental challenges. Several countries in this region have established such units, each with its unique strategies and objectives.

The Green Police Unit in Hong Kong, as detailed on the Hong Kong Police website (Hong Kong Police, 2024), focuses on promoting environmental awareness and conservation among staff members while addressing various environmental issues such as waste minimization, energy conservation, and climate change. Operating under two main strategies, commitment, and

management, the unit monitors and addresses environmental issues across different organisational levels, implementing principles of reduce, reuse, and recycle in day-to-day operations. In Israel, the Green Police, part of the Ministry of Environmental Protection (Ministry of Environmental Protection of Israel, 2023), are responsible for enforcing environmental laws and regulations at national, regional, and local levels. They collaborate with various stakeholders, including municipalities and law enforcement agencies, to ensure compliance with environmental regulations. Authorized by the Environmental Protection Law, Green Police inspectors have the power to issue fines and prohibitions for offenses related to environmental protection, waste disposal, and pollution. Tunisia has also taken steps to address environmental issues by establishing a "green police" brigade, as reported by the Oman Observer (2018). Equipped with uniforms and GPS-equipped trucks, this brigade aims to enforce environmental regulations, particularly regarding waste disposal, across various communities. Stricter penalties are imposed for offenses posing public health risks, demonstrating a commitment to improving environmental quality and public health. Mauritius, too, has recognized the importance of environmental protection, establishing an Environmental Police Unit under the Mauritius Police (Mauritius Police, 2024). With decentralized teams across divisions, this unit enforces environmental laws, responds to complaints, conducts operations, and carries out sensitization campaigns to raise awareness about environmental issues and ensure compliance with regulations. In Trinidad and Tobago, the Environmental Police Unit (EPU), as part of the Environmental Management Authority (EMA) (Environmental Management Authority, 2023), comprises special reserve police officers tasked with assisting the EMA in prosecuting environmental offenses. Operating under relevant legislation, including the Environmental Management Act, the EPU issues Notices of Violation and ensures compliance with environmental standards through enforcement actions. China has also considered the

establishment of an Environmental Police (EP), as discussed by Wunderlich (2017). With existing local environmental protection units facing limitations, there is growing support for a standardized national EP equipped with robust tools to combat pollution effectively. Suggestions include integrating EPs into existing police infrastructure and enhancing public participation to reinforce environmental ethics and awareness.

In Brazil, since President Lula da Silva returned to power in January, he has reinstated Ibama, the environmental police force, which faced budget cuts during his predecessor Bolsonaro's tenure. Ibama's resources have tripled, enabling it to escalate its efforts against deforestation, illegal gold mining, and excessive livestock farming, guided by its president (France 24, 2023). Additionally, Brazil is proposing the establishment of a specialised Federal Police unit to combat environmental crimes in the Amazon, as reported by Paraguassu (2022). This unit would tackle interconnected issues like deforestation, illegal mining, and drug trafficking, with an emphasis on collaboration with neighboring nations. These measures underscore Brazil's dedication to protecting the Amazon and prioritizing environmental preservation. In sum, specialised environmental policing units have been established both in the global north and South, demonstrating a global recognition of the importance of enforcing environmental laws and addressing climate challenges. Examples include the DLE in New York State, MEP in Massachusetts, and the proposed Environmental Crime Directive in Europe in the global north, and units like the Green Police Unit in Hong Kong, Green Police in Israel, and Environmental Police Unit in Trinidad and Tobago in the global south. These units play a vital role in enforcing environmental regulations, protecting natural resources, and promoting sustainability, showcasing a shared commitment to safeguarding the environment and securing a sustainable future worldwide.

Green policing in the global north, exemplified by entities like the Division of Law Enforcement (DLE) in New York State and the Massachusetts Environmental Police (MEP), focuses on enforcing environmental laws, protecting natural resources, and promoting sustainability (Department of Environmental Conservation, 2024; Massachusetts Government, 2024). These units operate with a mission to safeguard the environment and public health through the enforcement of stringent environmental regulations, addressing issues such as poaching, illegal sales of endangered species, timber thefts, water pollution, and improper pesticide use. In contrast, green policing in the global south, represented by units like the Green Police Unit in Hong Kong, the Green Police in Israel, the "green police" brigade in Tunisia, the Environmental Police Unit in Mauritius, and the Environmental Police Unit in Trinidad and Tobago, also focuses on enforcing environmental laws and promoting sustainability but within the context of developing countries (Hong Kong Police, 2024; Ministry of Environmental Protection of Israel, 2023; Oman Observer, 2018; Mauritius Police, 2024; Environmental Management Authority, 2023). These units often face unique challenges such as limited resources, inadequate infrastructure, and varying levels of public awareness.

The establishment of a specialised environmental police unit in Bangladesh, as proposed in the previous chapter-6, draws inspiration from various models across the global south and global north, including examples from Hong Kong (Hong Kong Police, 2024), Israel (Ministry of Environmental Protection of Israel, 2023), Tunisia (Oman Observer, 2018), Mauritius (Mauritius Police, 2024), Trinidad and Tobago (Environmental Management Authority, 2023), and China (Wunderlich, 2017), Australia (AFP, 2024), Norway & Latvia (Gardarsson, 2023). However, while such initiatives offer valuable insights and potential strategies, several critical considerations should be addressed in the context of Bangladesh.

An additional and effective strategy for green policing entails the promotion of public awareness. The significance of public awareness regarding environmental concerns is underscored by both empirical evidence and existing scholarly literature, especially in light of the current era dominated by climate change. Building public awareness requires the engagement of NGOs, green community policing, mainstream and social media, and most importantly, eco-education, in order to cultivate eco-friendly citizens in the days ahead. Nurse (2013) highlights the significant role NGOs can play in raising public awareness, particularly in the context of wildlife crime. Moreover, to build environmental awareness among people, community green policing could be a good platform which is supported by a group of scholars: O'Rourke and Macey (2013), Ristovic (2018), Fiorino (1990), Lynch and Stretesky (2013), Davis and Garb (2020), Phuong and Mol (2003), Sjöstedt et al. (2022), Lotter and Clark (2014), Chanyandura (2020), Ma et al. (2023), Anagnostou et al. (2020), Wilson-Holt and Roe (2021), Cooney et al. (2017), Masse (2017), Roe et al. (2015), and Lunstrum and Giva (2020). Similarly, the data from the study put emphasis on the idea that community engagement through green policing could be an effective tool in dealing with environmental crime. For instance, O'Rourke and Macey (2013) advocate for public participation in environmental regulation, proposing the integration of traditional and community policing models as a means to effectively foster such engagement. In the context of Bangladesh, empirical evidence suggests that the Bangladesh Police have actively involved community members through community policing initiatives, aiming to educate local residents about environmental issues. Furthermore, the police have adopted the practice of beat policing, which has emerged as a novel and efficacious approach to law enforcement in Bangladesh. As has been mentioned in Chapter-4 on the current activities of the Bangladesh Police, this approach entails officers assuming responsibility for monitoring assigned areas, identifying potential offenders, engaging with community members, and promptly reporting

incidents. Its overarching objectives encompass crime prevention, the provision of round-the-clock security, and the cultivation of a sense of safety by mitigating societal fear (Siddiquee, 2020). The study highlights the exceptional aspect of Bangladesh Police, demonstrating their proactive approach in addressing green crime through the combined use of community policing strategies and beat policing strategies. This finding goes beyond the current literature, adding a unique dimension to the research.

Both empirical data and existing literature provide compelling evidence to support the notion that both mainstream media and social media possess the capacity to educate individuals, primarily due to their widespread accessibility (Jarrell, 2002; Maxwell & Miller, 2011, among others). Electronic, print and social media platforms have emerged as influential channels in raising social awareness among individuals. Consequently, it is imperative to harness the potential of both mainstream and social media platforms for the purpose of cultivating awareness. Jarrell (2002) illuminates the multifaceted nature of media impact on environmental attitudes and behaviours, serving as a catalyst for promoting heightened awareness. Moreover, Andersson and Öhman (2016) contend that social media exhibits significant educational potential in facilitating discussions pertaining to political and moral issues, particularly in engendering productive classroom conversations concerning environmental and sustainability concerns. In the context of Bangladesh, social media platforms such as Facebook and YouTube have attained unparalleled popularity among the younger generation. Therefore, leveraging these platforms can serve as highly efficacious instrument for raising pertinent issues and disseminating knowledge, as underscored by the interview data. Media can play a significant role in raising environmental awareness in Bangladesh. As Reza (2017) notes that environmental awareness is crucial in addressing the environmental and development disparities in countries like Bangladesh, and mass media platforms like television, newspapers, and radio play a vital

role in disseminating information and increasing public knowledge about nature, the environment, biodiversity, and related challenges.

The extant body of literature and empirical evidence, including studies by Di Ronco and Allen-Robertson (2020) and other scholars, substantiates the significant and influential role of digital media in shaping environmental attitudes and facilitating proactive engagement in environmental activism. Particularly in the context of Bangladesh, the platform of Facebook assumes paramount importance as a catalyst for promoting and mobilizing activism. As Shakib(2022) notes, social media has emerged as an alternative platform in Bangladesh, facilitating human rights activism and political campaigns, providing a space for organizing and mobilizing movements. Moreover, a recent report from the Daily Sun (2021) attests to the discernible rise in Facebook activism among the youth demographic:

Facebook activism in Bangladesh aimed at protecting the environment and addressing climate change has experienced significant growth. Over the past three months, more than 1.1 million Facebook users in Bangladesh have engaged in discussions about environmental conservation on the platform. The most popular topics of conversation include sustainable food, sustainable living, and wildlife conservation. The number of users discussing environmental issues is increasing, with more than 2 million Bangladeshis being part of at least one of the 6,000 Facebook groups dedicated to environmental discovery, protection, and appreciation.

Implementing eco-education is crucial for raising public awareness about environmental issues. By incorporating eco-education into various educational systems and initiatives, we can effectively equip individuals with the knowledge and understanding needed to make informed decisions regarding the environment. This approach plays a vital role in fostering a sense of environmental responsibility and empowering people to take action towards sustainable practices. Both empirical data and existing scholarly articles (Puri and Joshi, 2017 and others) suggest that the role of education in promoting sustainable development and addressing environmental issues is crucial. In Bangladesh, the school curriculum lacks proper environmental

education and as Chowdhury (2014) notes, textbooks are poorly organised and lack logical progression, and there is a need for the inclusion of emerging issues like climate change and human adaptation in the curriculum.

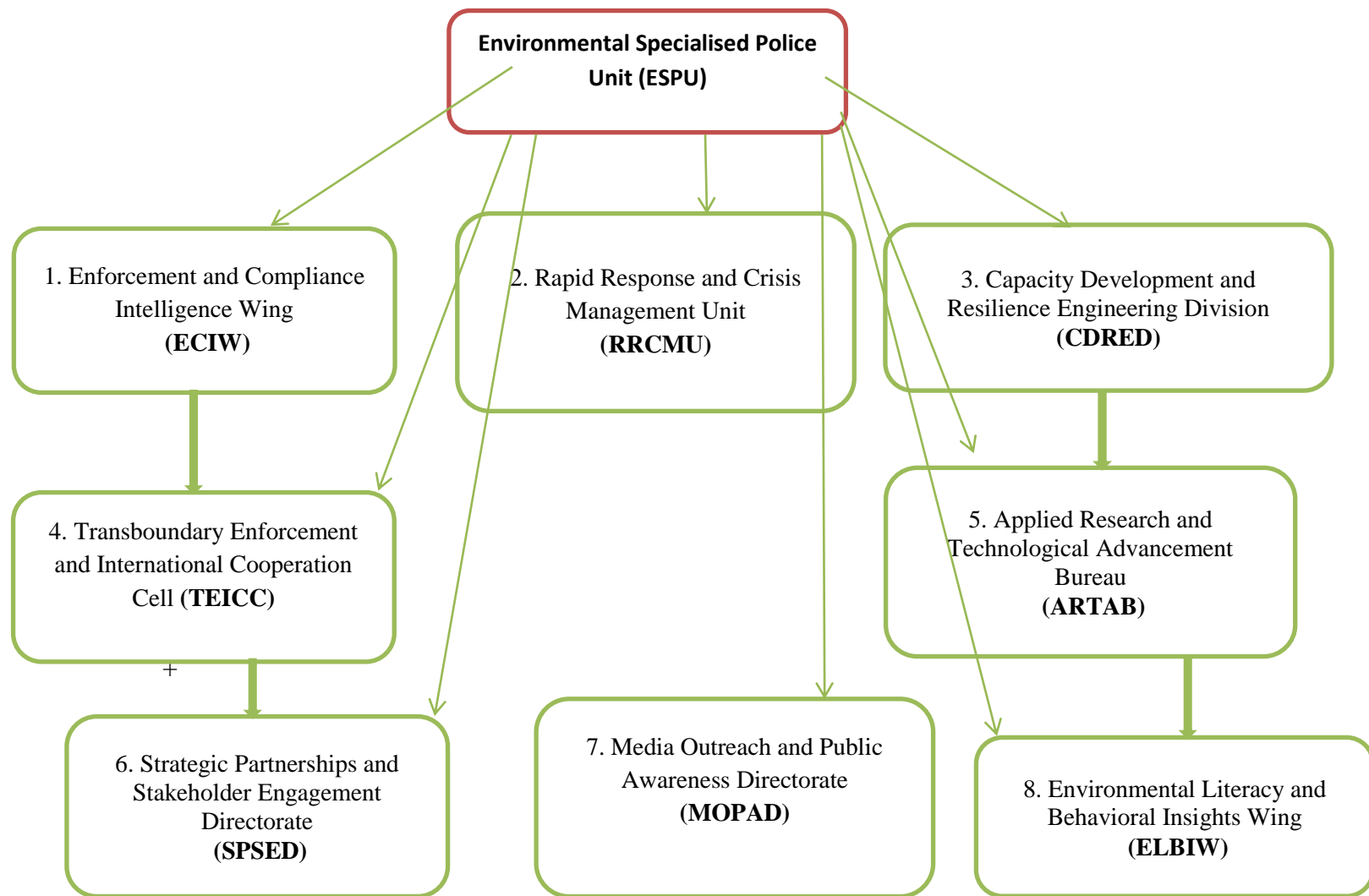
7.5 Conclusion

This thesis has made an original and significant contribution to the understanding of the challenges associated with policing green crime in Bangladesh. Through an exploratory and qualitative research approach, the study evaluated current policing strategies, investigated obstacles faced by relevant agencies, and developed evidence-based strategies to enhance the effectiveness of green crime policing in the country.

The findings of this study have shed light on the existing activities undertaken by the DoE and law enforcement bodies, such as the Bangladesh Police, in their efforts to address green crime. These activities encompass mobile court operations, special operations, case filing and investigation at police stations, environmental patrolling and surveillance, and community engagement through awareness campaigns. However, several challenges have been identified that hinder the effective policing of green crime in Bangladesh.

The primary challenge lies within the inadequate institutional framework, characterized by resource scarcity, logistical limitations, and a lack of capacity building. Moreover, the lack of political will and the prevalence of corrupt practices pose significant obstacles to preventing and detecting green crime. Additionally, limited public awareness presents a barrier to effective green crime policing. In response to these challenges, the study puts forth a set of robust recommendations and a viable path forward.

A key recommendation is the establishment of a specialised green police unit in Bangladesh. Analysing the best practices of environmental policing specialised units in both the global north and the global south, I would propose a model for a future environmental specialised police unit. Given the challenges faced by existing policing models worldwide, both in the global south and the global north, in addressing environmental crime, it is acknowledged that this proposed model may encounter challenges and limitations in implementing environmental law enforcement and environmental compliance in Bangladesh. Therefore, further research is warranted to ascertain the viability of this model. The proposed model will integrate:



1. Enforcement and Compliance Intelligence Wing (ECIW)

The Enforcement and Compliance Intelligence Wing (ECIW) will utilise advanced data analytics and intelligence gathering to proactively identify and address environmental violations while also employing modern investigation techniques for reactive policing.

Functions:

- Utilising drone, AI algorithms to meticulously analyse data sourced from diverse channels, including satellite imagery, IoT sensors, and social media platforms, to detect potential environmental infringements in a proactive manner.
- Implementing predictive modelling to strategically prioritise enforcement actions, ensuring optimal allocation of resources based on comprehensive risk assessments, while also incorporating modern investigation techniques for reactive policing when violations are detected.
- Collaborating closely with the legal team to devise innovative strategies for prosecuting offenders, thereby fostering a more robust and agile approach to environmental law enforcement that encompasses both proactive identification and reactive investigation of environmental crimes.

2. Rapid Response and Crisis Management Unit (RRCMU)

The Rapid Response and Crisis Management Unit (RRCMU) will ensure swift and coordinated responses to environmental emergencies and natural disasters.

Functions:

- Maintaining a state-of-the-art emergency operations center equipped with real-time monitoring capabilities and communication infrastructure.
- Preparing contingency plans and protocols for various scenarios, including oil spills, chemical leaks, and natural disasters.
- Conducting regular drills and exercises to test response readiness and identify areas for improvement.

3. Capacity Development and Resilience Engineering Division (CDRED)

The Capacity Development and Resilience Engineering Division (CDRED) will enhance organisational capacity and resilience through innovative training and adaptive management practices.

Functions:

- Implementing scenario-based training exercises and immersive simulations to build response capabilities for emerging environmental threats.
- Integrating resilience engineering principles into standard operating procedures to adapt to changing environmental conditions.
- Establishing knowledge-sharing networks and communities of practice to foster continuous learning and improvement.

4. Transboundary Enforcement and International Cooperation Cell (TEICC)

The Transboundary Enforcement and International Cooperation Cell (TEICC) will facilitate cross-border collaboration and information exchange to combat transnational environmental crimes.

Functions:

- Establishing bilateral and multilateral agreements with neighboring countries to coordinate enforcement efforts and share intelligence.
- Deploying joint task forces and conducting cross-border operations to disrupt illicit activities, such as illegal logging and wildlife trafficking.
- Providing technical assistance and capacity-building support to enhance the enforcement capabilities of partner agencies in border regions.

5. Applied Research and Technological Advancement Bureau (ARTAB)

The Applied Research and Technological Advancement Bureau (ARTAB) will drive scientific innovation and technological advancement to support evidence-based decision-making and enforcement strategies.

Functions:

- Conducting cutting-edge research on emerging environmental issues, such as climate change impacts and pollution monitoring technologies.
- Collaborating with academic institutions and research organisations to pilot and validate new tools and methodologies.
- Developing custom software solutions and data analytics platforms to streamline data management and analysis processes.

6. Strategic Partnerships and Stakeholder Engagement Directorate (SPSED):

The Strategic Partnerships and Stakeholder Engagement Directorate (SPSED) will cultivate strategic alliances and foster multi-stakeholder collaboration for comprehensive environmental enforcement.

Functions:

- Establishing formal partnerships with industry associations, academia, and community groups to leverage resources and expertise.
- Coordinating joint task forces and working groups focused on specific environmental challenges.
- Hosting regular stakeholder forums and roundtable discussions to facilitate dialogue and problem-solving.

7. Environmental Literacy and Behavioral Insights Wing (ELBIW)

The Environmental Literacy and Behavioral Insights Wing (ELBIW) will utilize behavioral science and targeted messaging to influence positive environmental behaviors.

Functions:

- Conducting in-depth audience research to understand attitudes and motivations related to environmental compliance.
- Designing tailored communication campaigns utilizing behavioral nudges and social norms to encourage compliance.
- Collaborating with psychologists and communication experts to develop persuasive messaging strategies.

8. Media Outreach and Public Awareness Directorate (MOPAD)

The Media Outreach and Public Awareness Directorate (MOPAD) will serve as the voice of EPSU, employing diverse media channels to inform, educate, and inspire action towards environmental conservation and compliance.

Functions:

- Collaborating with mainstream media outlets to amplify messages on environmental protection, enforcement actions, and success stories.
- Developing press releases, articles, and op-eds to communicate EPSU's initiatives and achievements to a broader audience.
- Organizing press conferences and media events to provide insights into environmental challenges and enforcement efforts.
- Managing EPSU's presence on social media platforms to reach diverse demographics and engage with stakeholders in real-time.
- Creating compelling multimedia content, including videos, infographics, and interactive posts, to increase awareness and drive behavioral change.
- Monitoring social media channels for feedback, concerns, and reports of potential environmental violations, facilitating swift responses from EPSU's units.
- Developing educational materials and resources for schools, universities, and community organisations to raise awareness about environmental issues and empower individuals to take meaningful action.
- Facilitating citizen science projects and volunteer opportunities to involve the public in data collection, conservation projects, and environmental monitoring efforts.

This model would integrate cutting-edge technologies, behavioral insights, and strategic partnerships to create a more agile, adaptive, and effective Environmental Policing Specialised

Unit (EPSU) capable of addressing complex environmental challenges in a rapidly changing world. Collaboration and synergy among the wings of an EPSU would be essential for the unit to effectively address the diverse challenges posed by environmental crime and degradation.

Despite the limitations imposed by COVID-19 restrictions, such as relying on semi-structured interviews and limited fieldwork, this research provides valuable insights into the challenges faced in policing green crime and proposes actionable recommendations. Further research is warranted to overcome these limitations and deepen our understanding of green crime and its implications for law enforcement agencies, environmental organisations, and society as a whole. By implementing the recommendations put forth in this study, policymakers, practitioners, and researchers can work together to address the complexities of green crime and strive towards effective environmental governance in Bangladesh.

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Appendix

Participant's Information Sheet



University
of Essex

Policing Green Crime

----Sarker Omar Faroque, PhD Candidate

Participant Information Sheet

Before you decide to take part in this study it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. The researcher can be contacted if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part in the study.

This PhD study is fully funded by the **Prime Minister's Fellowship of the Government of People's Republic of Bangladesh** under the 'Strengthening the Capacity of Public Administration for Achieving SDGs' (SCPA-SDG) Project'.

Research title:

Policing green crime in Bangladesh: challenges for law enforcement, environmental agencies and society

Invitation to my study

You have been invited to participate in this research because you are working as a judge of an environmental court who has judicial experience. Your deeper thoughts and insights and invaluable experience in environmental justice system will add value to my study.

The Research

This research primarily aims to explore current activities and challenges of the Bangladesh Police and other law enforcement bodies in dealing with environmental crime and harm. The study specifically aims to investigate-

- current activities of the Bangladesh Police and other law enforcement bodies in dealing with green crime
- existing challenges in the way that police and law enforcement agencies currently deal with green crime and harm
- the way forward for more effective environmental law enforcement in Bangladesh

Your Contribution

If you choose to participate, I will arrange an interview with you at a time convenient to you. Before the interview commences you will be asked to sign the attached consent form and will be given the opportunity to clarify anything that is still unclear. The interview will last for approximately 50-60 minutes. With your permission, the interview will be audio recorded.

If there are any questions you do not feel comfortable answering, you do not have to. Please remember that your participation is voluntary and that you are free to change your mind about participating at any time. You can withdraw at any time, and you do not have to give a reason.

Informed Consent

Should you agree to take part in this study, you will be requested to sign an informed consent form and give it back to the researcher before the interview.

Withdrawal from Study

You are free to change your mind about participating in this study at any time. Please remember that you can decide to withdraw at any time before, or during the study. After the study, can request that your data not be used. You do not have to have a reason to withdraw. If you chose to withdraw, any data associated with you will be destroyed and not included in the research.

Risks and Benefits

There are no known risks to this research. This PhD study research is fully funded by **the Prime Minister's Fellowship of the People's Republic of Bangladesh** as a part of the **'Strengthening the Capacity of Public Administration for Achieving SDGs' (SCPA-SDG) Project'** which will contribute to the academia and government policy to strengthen environmental law enforcement in Bangladesh.

What happens to your data afterwards?

The interview will be transcribed and analysed. The findings will then be written up for the doctoral thesis at the Department of Sociology. Sometimes quotes from the interview will be used in the research but every effort will be made to ensure your anonymity and you will not be named in the thesis paper. All the data you provide will be kept securely on a password protected personal computer which will only be accessible by the researcher and his project supervisors.

Following GDPR guidelines, the legal basis for processing your data will be your consent. The Data Controller will be the University of Essex. The contact person in relation to this is Sara Stock, University Information Assurance Manager (dpo@essex.ac.uk).

I may need to break this confidentiality if you disclose illegal or criminal activity to me or I become aware of an issue that puts you or another person at risk. In this instance, I will aim to first discuss the issue with you, but I may be legally obliged to share this information with the appropriate authorities.

Concerns and Complaints

If you have any concerns about any aspect of the study or you have a complaint, in the first instance please contact the PhD candidate who is the investigator of the project, **SARKER OMAR FAROQUE**, and his supervisors **Professor Nigel South** and **Dr Anna Di Ronco** using the contact details below.

If are still concerned, you think your complaint has not been addressed to your satisfaction or you feel that you cannot approach the principal investigator, please contact the departmental Director of Research, **Neli Demireva**, Department of Sociology. If you are still not satisfied, please contact the University's Research Governance and Planning Manager, **Sarah Manning-Press**. All contact information is in the contact details section below.

Contact Details

Thank you again for agreeing to take part in this research. Please retain this Information Sheet for future reference. If you have any questions about any aspect of the research, please do not hesitate to contact me and others:

PhD Researcher: **Sarker Omar Faroque**, PhD Candidate, Department of Sociology University of Essex, Wivenhoe Park, Colchester, CO4 3SQ, Telephone: 01206 873275. Mobile: +447405847330 Email: sf19266@essex.ac.uk

Supervisors: **Professor Nigel South**, Emeritus Professor, Department of Sociology, University of Essex, Wivenhoe Park, CO4 3SQ, Location: 5A.313, Colchester Campus, Colchester, UK Telephone: +44 (0) 1206 872693, Email: n.south@essex.ac.uk

Dr Anna Di Ronco, Senior Lecturer, Department of Sociology, University of Essex, Wivenhoe Park, CO4 3SQ, Location: 6.351, Colchester Campus, Colchester, UK Telephone: +44 (0) 1206 872115, Email: a.dironco@essex.ac.uk

Sociology Research Director: **Neli Demireva**, Senior Lecturer, Department of Sociology, University of Essex, Wivenhoe Park, CO4 3SQ, Location: 6.334, Colchester Campus Colchester. Telephone: 01206-872640. Email: nvdem@essex.ac.uk

University of Essex Research Governance and Planning Manager: **Sarah Manning-Press**, Research & Enterprise Office, University of Essex, Wivenhoe Park, CO4 3SQ, Colchester. Phone: 01206-87356, Email: sarahm@essex.ac.uk

Informed Consent

Title of the research project:

Policing green crime in Bangladesh: challenges for law enforcement, environmental agencies and society

1. Taking Part in the Study

Please read each statement and initial on the line provided that you have read it carefully and thoroughly.

I have read and understood the study information provided and have been given a chance to ask questions. _____

I confirm that I am voluntarily participating in this study. _____

I understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason. If I do withdraw, I understand that my data will be destroyed and not used as part of the research project. _____

I understand that this conversation will be audio recorded and transcribed by the researcher, with any information that may identify me removed from the transcript. _____

I also understand that the audio recording will be stored in a password protected file on the University Box system until the researcher has completed the transcription. _____

2. Use of the Information in the Study

I understand that information I provide will be used for writing the PhD Thesis in the Department of Sociology at the University of Essex. Any information used will have anything that could identify me removed. _____

I understand that personal information collected about me that can identify me, such as my name or where I live, will not be shared with anyone. _____

I agree for my direct quotes to be used and understand that identifying information will be changed. _____

3. Signatures

Name of participant (PRINT); Participant's signature; Date

SARKER OMAR FAROQUE _____ 05 July 2022__

Name of researcher (PRINT); Researcher's signature; Date

Email Correspondence

Dear Colleagues/Sir,

I hope this email finds you in good health and high spirits.

My name is Sarker Omar Faroque, and I am currently pursuing my PhD at the University of Essex. My research focuses on the challenges faced by law enforcement, environmental agencies, and society in policing green crime in Bangladesh. I am delighted to share that my PhD study is fully supported by the Government of the People's Republic of Bangladesh through the prestigious Prime Minister's Fellowship (PM) Programme.

I am writing to kindly request your participation in an interview for my research. As an esteemed colleague in this field, your insights and expertise would be invaluable to furthering our understanding of the subject matter. I am eager to learn from your experiences and gain a more comprehensive perspective on the issues at hand.

I understand that your time is valuable, and I assure you that the interview will be conducted at your convenience. We can arrange for the interview to take place through various means such as phone, WhatsApp, Zoom, Skype, face-to-face, or a combination of these, depending on your preference. The duration of the interview is estimated to be approximately one hour.

I want to emphasize that I approach this research with a non-judgmental mind-set, aiming to foster an open and respectful dialogue. Rest assured that all information shared during the interview will be treated with the utmost confidentiality.

If you have any questions or require further information, please do not hesitate to contact me. You can reach me at +44-7405847330 or +8801414217433.

Thank you for considering my request, and I truly appreciate your time and contribution. I look forward to the possibility of interviewing you and benefiting from your valuable insights.

Best regards,

Sarker Faroque

PhD student

Department of Sociology

University of Essex, UK

Total Semi-structure In-depth Interviews

Group		Categories of Population	
Group-A	State Actors	1. Bangladesh Police	17
		2. Judges of the Environmental Court	03
		3. Lawyers of Environmental Courts	01
		4. Personnel from the Department of Environment	06
		5. Personnel from Wildlife Crime Control Unit	01
Group-B	Non-State Actors	6. NGOs/Voluntary Organisations	02
		7. Environmental Journalists	03
		8. Researcher	01
		9. Civil Society	01
		10. Development Practitioners	01
		Total	36

Chapter-4: Total Interviews

Sl	Organisations	Designation	Number of participants
01	Department of Environment (DoE)	Inspector	02
		Assistant Director	02
		Director	02
		Total	06
02	Bangladesh Police	Inspector	08
		Additional Superintendent of Police	02
		Superintendent of Police	05
		Additional Deputy Inspector General	02
		Total	17
03	Wildlife Crime Control Unit (WCCU)	Director	01
		Grand Total	24

Chapter-5: Total Interviews

Sl	Organisations	Designation	Number of participants
01	Department of Environment (DoE)	Inspector	02
		Assistant Director	02
		Director	02
		Total	06
02	Bangladesh Police	Inspector	08
		Additional Superintendent of Police	02
		Superintendent of Police	05
		Additional Deputy Inspector General	02
		Total	17
03	Wildlife Crime Control Unit (WCCU)	Director	01
04	Environmental Court	Judges of the environmental court	03
		Public Prosecutor	01
		Total	04
		Grand Total	28

Chapter-06: Total Interviews

Group	Categories of Population	
State Actors	Bangladesh Police	17
	Judges of the Environmental Court	03
	Lawyers of Environmental Courts	01
	Personnel from the Department of Environment	06
	Personnel from Wildlife Crime Control Unit	01
Non-State Actors	NGOs/Voluntary Organisations	02
	Environmental Journalists	03
	Researcher	01
	Civil Society	01
	Development Practitioners	01
	Total	36

Sets of Questions for Interviews

1. Questions for the Bangladesh Police

2. How would you define environmental crime, and what are some examples of such crimes that you have come across in your work?
3. In your opinion, what are the main factors contributing to the prevalence of environmental crime in Bangladesh?
4. What are some of the key challenges law enforcement agencies face when investigating and prosecuting environmental crimes in Bangladesh?
5. Can you describe any collaborative efforts or partnerships that have been established between law enforcement agencies and other stakeholders (such as environmental organisations or government departments) to address environmental crime?
6. How do you assess the effectiveness of current laws and regulations in deterring and punishing environmental crimes in Bangladesh?
7. Are there any specific strategies or initiatives that you have implemented or witnessed to raise public awareness about environmental crimes and their consequences?
8. Have you observed any trends or changes in the nature of environmental crimes in Bangladesh over the past few years? If so, what are they and what do you think has contributed to these changes?
9. Can you provide examples of successful investigations or cases where environmental criminals were brought to justice? What factors do you believe contributed to their success?
10. What resources, such as training or equipment, do you believe are necessary for law enforcement agencies to effectively combat environmental crime in Bangladesh?
11. From your experience, how important is international cooperation and information sharing in addressing cross-border environmental crimes in the region?
12. In your opinion, what role can technology play in detecting, investigating, and preventing environmental crimes in Bangladesh?

13. What is your opinion about a specialised police unit for environmental crime protection?
14. Are there any specific policy or legislative changes that you believe would strengthen the enforcement of environmental laws in Bangladesh?

2. Questions for the judges of the environmental court

1. How many years of experience do you have working within the environmental court system?
2. Could you provide an overview of the number of environmental crimes you have adjudicated throughout your judicial career in the environmental courts or green tribunal?
3. Can you elaborate on the outcomes and resolutions of the environmental cases you have presided over?
4. What specific specialised training have you undergone to effectively handle cases within the Environmental Court?
5. In the context of Bangladesh, how many distinct categories of environmental crimes fall under the jurisdiction of the Environmental Courts?
6. From your perspective, do you believe that the existing environmental laws comprehensively address all forms of environmental crimes? If not, what factors contribute to the existing gaps and limitations?
7. What are the primary challenges you encounter when issuing verdicts within the Environmental Court based on the prevailing environmental laws?
8. The establishment of the Environmental Court aimed to ensure the expeditious resolution of cases; however, the low case filing rate and significant backlog of cases have raised doubts regarding its effectiveness. As a Judge of the Environmental Court, what are your reflections on this issue?
9. Within the framework of handling environmental cases, the submission of a written report by an inspector from the Department of Environment is considered as the cognizance of a complaint, thereby granting executive preference over the judiciary. Moreover, there are instances of delays in report submission by inspectors. How do you perceive the coordination and collaboration among different stakeholders in this context?

10. Considering that Bangladesh Police serves as the primary law enforcement agency with efficient investigative skills and experience, which specific laws or acts empower Bangladesh Police to play a significant role in addressing environmental crimes through collaboration with other law enforcement agencies?
11. How do you assess the influence of political factors as a significant impetus behind the escalation of environmental crimes in Bangladesh?
12. In your opinion, to what extent does corruption function as a contributing factor that emboldens perpetrators to commit environmental crimes?
13. Bangladesh Police has established specialised units such as the Counter-terrorism unit, industrial police unit, river police, tourist police, and cyber-crime unit. Do you believe that the formation of a dedicated unit within Bangladesh Police to handle environmental crimes, in collaboration with other agencies, would enhance the effective functioning of the Environmental Court, similar to the Criminal Court? If so, how would you envision this integration?
14. Drawing upon your experience and expertise, what recommendations would you propose to strengthen and improve environmental law enforcement in the context of Bangladesh?

3. Questions for public prosecutor of environmental court

1. How long have you been actively practicing law within the environmental court system?
2. Could you provide an approximate tally of the number of environmental crimes you have handled throughout your professional tenure within the environmental courts?
3. What were the ultimate outcomes or resolutions of the cases you have personally handled within the environmental court?
4. Have you received any specialised training or undergone any specific educational programs tailored to enhance your proficiency in working within the Environmental Court?
5. In your professional experience, how prevalent are environmental crimes that typically come before the Environmental Courts?
6. From your perspective, do you believe that the existing environmental laws sufficiently encompass all forms of environmental crimes, or do you perceive any deficiencies? If so, what are the underlying reasons for these inadequacies?
7. As a legal professional, what are the primary challenges you encounter while operating within the Environmental Court system?
8. The apparent decline in the rate of case filings and the subsequent accumulation of pending cases has raised concerns regarding the effectiveness of the Environmental Court. In your view, what challenges impede the expeditious trial processes at the Environmental Court, and how can public trust be reinstated?
9. In instances where a complaint is founded upon a written report furnished by an inspector from the Department of Environment, delays in submitting such reports to the court have been observed. How would you evaluate the coordination between the Department of Environment and the Environmental Courts in handling these situations?

10. As an attorney representing the Environmental Court, what are the key weaknesses or limitations that you have identified in the investigative procedures conducted by the Department of Environment (DoE)?
11. Considering that the Bangladesh Police has specialised units dedicated to counter-terrorism, industrial policing, river policing, tourist safety, and cyber-crime investigations, do you believe that the establishment of a specialised unit within the police force, collaboratively working with other agencies, would facilitate the efficient functioning of the Environmental Court, similar to the structure of the Criminal Court? If so, what would be the ideal composition and framework for such a unit?
12. From your perspective, how influential is political interference as a significant contributing factor that exacerbates environmental crimes within Bangladesh?
13. What is your standpoint on the proposition that corruption acts as a catalyst, enticing perpetrators to commit environmental crimes?
14. Beyond corporate entities, business elites, and political figures, do you perceive that the general public also partakes in environmental crimes, either knowingly or unknowingly?
15. Drawing from your professional insights, what recommendations would you propose to enhance the enforcement of environmental laws and regulations?

4. Questions for the DoE officials

1. According to the Department of Environment, what specific types of environmental harms are categorized as environmental crimes?
2. Throughout your distinguished law enforcement career, what is the approximate number of environmental crimes you have actively investigated and addressed?
3. Could you elaborate on the outcomes and impacts of your supervisory and investigative efforts in these environmental crime cases?
4. Please provide insights into the comprehensive capacity building training programs you have undergone to effectively combat environmental crimes.
5. Could you explain the strategies and initiatives undertaken by the Department of Environment to enhance capacity building in the realm of environmental crime prevention and enforcement?
6. How does the Department of Environment employ various methodologies and techniques to identify instances of environmental crime?
7. What are the standardized procedures utilized by the Department of Environment to ascertain and establish environmental crime as a punishable offense?
8. From your perspective, what is the significance of political pressure as a prevailing factor challenging the efficacy of your activities in combating environmental crimes?
9. Please elucidate the nature of your collaboration and cooperation with the Environmental Court in addressing environmental issues and prosecuting environmental offenders.
10. What are the primary obstacles and hurdles encountered when working in conjunction with the Environmental Courts to address environmental crimes?
11. Could you elaborate on the nature of your interactions and collaborations with the Bangladesh Police in tackling environmental crimes and addressing broader environmental concerns?

12. What specific challenges do you encounter when attempting to coordinate and cooperate with other law enforcement agencies in combating environmental crimes?
13. In your expert opinion, how does the lack of mass awareness, coupled with a prevalent disregard for nature and its potential harms, contribute to the escalation of environmental crimes in Bangladesh?
14. What are the proposed strategies and future directions to foster enhanced collaboration among relevant agencies and active public participation in effectively combating environmental crimes?

5. Questions for Environmental Journalists

1. How extensive is your experience in the field of environmental journalism and how long have you been actively involved?
2. What sparked your interest and drove you to work on environmental issues?
3. In your role as an environmental journalist, which specific aspects of environmental issues or crimes do you prioritize in your reporting?
4. Could you share a particularly noteworthy experience you have encountered during your career in environmental journalism?
5. What are the key factors that contribute to the escalation of environmental crime in Bangladesh?
6. What significant challenges do you face as an environmental journalist?
7. From your perspective, how do political pressures and corruption impact the handling of environmental crime in Bangladesh?
8. How do you evaluate the collaboration among different environmental law enforcement agencies in Bangladesh?
9. To what extent do you believe the Bangladesh Police, given their extensive history and investigative capabilities, can effectively contribute as a specialised police unit in combating environmental crime?
10. How do you assess the current state of education in Bangladesh, particularly in relation to environmental issues?
11. What roles should mainstream media and social media play in effectively addressing environmental crime in Bangladesh?
12. What strategies or approaches would you recommend to overcome the challenges and effectively reduce environmental crime in Bangladesh?

6. Questions for Wildlife Crime Control Unit (WCCU)

1. What specific types of wildlife crimes fall under the jurisdiction of the Wildlife Crime Control Unit (WCCU)?
2. Can you provide an estimate of the number of wildlife crimes you have personally handled throughout your law enforcement career?
3. What were the outcomes or findings of your supervisory and investigative work on these wildlife crime cases?
4. Have you undergone any professional training or received specialised education to enhance your ability to address this particular type of crime?
5. How does the WCCU actively contribute to capacity-building efforts in the field of wildlife crime prevention and control?
6. What are the major challenges you face when dealing with wildlife crime, and how do you overcome them?
7. Could you describe the nature of your collaboration with the Bangladesh Police in addressing wildlife crime issues?
8. In your professional opinion, what are the potential benefits or drawbacks of establishing a dedicated environmental police unit in Bangladesh?
9. How do you engage and involve the community in combating and preventing environmental crimes?
10. From your perspective, what role should mainstream media and social media play in addressing and raising awareness about environmental crimes?
11. What are your thoughts on the significance of environmental education in fostering a future generation of environmentally conscious citizens?
12. In your view, what are the most effective strategies and measures to effectively combat wildlife crime moving forward?
13. Are there any additional recommendations or key areas that you believe warrant attention in addressing wildlife crime effectively?

7. Questions for NGO/Volunteer Organisation/ Activists

1. How long has your organisation been actively working to raise awareness and address environmental issues/crimes in Bangladesh?
2. Could you elaborate on the specific focus areas and key objectives of your organisation in relation to environmental issues?
3. Can you provide an overview of the strategies and approaches your organisation employs to carry out its activities?
4. What initiatives and programs does your organisation undertake to create public awareness and encourage community engagement in environmental conservation efforts?
5. Regarding the collaboration with relevant authorities, such as the police, Department of Environment, Department of Forest, and Civil Administration, could you explain the nature of your partnerships and how you work together to tackle environmental challenges?
6. What are the primary challenges your organisation encounters when implementing its activities and initiatives to address environmental issues in Bangladesh?
7. In your opinion, to what extent does political pressure hinder the effectiveness and efficiency of your organisation's environmental initiatives?
8. Considering the prevalence of corruption in various organisations at different levels, how does this factor contribute to the challenges faced in combatting environmental crimes in Bangladesh?
9. Have you had the opportunity to participate in any government policy-making committees related to environmental issues? If so, have the recommendations you put forward been taken into account by the government?
10. The lack of coordination, collaboration, and cooperation among law enforcement agencies, including the police, Department of Environment, and Wildlife Crime Control Unit (WCCU), can pose difficulties in apprehending environmental criminals. How do you perceive this issue and its impact on addressing environmental crimes?
11. Given the Bangladesh Police's extensive experience as a prime investigation agency, do you believe establishing a specialised environmental police unit would be beneficial for effectively dealing with environmental crimes? What are your thoughts on this matter?
12. What is your assessment of the current state of environmental education in Bangladesh, and how do you think it can be improved?

13. In your opinion, to what extent does the lack of mass awareness, coupled with the general public's harmful attitudes towards nature, contribute to the rise in environmental crimes in Bangladesh?
14. How do you view the role of mainstream media and social media in addressing and combating environmental crimes? What opportunities and challenges do they present?
15. Based on your experience and expertise, what key recommendations would you propose to overcome the challenges associated with addressing environmental crimes in Bangladesh?

8. Questions for Researcher/Development practitioner

1. What is the current level of environmental pollution in Bangladesh and its impact on the ecosystem?
2. Which types of environmental crimes are most frequently committed in Bangladesh, and what are their implications?
3. What are the primary causes and contributing factors behind environmental pollution and the occurrence of environmental crimes in Bangladesh?
4. What are the significant obstacles and complexities faced in effectively enforcing environmental laws and regulations in Bangladesh?
5. How would you evaluate the extent of political corruption influencing and exacerbating environmental crimes in Bangladesh?
6. What is your perspective on the level of public engagement and proactive measures taken by individuals to address environmental crimes in Bangladesh?
7. How do you assess the effectiveness and necessity of establishing a specialised environmental police force to combat and prevent environmental crimes in Bangladesh?
8. What roles should mainstream media and social media platforms play in raising awareness and combating environmental crimes in Bangladesh?
9. How well does the current educational curriculum in Bangladesh address environmental education and the importance of sustainable practices?
10. In addition to the above, do you have any further recommendations or suggestions to address environmental issues and promote a greener Bangladesh?