STRATEGIC ENVIRONMENTAL ASSESSMENT: POLICY AND PRACTICES IN BANGLADESH

A THESIS

BY

MD. SAHADAT HOSSAN

Registration No. 1905114

Session: 2019

Thesis Semester: January-June, 2020

MASTER OF SCIENCE (M.S.)

IN

AGROFORESTRY AND ENVIRONMENT

DEPARTMENT OF AGROFORESTRY AND ENVIRONMENT

HAJEE MOHAMMAD DANESH SCIENCE AND TECHNOLOGY UNIVERSITY, DINAJPUR

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DEDICATED
TO
MY BELOVED PARENTS

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June, 2020 *The Author*

DECLARATION

I hereby declare that the work presented in this thesis titled "**STRATEGIC ENVIRONMENTAL ASSESSMENT: POLICY AND PRACTICES IN BANGLADESH**" has been carried out by myself and that it has not been submitted for any previous degree. All questions have been distinguished by quotation marks and all sources of information specifically acknowledged by references to the authors.

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STRATEGIC ENVIRONMENTAL ASSESSMENT : POLICY AND PRACTICES IN BANGLADESH

ABSTRACT

Strategic Environmental Assessment (SEA) is an assessment tool designed to function at a strategic level that helps to bring aspects of environmental sustainability into the decision making process and leads to better environmental protection and management. Recently, some initiatives have been taken to adopt SEA in policy, plan and program (PPPs) under different ministries in Bangladesh. But no in-depth study has been done particularly to understand whether the legal arrangements in place are adequate and clear to make the SEA practice effective in the context of Bangladesh. On the other hand, there is no clear picture and document on the present situation and trend of SEA practiced in Bangladesh. Considering it, a survey was conducted to analyze the present condition of SEA and find out the constraints for successful implementation of SEA as an approach to integrate environmental considerations in the PPPs in Bangladesh. This study used multiple methodological techniques including document review, online survey (google form) through standard questionnaire and key informant interviews (KIIs) were followed by the participation of different stakeholders of SEA process like policy makers, administrative officer of concerned ministry, organizatios etc. From this study, it was revealed that SEA appeared first in Bangladesh in 2006 with the support of World Bank as donor agency and the first SEA was done in Bangladesh on the Dhaka metropolitan development plan in 2007. But through the enactment of the National Environmental Policy 2018; SEA gained formal status in the country. The result also showed that most of the organizations (government and non-goverment) i.e. 71.43 per cent never practice SEA whereas only 16.67 per cent organizations practice SEA on regular basis and 11.90 per cent organization practiced partially for assesing SEA in their proposed PPPs. A diverse list of constraints such as lack of political will, lacking of awareness of SEA, inadequate finance, weak enforcement of environemntal law and inadequate knowladge of the implementation of SEA in PPPs were identified for success of SEA in Bnagladesh. In addition, the practice of SEA was found to be generally poor and evidence suggests that SEA has not yet introduced satisfactorily in Bangladesh. Therefore, awarness building, capacity development and proper training on SEA in Bangladesh is urgently needed.

Keywords: SEA, environmental assessment, EIA, PPPs

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LIST OF ACCRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
Annon.	Annonymous
BCAS	Bangladesh Centre for Advanced Studies
BEZA	Bangladesh Economic Zones Authority
CEGIS	Centre for Environmental and Geographic Information Services
CIA	Central Intelligence Agency
DAPs	Detailed Area Plans
DG	Director General
DoE	Department of Environment
EA	Environmental Assessment
ECA	Environmental Conservation Act
ECC	Environmental Clearance Certificate
ECR	Environmental Conservation Rules
Ed.	Edition
EIA	Environmental Impact Assessment
E-mail	Electronic Mail
ESA	Environmental Sustainability Assurance
et al.	And others
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GO	Governmental Organization
GoB	Government of Bangladesh
IAIA	International Association for Impact Assessment
IUCN	International Union for Conservation of Nature and Natural Resources
J.	Journal
KII	Key Informant Interviews
km	Killometer
M.Sc.	Master of Science
MoEF	Ministry of Environment and Forest
MW	Mega Watt
NCS	National Conservation Strategy

NEMAP	National Environment Management Action Plan
NEP	National Environmental Policy
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
PDB	Power Development Board
PPP	Policy, Plan and Program
SD	Standard Deviation
SDGs	Sustainable Development Goals
SEA	Strategic Environmental Assessment
SEZ	Special Economic Zone Policy
SPM	Statistical Parametric Mapping
SPSS	Statistical Package for Social Sciences
UK	United Kingdom
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
US	United State
USAID	United States Agency for International Development
USCEQ	US Council for Environmental Quality
WB	World Bank
WECD	Women Empowerment & Child Development

CHAPTER 1
INTRODUCTION

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INTRODUCTION

1.1 Background information of the study

Strategic environmental assessment (SEA) is a systematic process for evaluating environmental consequences of proposed policy, plan or program initiatives in order to ensure that they are fully included and appropriately addressed at the earliest appropriate stage of decision making on particularly with economic and social considerations (Sadler and Verheem, 1996). Strategic Environmental Assessment applied in the earlier stages of planning and design can address many alternative options such as site selection, technological choices and scale of developments not available at the project-based EA stage (Therivel, 1993; Therivel and Partidario, 1996). SEA helps decision makers reach a better understanding of how environmental, social and economic considerations fit together and think through the consequence of their actions. Hence, future environmental negative consequence might be avoided or reduced (OECD, 2006). It is widely accepted that the incorporation of environmental cosiderations into strategic level decision-making is desirable. SEA is being used worldwide to provide decision-makers and the concerned public with essential information to plan for environmentally sustainable economic development.

While environmental impact assessment (EIA) has been used to assess the environmental impacts of development projects, SEA is used on a higher decision making level to assess the environmental impacts of policy, plans and programs (PPPs). SEA as a process can effectively address the limitations of EIA and contribute to policy development in order to ensure sustainable development (Alshuwaikhat *et al.,* 2007). This environmental assessment process has now become a legal requirement of many governments throughout the world (Omondi, 2008). Originating from the US National Environmental Policy Act (NEPA) in 1969 under the name of EIA at project level, SEA has been developed as an extension of EIA at higher strategic planning levels such as PPPs (Therivél *et al.,* 1992). Highly interdisciplinary in nature, environmental assessment works by integrating information from biophysics and social sciences to objectively analyze and evaluate short-term and long-term impacts related to project

proposals, strategic plans, government and industry policies (Omondi, 2008).

Although SEA become more popular across the globe after European Union Directive on SEA, 2001 and Keive protocol, 2003 (Schrage and Bonvoisin, 2008), Some Asian countries (e.g. Hong Kong, China, Taiwan, Vietnam South Korea, and Indonesia etc.) already transposed SEA as tool in their environment assessment system to consider environmental and social consequences of PPPs (Victor and Agamuthu, 2014). SEA also appearing in Nepal, Pakistan and India in different PPPs particularly, forest planning, hydropower development, drainage programs, coastal zone planning and industrial development (Kjörven and Lindhjem 2002). India and Pakistan did not transpose SEA obligations in their national legislations but they adopted either for donor funded projects or voluntarily in some policies, plans and projects (Victor and Agamuthu, 2014, Slootweg *et al.,* 2007).

1.2 Research problem

Bangladesh is the eighth-most populated country in the world with almost 2.2% of the world's population. According to the 2019 revision of the World Population Prospects, the population stood at 161,376,708 in 2016 with an average annual real Growth Domestic Product (GDP) growth of 7.3% and per capita income of $1906% during 2019 and poverty reduction from 52.9% to 20.5% during 2016-1019 (Wikipedia). But, Bangladesh pays a high price from environmental degradation and pollution. Due to pollution and environmental degradation, every year Bangladesh loses about $6.5 billion, which is about 3.4% of the GDP of 2015 (World Bank, 2018). It also revealed that the cost is $1.44 billion in Dhaka alone, which is 0.72% of the national GDP (World Bank, 2018). Globally, Bangladesh is one of the countries most affected by pollution and environmental risks. Pollution has reached an alarming level, it causes about 80,000 deaths in the cities of Bangladesh (World Bank, 2018). To achieve the upper-middle income status, Bangladesh must act now to tackle environmental degradation and pollution and the country must act to put in place the right policies and legislations. In these circumstances, at PPPs levels, SEA may be an important tool to manage these problems. It may also assist to reach the Sustainable Development Goals (SDGs) of 2030. So, it is significant that green growth is pursued with the aim of unlocking Bangladesh from its unsustainable development pathway to more sustainable as well as an inclusive one through the application of SEA (Islam and Zhang, 2018). Indeed, SEA

leads to better environmental protection and management. It also strengthens the PPPs making process, thereby providing a number of immediate and longer-term benefits for development agencies, planning authorities and governments. SEA is urgently needed in Bangladesh along with EIA system to cope with emerging climate change concerns and natural resource degradation for achieving sustainable development in the country.

Anyway, recently some initiatives have been taken to adopt SEA in PPPs under different ministry especially Ministry of Environment, Forest and Climate Change (MoEF), Ministry of Housing and Public Works etc. However, no in-depth study has been done particularly to understand whether the legal arrangements in place are adequate and clear to make the SEA practice effective in the context of Bangladesh and there is no clear picture and document about the present situation and trend of SEA practiced by different GO and NGO institutions or administrations in Bangladesh.

1.3 Research objectives

Considering the above reasons, a survey was conducted to achieve the following objectives-

i) To find out the present status of SEA in PPPs in Bangladesh,
ii) To find out the limitations of SEA implementation in Bangladesh and
iii) To recommend the future steps for SEA execution in Bangladesh.

CHAPTER 2
REVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERATURE

This research has been undertaken to know actual situation of strategic environmental assessment (SEA) in Bangladesh in terms of its current status and the constraints of the successful implementation of SEA in policy, plan and programs (PPPs). Review is a required part of grant of research works and often a chapter in thesis. Review of literature deals with the review of past researches related with this research. The reviews are generally correlated with its objectives.

The reviews of literature of the past studies related to the present experiment collected through reviewing of journals, thesis, internet browsing, reports, newspapers, periodicals and other form of publications are presented and discussed in this chapter.

This chapter deals with the following headlines-

2.1 Background to the development of SEA

2.2 SEA and sustainability

2.3 SEA at PPP level

2.4 Environmental assessment in Bangladesh

2.5 Environmental legislation in Bangladesh related to SEA

2.1 Background to the development of SEA

2.1.1 Motivation for the development of SEA

During the last decade, the world has witnessed a rapid, though controversial, evolution of the environmental policy agenda. Increasingly, traditional environmental decision-making is being questioned, not because it has not developed sufficient legal mechanisms or methodological tools, or because it did not seek to find solutions for critical environmental degradation, but essentially because it is not efficiently responding to the new challenges of the late 20th century, as confirmed and proclaimed by the

United Nations Conference on Environment and Development in 1992. In particular, it is not fully achieving the initially expected results regarding environmental soundness and integration with economic and social issues (Partidário, 2003).

Despite this apparently negative trend, much effort is dedicated to improving environmental performances, to increase environmental awareness across development sectors, in public, governmental, or private decision-making, in inviting and guiding change in decisional attitudes and its supporting values. Significant environmental policy evolution is occurring not only in the developed world but also in the developing and transitional (Partidário, 2003).

SEA has been emerging in this context. May be not surprisingly. There is an increasing complexity behind and around current development and decision-making processes derived from the explosion of electronic communications, the speedness of information production and outdateness, the emerging societal values of equity and fairness, the urgence of rational decisions supported by scarce or defective information and conflictual priorities, all development vectors that call for new forms of proactive intervention in more strategic contexts (Partidário, 2003).

The currently implemented EIA projects cannot cope with this increasing complexity, and cannot make global, sustainable and reasonable decisions. Such desilusion with the capacity of project's EIA to assist, as a single tool, sound environmental decision-making in a tiering system was the strongest argument that determined the need for SEA in its early days (Lee and Walsh, 1992; Therivel *et al*., 1992; Wood and Djeddour, 1992; Sadler and Verheem, 1996). The reasons are various and can be summarized as (Partidário, 1999):

- the timing of decisions: project's EIA takes place at a stage when it is too late to consider the effects of policy and planning critical decisions; these happen in the absence of a systematic impact assessment process, which outcome could subsequently influence project planning and design;
- the nature of decisions: the less concrete and more vague nature of policy and planning decisions, often its incremental nature, through small, sequential and iterative decisions that challenge rational and systematic processes was seen as a significant constraint to the operation of a pragmatic, technically focused, and

rationally oriented tool such as EIA; a new impact assessment tool, inherently adaptable to more strategic, and often incremental, levels of decision-making, was therefore needed;

- the level of information: at the policy and planning level often there are serious limitations in the availability of information, and a reasonable uncertainty regarding action implementation and respective timings; this impeded the satisfaction of project EIA needs, in terms of required detailed levels of information and certainty.

2.1.2 Definition of SEA

Defining SEA is not easy. Few have attempted to venture further than to say that SEA is the environmental assessment of policies, plans and programmes.

An early and widely quoted definition of SEA, by Therivel *et al*., (1992), is: "the formalised, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan or programme and its alternatives, including the preparation of a written report on the findings of that evaluation, and using the findings in publicly accountable decision-making".

This definition characterizes the earlier days of SEA representing an extension of project EIA to the so-called earlier levels of decision-making, as noted in the expressions "systematic procedure", "preparation of a written report" and "using the findings in publicly accountable decision-making".

This concept of SEA persisted in Sadler and Verheem, (1996) proposed definition: "SEA is a systematic process for evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure they are fully included and appropriately addressed at the earliest appropriate stage of decision-making on par with economic and social considerations".

The complexity associated with the idea, and the need to stress the continuous, proactive and integrated nature of SEA motivated yet another formulation, which attempts to highlight the notion of SEA as a process, rather than as the production of a report, its adaptive, continuing and incremental nature, broad scope to encompass sustainability

issues and focus on visions and initiatives rather than on concrete actions and outcomes (Partidário, 1999).

SEA is a systematic, on-going process for evaluating, at the earliest appropriate stage of publicly accountable decision-making, the environmental quality, and consequences, of alternative visions and development intentions incorporated in policy, planning or programme initiatives, ensuring full integration of relevant biophysical, economic, social and political considerations (Partidário, 1999).

"SEA is an instrument that must be adapted for existing decision-making processes. It is more political than technical, and is related to concepts, rather than to activities with geographic and technological specifications." (Partidário, 2000).

SEA is a systematic process for evaluating environmental consequences of proposed policy, plan or program initiatives in order to ensure that they are fully included and appropriately addressed at the earliest appropriate stage of decision making on par with economic and social considerations (Sadler and Verheem, 1996).

2.1.3 Evolution, benefits and rationale for SEA

The National Environmental Policy Act (NEPA) is the reference back to which we can find the first requirements for what became known as SEA. In fact, the action-forcing mechanism, shaped as a requirement and subsequently nominated EIA, to bring about substantive environmental reform through the US federal bureaucracy, imposed upon federal agencies to prepare an environmental impact statement for "legislation and other major federal actions significantly affecting the quality of the human environment" (Section 102(2)(c), NEPA of 1969). Since then several international initiatives subscribe the need for SEA. Table 2.1 lists a serious of key events that have contributed to the evolution and consolidation of SEA.

Despite the initially arguments in the prescriptive literature since the early 1990's, as stated above, the need for SEA does not result only from project's EIA insufficiencies. As more recently argued, SEA has the capacity to support the development of policy and planning practices with a stronger environmental component and, above all, may perform a fundamental role in promoting sustainable principles and practices and the

consideration of cumulative effects (Wood, 1995; Partidário, 1996a; Sadler, 1998; Fischer, 1999; Goodland and Mercier, 1999; Clark, 2000; Partidário, 2000) (Table 2.2).

Table 2.1: SEA key historical initiatives

1969	The NEPA passed by the U.S. Congress, mandating all federal agencies and departments to consider and assess the environmental effects of proposals for legislation and other major projects.
1978	US Council for Environmental Quality (USCEQ) issues regulations for NEPA which apply to USAID and specific requirements for programmatic assessments
1989	The World Bank adopted an internal directive (O.D. 4.00) on EIA which allows for the preparation of sectoral and regional assessments
1991	The UNECE Convention on EIA in a Transboundary Context promotes the implementation of EA for policies, plans and programmes
1990	The European Economic Community issues the first proposal for a Directive on the Environmental Assessment of Policies, Plans and Programmes
1991	The OECD Development Assistance Committee adopted a principles calling for specific arrangements for analysing and monitoring environmental impacts of programme assistance
1995	The UNDP introduces the environmental overview as a planning tool
1997	The Council of the European Union adopts a proposal for a Council Directive on the assessment of the effects of certain plans and programmes on the environment
2001	The UNECE issues a draft protocol on Strategic Environmental Assessment applying to policies, plans and programmes
2001	Council of the European Union adopts the Council Directive 2001/42/CE on 27 June on the assessment of the effects of certain plans and programmes on the environment

Source: Partidário, 2003

Goodland and Tillman (1995) compare traditional reactive EA and strategic proactive EA, arguing that "traditional reactive project level EIA is necessary but not sufficient to exploit opportunities which exist today but which may be gone tomorrow". Without some resistance, the EIA principles of the project cannot be extended to the policy and planning level. It was argued that broad principles of environmental assessment were already incorporated in the decision-making process at that level, and that the adoption of SEA in a systematic manner would represent only marginal advantages. Particularly in physical planning, practitioners claimed that plans already covered project' EIA requirements, using similar methodologies such as scope of analysis (natural, social and economic issues), comparison of alternative solutions and conflict-resolution approaches. Currently there seems to exist a good consensus as to the need for a new form of environmental assessment that runs at higher levels of decision-making, tiering to project's EIA.

Table 2.2: Aims and objectives of SEA

To help achieve environmental protection and sustainable development by:

- Consideration of environmental effects of proposed strategic actions
- Identification of the best practicable environmental option
- Early warning of cumulative effects and large-scale changes

To strengthen and streamline project EIA by:

- Prior identification of scope of potential impacts and information needs
- Clearance of strategic issues and concerns related to justification of proposals
- Reducing the time and effort necessary to conduct individual reviews

To integrate the environment into sector-specific decision-making by:

- Promoting environmentally sound and sustainable proposals
- Changing the way decisions are made

Source: Partidário, 2003

2.1.4 Forms and implementations of SEA

Increasingly decision-makers believe that SEA has the capacity to influence the environmental, and sustainability nature of such strategic decisions, and provide for sound, integrated and sustainable policy and planning frameworks. It is also suggested that, as a consequence of SEA, more sound and environmentally-sensitive policies and plans would incorporate the necessary requirements for the subsequent development of projects.

SEA has been adopting a wide range of different forms as it evolved. Table 2.2 offers a perspective on the array of SEA forms as they are currently known (Webb and Sigal 1992, World Bank, 1993; Sadler and Verheem, 1996; World Bank, 1996; Brown, 1997; Goodland, 1997).

Goodland (1997) calls it the SEA family, illustrating the variety of SEA tools associated to similar principles.

While the rationale and general aim is essentially the same, these different forms of SEA result fundamentally from national and institutional development of evaluation tools according to particular policy-making and planning processes and needs.

For example, while the World Bank created the concept of Regional and Sectoral EAs, the United Nations Development Programme developed the environmental overview as an SEA approach. Likewise, SEA in Canada it started to be addressed as Policy Environmental Assessment, while in the USA Programmatic Environmental Impact Assessment has been the expression in use.

Accordingly, the emergence of different assessment objectives and needs of varying scales and nature also generated a considerable range of potential implementations of SEA, such as those indicated in Table 2.3.

Table 2.3: Main forms of SEA applied to policies, plans or programmes

Policy SEA

- Policy Impact Assessment – environmental assessment of policy proposals to Cabinet approval (Canada)
- Environmental-test - assessment of government legislation proposals (the Netherlands)
- SEA of governmental proposals - assessment of government legislation proposals (Denmark)

Regional and Spatial Planning SEA

- Regional EA - evaluation of regional environmental and social implications of multi-sectoral developments in a defined geographic area, over a certain period (WB)
- SEAn (Strategic Environmental Assessment Analysis) – based on community involvement applies SEA in developing countries (Dutch Aid Agency)
- Environmental Appraisal of Development Plans – assessment of planning policies as council level, with main biophysical insight (UK)
- Sustainability Appraisal of Regional Planning – assessment of regional policy proposals, attempting a broader environmental sustainability approach (UK)

Sector Planning and Programme SEA

- Environmental Overview - applies to the formulation stages of programmes, leads to early identification of environmental and social impacts and opportunities and incorporation of mitigation measures into programme redesign (UNDP)
- Sectoral EA - evaluation of sector investment programmes involving multiple sub-projects; integration of environmental concerns into long-term development; and investment planning or the evaluation of sector policies (WB)

Regional, Spatial and Sector Planning and Programme SEA

- Strategic EIA – SEA applied to spatial plans and programmes using the project's EIA procedure (the Netherlands)
- Programmatic environmental assessment - process of evaluating groups of actions related geographically or having similarities of project type, timing, media or technological character (USA)

Source: Partidário, 2003

Table 2.4: Scope of SEA implementations

• SEA is currently or potentially applied to:
• International Treaties
• Privatisation
• Structural operations programmes
• National budget
• Multi-annual investment plans
• Legislative proposals
• Sectoral and global policies
• Area-wide or land-use planning
• Sectoral planning

Source: Partidário, 2003

2.2 SEA and sustainability

The concept of SEA has been evolving strongly associated to the achievements of sustainability practices and the consideration of cumulative effects (Table 2.3 and 2.4).

It is often presented as an assessment tool contributive to the accountability of natural capital depletion (Goodland, 1997), helping to focus on maintaining the "source and sink" functions of natural systems (Sadler and Verheem, 1996) or assisting the decision-making process by influencing the design of more sustainable policies and strategies (Therivel and Partidário, 1996).

In some cases sustainability remains an implicit background policy. In other cases sustainability issues are used as (Partidário, 1996b):

- benchmarks against which objectives and criteria in SEA can be measured; or
- a strong policy that helps to shape new forms of decision-making in support of sustainable development.

An SEA framework has the potential to allow the principles of sustainability to be carried down from policies to individual projects if the following conditions are met (Partidário, 1999):

- a policy framework is in place, establishing the articulation across sectoral policies and institutional contexts;
- credible and feasible strategic options allow evaluation of a decision based on comparable rather than in absolute values;
- recognition that policy and planning decisions are uncertain and incremental;
- simple though pragmatic indicators that can assist monitoring of the decisions to determine the actual effects;
- good communications mechanisms to ensure that all partners in the SEA process are adequately involved and their perspectives contemplated.

Table 2.5 SEA contribution towards sustainability

1. Provides broader environmental vision
2. Ensures early consideration of environmental issues
3. Anticipates environmental impacts
4. Facilitates environmentally-oriented chain of actions
5. Contributes to integrated policy-making and planning

Source: Partidário, 2003

SEA can play a significant role in enhancing the integration of environmental concerns in policy and planning processes, thereby helping to implement sustainable development. A more integrated system of planning means that environmental and sustainability criteria are incorporated throughout the planning process, for example, in the identification of suitable (or unsuitable) locations for development, and in the assessment of policy alternatives.

More recently Sadler (1999) speaks about the shortcomings of EIA and SEA in "realizing their full potential as a means of providing environmental sustainability assurance (ESA) for development decision-making", and proposes "ESA as a new framework for assessing the sustainability of development trends, options and proposals, identifying EIA and SEA as front-line instruments for this purpose".

2.3 SEA at policy, plan and program level

Over the years, SEA became recognized as a form of environmental assessment that can

assist managers and leaders in policy, planning and programmatic decisions. However it would be more fair to say that SEA is a member of the family of impact assessment tools, as the range of concerns in SEA go far beyond environmental issues. It has been evolving as a family of tools, covering decision-making levels from Policy to Programming, where it more evidently interfaces the scope of implementation of Project' EIA. Figure 2.1 shows the increasing focus of impact assessment across the various decision-making levels, moving from a very broad scope of issues, and uncertainty, at the policy levels, towards a more focussed, to the point approach at programme level, and subsequently at project level. If this model is accepted, then it is obvious that any form of policy decision impact assessment needs to be very different from project decision making, because the issues involved are also very different and the scope is much larger and scale.

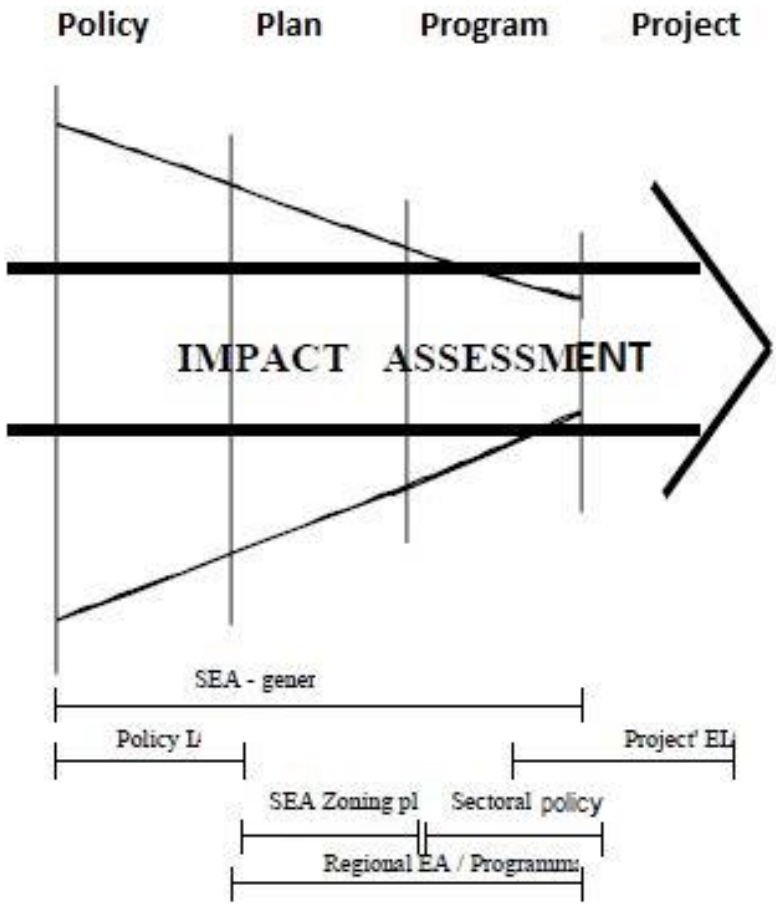


Figure 2.1: Focussing impact assessment across decision-making tiers

Table 2.6 Levels of decision-making in environmental assessment

Policy	Road-map with defined objectives, set priorities, rules and mechanisms to implement objectives
Planning	Priorities, options and measures for resource allocation according to resource suitability and availability, following the orientation, and implementing, relevant sectoral and global policies
Programme	Organized agenda with defined objectives to be achieved during programme implementation, with specification of activities and programmes investments, in the framework of relevant policies and plans
Project	A detailed proposal, scheme or design of any development action or activity, which represents an investment, involves construction works and implements policy / planning objectives

Source: Partidário, 2003

Despite the diversity of forms adopted by SEA, it is often presented as the assessment tool that addresses the environmental implications of decisions made above project level. This simplistic way of suggesting the concept of SEA is generating some controversy, given the enormous range of decision scales and development implications involved in different jurisdictions.

Considering the variety of potential implementations, as stated above, only with imagination and flexibility one can design a tool that can be adapted, and effectively responsive, to such a wide range of rationalisms, decision levels, and associated decision-making systems.

Under the circunstances SEA must absolutely be tailor-made to the kind of decision at stake, and the nature of the decision-making process in place (Partidário, 1998). If this is true for project's EIA, it is even more true for SEA, as policy and planning decisions tend to be much more intuitive, with less detailed information, and incremental, than decisions taken at project level.

In this context, it can be questioned whether the scope of SEA should be limited to just one level of decision-making or, instead, if it can actually be conceptualised to respond effectively to such a wide scope of decision levels, from policy to programmatic levels.

No doubt SEA can be quite instrumental in the tiering focus of environmental assessment. But may be difficulties associated to the establishment of SEA are related to such enormous demand pending on SEA performance capacities. Perhaps we should re-think SEA and consider whether the existing differences between PPP should in fact be acknowledged by the environmental assessment approach to be adopted. Which may eventually justify distinguishing between forms currently known as SEA approaches.

It is also important not to pinpoint the use of SEA at one specific level of decision making. Within strategic decision making there are different levels and the integration of environmental concerns should take place (in a tiered approach) at all these levels. Although SEA may have the greatest benefits at the policy level, it may be wise to initiate the enforcement of SEA at more pragmatic levels of programmes and plans, especially in countries where policy-making is not yet fully endorsed.

2.4 Environmental assessment in Bangladesh

Bangladesh is a sufferer of environmental problems both in locally and regionally, as well as worldwide problems. The key environmental concerns for Bangladesh are enormous natural disaster, deforestation, land degradation, deteriorating water quality, salinity, industrial wastes, release of untreated sewage and unplanned urbanization and so on (Alshuwaikhat *el al.,* 2007). The Government of Bangladesh (GoB) is dedicated to take on environmental assessment for every new development of private or public project and management plans, prepare mitigation, and monitoring with a view to preventing or minimizing possible negative environmental impacts. The GoB realizes the value of environmental sustainability as the base for long term development in the country.

The first environmental initiatives in Bangladesh were taken as of the Stockholm Conference on Human Environment in 1972. According to the conference the GoB funded, after propagating of the Water Pollution Control Act, 1973, a project primarily targeted for the control of water pollution and also the Bangladesh Wild-life

(Preservation) Act, 1973 and the Environmental Pollution Control Ordinance 1977. The United Nations World Commission on Environment and Development (WECD, 1987) and its Brundtland Report had a strong influence in figuring the development and environmental activities in Bangladesh (GoB, 1991).

In the late 1980s, the importance of environmental issues was gradually increased by the GoB. Formation of a separate ministry, the Ministry of Environment and Forest (MoEF), in 1985 the creation of the Department of Pollution Control, and in finally, in 1989 and the renaming, restructuring and extension of the Department of Environment (DoE) are major Government actions. Until 1995 there was no legal requirement on conducting EIA. In the late 1980s, undertaking of EIA on a voluntary base by donor agencies carried out EIA for a project to build an embankment around the capital city of Dhaka when it flooded in 1991. In truth, the culture of EIAs was started voluntarily by donor agencies or NGOs because of the connotation for foreign financial support.

Bangladesh country statement for United Nations Conference on Environment and Development (UNCED) have been prepared by the Ministry of Environment & Forests in October 1991, where EIA has been identified as a management tool for sustainable development of the country (GoB, 1991). In line with the general recommendations of the Rio Earth Summit, the National Environmental Policy (NEP) was framed in 1992 for the protection of the environment in Bangladesh (Ahammed and Harvey, 2004). The National Environment Policy, 1992 first incorporated the condition to require EIAs for every new public and private projects (GoB, 1992a).

The GoB and the International Union for Conservation of Nature and Natural Resources (IUCN), made a draft National Conservation Strategy in 1992 (GoB, 1992b) that also proposed obligatory provision of EIA for development activities. In 1993, the formation of the National Environmental Committee which was headed by the Prime Minister, deals with environmental issues at the central level. The government of Bangladesh enacted the Environmental Conservation Act (ECA) in 1995, and it was effective from June 1, 1995. Section 12 of ECA specifies that '"No industrial unit or project shall be established or undertaken without obtaining environmental clearance from the Director General, DoE, in the manner prescribed by the rules" (DoE, 1997) (p. 1, Clause 2f of Section 20) entails that rules be made to "evaluate, review the EIA of various projects and activities, and procedures be established for approval" (BCAS, 1999). To meet up

these obligations, Environmental Conservation Rules (ECR)'97 was promulgated.

Though it is the liability of the proponent to accomplish an EIA of development proposal, the accountability to review EIAs for the purpose of issuing Environmental Clearance Certificate (ECC) rests on DoE (DoE, 1997). ECR'97 (Rule 7) classifies projects and industrial units into four categories depending on location and environmental impact for the purpose of issuance of ECC as are -Green, Amber-A, Amber-B, and Red. All projects and existing industrial units and proposed projects and industrial units, that are regarded to be low polluting are categorized under "Green" and shall be approved environmental clearance. For proposed projects and industrial units falling in the Amber- A, Amber- B and Red categories, firstly a site clearance certificate and after that an environmental clearance certificate will be issued. According to Rahman and Aina (2005) in Bangladesh the current EIA system is not adequate even to make sure environmental sustainability at the project level let only promote environmental consideration at the strategic level. The main lacking is in legislation power of EIA, systematic appropriateness of current EIA system, public participation and institutional capacity (Ahammed and Harvey, 2004).

Indeed, ad-hoc based systems are followed by DoE for providing environmental clearance certificate of non-industrial project**.** On the other hand SEA is inherently appropriate for taking care of non-industrial project actions. The current environmental impact assessment system may be improved by supporting EIA at the strategic level. In this perspective the DoE has an important role to play by liaising with the different policymaking bodies and plan to make sure the environmental sustainability of policies, plans and programs.

2.5 Environmental Legislation in Bangladesh related to SEA

Regulatory requirements toward protection and conservation of environment and various environmental resources and also toward protection of social environment from adverse impact of projects and activities associated with them have been enunciated by the Government of Bangladesh as well as financiers. Pertinent among these requirements are summarized as under.

2.5.1 National Environment Policy, 1992

The cabinet adopted national environmental policy in November 1992 that provides some general guiding statements and then goes on describing sectoral policies following the ministries (Hasan, 2004). The objectives of policy are:

- To maintain ecological balance and overall development of the country through protection and improvement of the environment;
- To protect the country against natural disasters;
- To identify and regulate all activities which pollute and degrade the environment;
- To ensure environmentally sound development in all sectors;
- To ensure sustainable long term and environmentally sound use of all natural resources; and
- To actively remain associate with all international environmental initiatives to the maximum possible extent.

NEP, 1992 embraces a number of related different sectors including agriculture, industry, health, energy, water, land, forest, fisheries, marine, transport, housing, population, education and science. The central theme of the Environmental Policy of 1992 is to ensure the protection and improvement of the environment (Islam *et al.*, 2005).

2.5.2 National Environment Management Plan 1995

The National Environment Management Action Plan (NEMAP) is a wide ranging and multifaceted plan, which builds on and extends the statements set out in the (NEP). NEMAP was developed to address the issues and management requirements for a period between 1995 and 2005 and set out the framework within which the recommendations of the National Conservation Strategy (NCS) are to be implemented. NEMAP has the following broad objectives:

- Identification of key environmental issues affecting Bangladesh;
- Identification of actions necessary to halt or reduce the rate of environmental degradation;
- Improvement of the natural and built environment;

- Conservation of habitats and biodiversity;
- Promotion of sustainable development and
- Improvement in the quality of life of the people.

2.5.3 Bangladesh Environmental Conservation Act (1995) and Amendments

The Bangladesh Environment Conservation Act of 1995 is the key legislation in relation to environment protection in Bangladesh. This Act is promulgated for environment conservation, standards, development, pollution control, and abatement. It has repealed the Environment Pollution Control Ordinance of 1977. The Act has been amended in 2000, 2002, 2007 and 2010. The main objectives of the Act are:

- Conservation and improvement of the environment; and
- Control and mitigation of pollution of the environment.

The main strategies of the Act can be summarized as:

- Providing appropriate organizational structure and regulatory powers to the Department of Environment (DoE) to monitor environmental issues, and enforce control measures where appropriate;
- Declaration of ecologically critical areas and restriction on the operations and processes, which can or cannot be carried out / initiated within these;
- Promulgation of standards for quality of air, water, noise and soil for various implementations;
- Regulation of allowable vehicle emissions;
- Regulatory responsibility for the environmental clearance process for new and existing project and developments;
- Regulation of discharge limits and discharge permits for industries and other developments;
- Promulgation of a standard limit for discharging and emitting waste; and
- Formulation and declaration of environmental guidelines for key issues.

DoE executes the Act under the leadership of the Director General (DG). As stipulated under the ECA, the Project proponent must obtain Environmental Clearance from the DG of DoE before any new project can be approved. An appeal procedure exists for

those proponents who fail to obtain clearance, however failure to comply with any part of this act may result in punishment equivalent to a maximum of five years imprisonment, or a maximum fine of Tk. 500,000, or both. (Annon., 2017)

The Environmental Conservation Act (Amendment 2000)

The Bangladesh Environment Conservation Act (Amendment 2000) focuses on ascertaining responsibility for compensation in cases of damage to ecosystems. It allows for increased provision of punitive measures both for fines and imprisonment, and the authority for nominated officials to record the details of alleged offences and to prosecute the offenders (Annon., 2017).

The Environmental Conservation Act (Amendment 2002)

The 2002 Amendment of the ECA elaborates on the following parts of the Act:

- Restrictions on automobile emissions;
- Restrictions on the sale and production of environmentally harmful items like polythene bags;
- Assistance from law enforcement agencies for environmental actions; and
- Authority to try environmental cases in court (also supported by the *Environmental Court Act, 2000*) (Annon., 2017).

The Environmental Conservation Act, 2010

The amendment of ECA‟95 has been published on 5 October, 2010 as Bangladesh Environmental Conservation Act, 2010. Some changes and inclusions has been made in different clauses particularly in defining the Ecological Critical Area, farming certain rules and conditions in cutting and/or razing hills, handling disposal of hazardous wastes, managing ship braking industries & wetlands, fixing responsibilities of environmental and safety management, obligations of obtaining and issuance of environmental clearance certificates and imposing penalties for violations including but not limited to filing cases for compensations, fixing fees and framing different rules under this Act (Annon., 2017).

2.5.4 Environment Conservation Rules (1997) and Amendments

The ECR is a set of rules, promulgated under the Environmental Conservation Act, which specifies environmental approvals processes for various project types and provides allowable limits for environmental disturbance or pollutative discharge / emissions. The Environment Conservation Rules (1997) (ECR) provides categorization of industries and projects and identifies types of environmental assessments required against respective categories of industries or projects. The rules set:

- The National Environmental Quality Standards for ambient air, various types of water, industrial effluent, emission, noise, vehicular exhaust etc.;
- The requirement for, and procedures to obtain, Environmental Clearance; and
- The requirement for IEE / EIAs according to categories of industrial and other development interventions.

The proposed metro rail project clearly falls under any category according to the ECR, 1997 (Annon. 2017).

2.5.5 National Environmental Policy, 2018

To ensure sustainable development in the face of environmental catastrophes, various disasters, climate change impacts and natural resource constraints and the National Environment Policy 2018 has been adopted by amending and revising the Environment Policy 1992 to bring about the mainstreaming of environmental development by reflecting on the national principles of conservation and development of the environment and biodiversity adopted as the principle of the constitution.This policy will be considered as a unified policy for the conservation and development of the environment and will serve as a guideline for environmental activities as set out in other national policies. The main objectives of this policy are-

- Natural equilibrium provision and overall development of the country through environmental protection and sustainable management.
- The spread of adaptation programs to reduce the adverse effects of climate change on the country

- To encourage the acquisition and implementation of low carbon emission technology in the country.
- Identifying and controlling all types of environmental pollution and degradation activities.
- To ensure environmental development in all areas.
- To ensure sustainable, long-term and environmentally friendly use of all natural resources.
- Unveiling and expanding the areas of mutual cooperation in the regional and international arena for the development of the global environment.
- Environmental education, capacity building, public awareness and public opinion to conserve the environment.
- To take public private initiative for the development of the environment.
- To maintain and streamline environmental policies and strategies among other policy strategies in the interest of sustainable development.
- Developing communities capable of dealing with all kinds of environmental problems, including climate change.
- To ensure EIA and SEA performance when necessary.
- To discourage artificial infiltration of foreign and invasive species of animals and plants, and to make decisions through adequate research if necessary.
- To be actively involved with all international environmental initiatives and to take necessary actions at local and national level.
- To take measures to reduce poverty through environmental protection.
- Strengthen observations on proper compliance with environmental laws and regulations (MoEF, 2018).

CHAPTER 3
METHODOLOGY

CHAPTER 3

METHODOLOGY

In any research paper, methodology plays an important role. Appropriate methodology enables the researcher to collect valid and reliable information and to analyze the information properly in order to arrive at valid conclusion. The methods and procedures followed in conducting this study has been described in this chapter.

3.1 Research design

Research design is a comprehensive master plan of the research. It is the conceptual structure within which research is conducted, constitutes blue print for collection, measurement and analysis of data. It is also the strategy, plan and structure of conducting the research. The purpose of designing the research is to provide a plan that permits accurate assessment of cause and effect relationships between the variables and to answer the questions being investigated. There are many types of research design. The design of this study was mixed-method research design. The research design of this study is given below.

- Selection of topic or research theme
- Literature review and consultation with specialist researcher
- Selection of location and variables
- Data collection
- Qualitative analysis
- Quantitative analysis
- Data analysis
- Preparation of the thesis

3.2 Study type

This study is a suevey based work. The survey study involves determination of sample size, systematic collection and presentation of data. In accordance with the objectives of the study the government and non-government organizations are considered as the unit of analysis. The purpose of the study is to identify the information related to SEA and its

extent in the different organizations of the country.

3.3 Study area

All administrative divisions of Bangladesh have been selected as the study area including different ministries, departments under different ministries, infrustrural organizations in Bangladesh etc.

Geography of Bangladesh

Bangladesh country of South Asia, located in the delta of the Padma (Ganges [Ganga]) and Jamuna (Brahmaputra) rivers in the northeastern part of the Indian subcontinent. Bangladesh covers an area of 147,570 sq km, a little more than the size of Greece. It extends from 20'34N to 26'38N latitude and from 88'01E to 92'41E longitude. Maximum extension is about 440 km in the E-W direction and 760 km in the NNW-SSE direction. The country is bounded in the south by the Bay of Bengal. Although Bangladesh is a small country, the length of the coastline is more than 580 km. Bangladesh is fringed on the southwest by the huge expanse of mangrove forest known as Sundarbans, the abode of the famous Royal Bengal Tiger (Wikipedia).

Areas and Bounderies

Area:
Total: 143,998 km^2
Country comparison to the world: 95
Land: 130,168 km^2
Water: 13,830 km^2

Land boundaries:
Total: 4,413 km
Border countries: Myanmar 271 km, India 4,142 km

Coastline: 580 km

Maritime claims:

Territorial sea: 12 nmi (22.2 km; 13.8 mi)
Contiguous zone: 18 nmi (33.3 km; 20.7 mi)
Exclusive economic zone: 200 nmi (370.4 km; 230.2 mi)
Continental shelf: up to the outer limits of the continental margin

Elevation extremes:
Lowest point: Indian Ocean 0 m
Highest point: In the Mowdok range at 1052 m (at N 21°47'12" E 92°36'36"), *NOT* Keokradong (883 m not 1,230 m) or Tajingdong (985 m not 1,280 m as sometimes reported)

Resources and land use

Natural resources: natural gas, arable land, timber, coal

Land use:
Arable land: 58.96%
Permanent crops: 6.53%
Other: 34.51% (2012)

Irrigated land: 50,000 km^2 (2008)

Total renewable water resources: 1,227 km^3 (2011)

Freshwater withdrawal (domestic/industrial/agricultural):
Total: 35.87 km^3/yr (10%/2%/88%)
Per capita: 238.3 m^3/yr (2008)

Capital: Dhaka, population 20.3 million (2019 estimate, CIA World Fact book)

Major Cities

- Chittagong, 4.9 million
- Khulna, 963.000
- Rajshahi, 893,000

Population of Bangladesh

Bangladesh is home to approximately 159,000,000 people, giving this Iowa-sized nation the eighth highest population in the world. Bangladesh groans under a population density of about 3,300 per square mile. Population growth has slowed dramatically, however, thanks to a fertility rate that has fallen from 6.33 live births per adult woman in 1975 to 2.15 in 2018, which is replacement-rate fertility. Bangladesh also is experiencing net out-migration. Ethnic Bengalis make up 98 percent of the population. The remaining 2 percent is divided among small tribal groups along the Burmese border and Bihari immigrants (Szczepanski, 2019).

Climate of Bangladesh

The climate in Bangladesh is tropical and monsoonal. In the dry season, from October to March, temperatures are mild and pleasant. The weather turns hot and muggy from March to June, awaiting the monsoon rains. From June to October, the skies open and drop most of the country's total annual rainfall, as much as 224 inches per year (6,950 mm). As mentioned, Bangladesh often suffers from flooding and cyclone strikes—an average of 16 cyclones hit per decade. In 1998, flooding struck due to an unusual melt-off of Himalayan glaciers, covering two-thirds of Bangladesh with floodwater, and in 2017, hundreds of villages were submerged, and tens of thousands of people were displaced by two months of monsoon flooding (Szczepanski, 2019).

Economy of Bangladesh

Bangladesh is a developing country, with per capita GDP of just about $4,200 U.S. per year as of 2017. Nevertheless, the economy is growing rapidly, with a roughly 6% annual growth rate from 2005 to 2017. Although manufacturing and services are increasing in importance, almost half of the Bangladeshi workers are employed in agriculture. Most factories and enterprises are owned by the government and tend to be inefficient. One important source of income for Bangladesh has been workers' remittances from the oil-rich Gulf States such as Saudi Arabia and the UAE. Bangladeshi workers sent $13 billion U.S. home in FISCAL YEAR 2016–2017 (Szczepanski, 2019).

Figure 3.1: Map of Bangladesh (source: Google map)

3.4 Experimental period

The research study was conducted during the period from December 2019 to March, 2020.

3.5 Sample size determination

Determining an adequate sample size in qualitative research is a matter of judgement in evaluating the quality of information collected against the use to which it will be put, the

particular research method, the sampling strategy employed and the research product intended (Sandelowski, 1995). Table 3.1 presents the number and profile of the survey respondents contacted.

Table 3.1: Profile of informants

Informants title	Number of informants
Administrative Officer	20
Environmental Specialist	2
SEA Expert	20
Total	**42**

3.6 Research instruments

A semi-structured questionnaire was used as the data gathering instrument (Appendix: I). The questionnaire was carefully prepared considering the objectives of the study. The questionnaire contained both open and closed form. Considering the selected characteristics of SEA, easy and direct questions were included in the questionnaire to obtain necessary information. On the basis of pre-test, necessary corrections, alterations and modifications were made before finalizing the interview schedule. The questionnaire was then printed in its final form and was multiplied for collecting data from the respondents.

3.7 Data collection

The study used two sources of data. These are as follows-

Primary data

Primary data was collected through in-depth interview and online survey by google form using standard questionnaire from different stakeholders like policy makers, administrative officer of concerned ministry, organizatios etc. International experts who have been working with international programs that support SEA development in Bangladesh (ADB, FAO and World Bank) were another group of informants. Some national informants are both SEA regulators and practitioners who work at government agencies, at the same time providing SEA consultancy service.

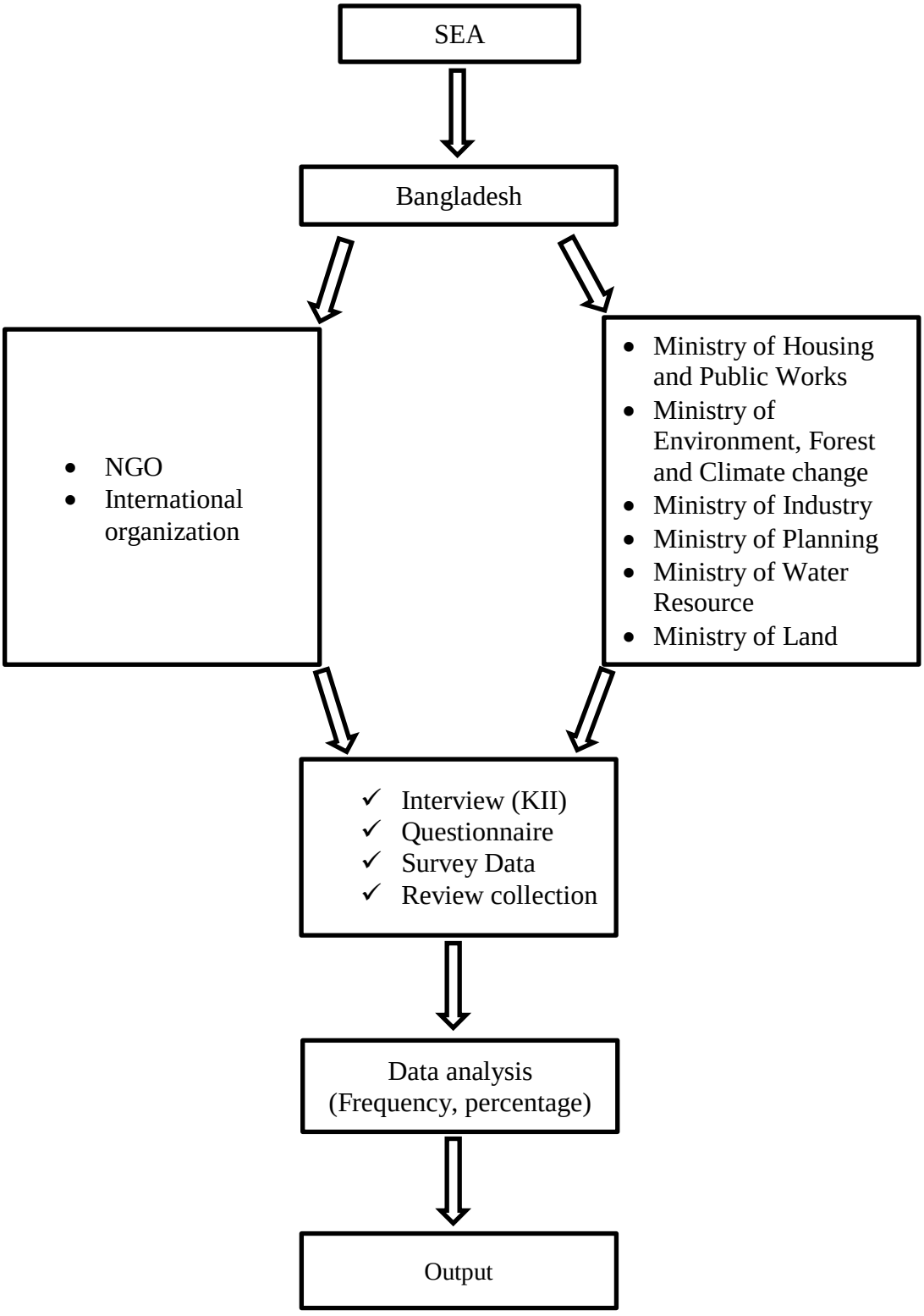


Figure 3.2: Methodological framework

Secondary data

Secondary information was collected from current document review (research reports, online publications, governmental reports, scientific journals, international reports,

books, journal articles and other academic resources) related to SEA in Bangladesh.

3.8 Methods of data collection

There were three methods used in this study for data collection; face-to-face and by e-mail correspondence and by google form.

Face-to-face interviews: These were conducted mainly to respondents who were easily accessible. Key Informant Interview (KII) was also followed by the participation of selected stackeholders.

E-mail interviews: An e-mail with a question was sent to selected stakeholders. This e-mail acted both as an invitation and a question.

Google form: Google form was used as the online instrument for distributing the surveys. The instrument was first checked for internal coherency, proper wording, proper answer sets, and logistical clarity. It was then pre-tested for three basic reasons:

1. To evaluate the competency of the survey.
2. To estimate the length of the survey or time to take the survey.
3. To determine the quality of the survey instrument.

A small group of test interviewees were selected and informed of the survey test after which a link of a test survey was sent to them via e-mail. Comments from this group were then received and used to improve the survey before distributing it to the actual respondents.

3.9 Statistical analysis

The coded data were put into the computer for statistical analysis. The SPSS (Statistical Package for Social Sciences) computer program was used for analyzing the data. Various descriptive statistical measures such as frequency, number, percentage, mean and standard deviation were used for categorization and describing the variables. In addition the graphs and tables were also used to interpret the finding.

CHAPTER 4
RESULTS AND DISCUSSION

CHAPTER 4

RESULTS AND DISCUSSION

This chapter provides the present stituations of Strategic Environmental Assesment (SEA) in the context of Bangladesh and the responses received from a variety of stakeholders such as national SEA experts, officers involved in PPPs and environmental specialist in Bangladesh. The findings of this study are presented in five parts in this chapter indicating different tables, figures and plates among them. The first part focus with the description of extent of knowledge of the respondent about SEA in Bangladesh, the second parts express the practice of SEA in different organization of Bangladesh, the third part contains the extent of stakeholders participation during SEA practice and decision making, the fourth part describes about the SEA legislation and procedure/guidelines in Bangladesh and the final part indicates the constraints of successful SEA implementation in Bangladesh.

4.1 Familiarity with SEA as a concept

In case of the familiarity with SEA as a concept of the respondents were cagorized into three groups such as very familiar (taken/taking part in SEA) group, familiar (only read/heard about SEA) group and not familiar group (Figure 4.1). Majority of the respondents (26 per cent) were only read/heard the term of SEA i.e. belongs to the familiar group and 61 per cent were taken/taking part in SEA i.e. belongs to the very familiar group whereas only 13 per cent of the respondents were not familiar group i.e. they did not heard the term of SEA. The general unfamiliarity with SEA was highlighted by results raises several key issues such as the lack of promotion of SEA in Bangladesh, and more fundamentally, the need for clarification of SEA terminology.

The respondents who had been taken or taking part in SEA were plyaing role in different capacity such as affected public member, SEA practitioner/ certified expert, SEA regulator, lead agent, proponent and interest group (Figure 4.2). Majority of the respondents (37.4 per cent) acting as SEA regulator among all these capacity whereas 13.4 per cent as SEA affected public member and 20.6 per cent were in interest group, 14.3 percent were SEA practitioner/certified expert and proponent. Maximum

respondents belongs to the regulatory group because they are goverment officers and responsible for good planning and monitoring of the PPPs as those are environment fiendly.

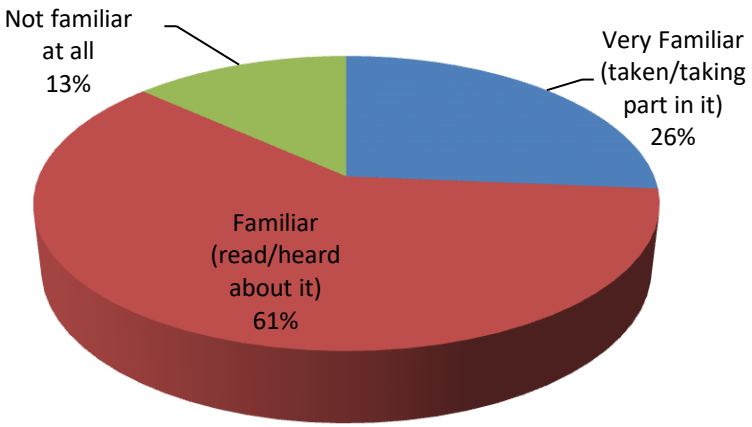


Figure 4.1: Familarity rate with SEA of the respondents in Bangladesh.

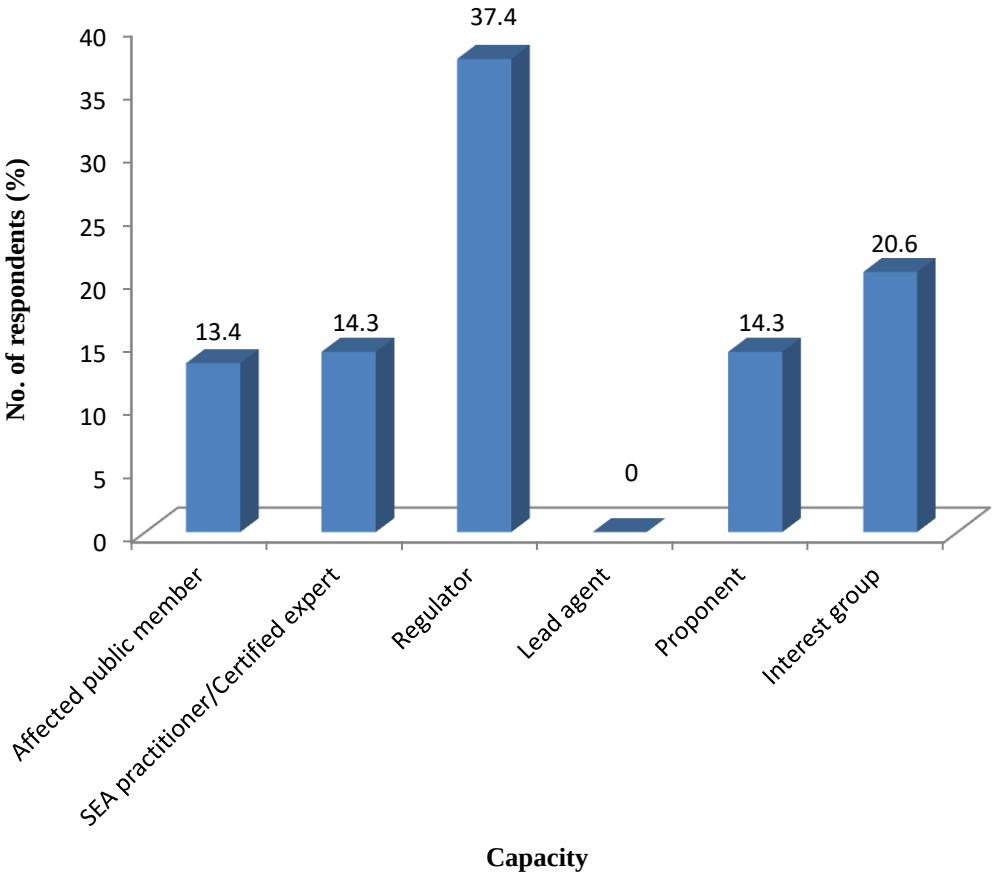


Figure 4.2: Capacity where respondents act their role during SEA practice.

4.2 Training exposure

Participation in any seminar or training plays an important role for developing any skill. The score of the respondents ranged from 1 to 20 against possible range 0 to 36 regarding training experience and an average of 4.49 and standard deviation was 3.32. According to the training exposure score, the respondents were categorized into three groups such as low training exposure (1-7), medium training exposure (8-14) and high training exposure (>14). The distribution of the respondents according to their training experience has been presented in Table 4.1.

Table 4.1: Distribution of respondents according to their training exposure

Categories	Respondents		Mean	SD
	No.	(%)		
Low (1-7)	15	35.71		
Medium (8-14)	23	54.76	4.49	3.32
High (>14)	4	9.52		

Table 4.1 indicates that the medium training exposure category constituted the highest proportion (54.76 per cent) of the respondents followed by 35.71 per cent of the respondents had low traing exposure whereas only 9.52 per cent of the respondents had high training exposure related to SEA. This data mentioned that the respondents were not get enough training on SEA. So, it need to increase more seminar or training for developing the capacity and skill of the respondents about SEA.

4.3 Extent of knowladge

4.3.1 Knowladge on SEA as a term

On the basis of the knowledge of the respondents on SEA as a term, they were classified into three categories as shown in Table 4.2. This table indicated that the highest proportion (42.86 per cent) of the respondents had moderate knowledge on SEA, while 33.33 per cent had good knowledge and only 23.81 per cent of the respondents had poor knowledge on SEA as a term.

Table 4.2: Distribution of respondents according to their knowledge on SEA

Categories	Respondents		Mean	SD
	No.	(%)		
Poor knowledge (7-11)	10	23.81		
Moderate knowledge (12-16)	18	42.86	13.52	0.89
Good knowledge (>16)	14	33.33		

4.3.2. Knowladge on SEA conduction

Knowladge on SEA as a term and knowladge on SEA conduction is different from each other. On the basis of the knowledge of the respondents on SEA conduction they were classified into three categories as shown in Table 4.3. This table indicated that the highest proportion (59.52 per cent) of the respondents had poor knowledge on SEA conduction, while 23.81 per cent had moderate knowledge and only 16.67 per cent of the respondents had good knowledge on SEA conduction.

Table 4.3: Distribution of respondents according to their knowledge on SEA conduction

Categories	Respondents		Mean	SD
	No.	(%)		
Poor knowledge (7-11)	25	59.52		
Moderate knowledge (12-16)	10	23.81	12.63	2.16
Good knowledge (>16)	7	16.67		

4.4 Practice status of SEA

SEA has very recently begun to appear in high-level policy documents in Bangladesh. According to the practice of SEA in different organization in PPPs, the organization were categorized into three groups such as regular, partial and never (Figure 4.3). The result indicates that the most of the organizations (government and non-goverment) i.e. 71.43 per cent never practice SEA whereas only 16.67 per cent organization practice SEA on regular basis and 11.90 per cent organization practiced partially for assesing SEA in their proposed PPPs. This is due to the weak enforcement of environmental law and lack of SEA knowledge in national level followed by inadequate material capacity.

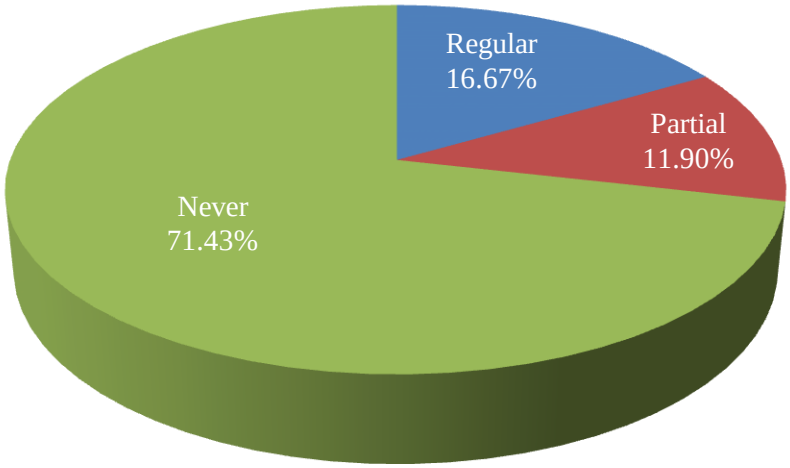


Figure 4.3: Practice status of SEA in Bangladesh.

Indeed, the first SEA was done in Bangladesh on the Dhaka metropolitan development plan in 2007 (Islam and Zhang, 2018). That SEA was designed to give for holistic urban development to strengthen and direct the preparation as well as implementation of Detailed Area Plans (DAPs) of Dhaka city. Another policy SEA for Bangladesh Sundarbans performed by the World Bank in 2012 and the thrust area of this SEA was "Trans Boundary Cooperation for reducing climate change vulnerability" and the objective of the SEA was to improve strategies for reduction of vulnerability (Islam and Zhang, 2018). CEGIS, power energy and mineral resource division implement SEA in 2018 in the Power Hub Development project in the Cox's Bazar Region.

The proposed upcoming SEA studies will be in five projects with a cumulative capacity of 13100 MW requiring 11500 acres of land by Power Development Board, SPM project will require 32.40 acres of land acquisition to set up tank farm by Energy and Mineral Resource Division, to set up a deep seaport there is requirement of 6900 hectares of land by Ministry of Shipping, Preparation of Tourism Master Plan at Kuakata, Patuakhali by Director of Urban Development Directorate, Establishment of a development authority serving Payra, Kuakata, Taltoli, Patharghta , Amtoli and Rangabali by Ministry of Housing and Public works, Preparation of a Land use Plan for Moheshkhali, Cox's Bazar by Ministry of Housing and Public Works, SEA for Sundarbans Area by DoE and

convinced to do 'integrated EIA' instead of EIA for each zone by Bangladesh Economic Zones Authority (BEZA).

4.5. SEA legislation and guidelines

In case of SEA legislation and guidelines as shown in Figure 4.4, majority of the respondents (92.85 per cent) said that there was no specific and well developed legislation and guideline for SEA in Bangladesh. But only 7.14 per cent of the respondents said that there are existed of SEA legislation in Bangladesh and it mentiomed or included in the National Environmantal Policy 2018. Though SEA gained formal status in Bangladesh through National Environmental Policy 2018 but still it is not sufficient. One of the main limitations for SEA in Bangladesh is the absence of legislative frameworks obligating SEA as a planning and assessment tool in all types of development planning. So, it need to develope guidelines or procedure and enforcement for SEA of the existing policy during PPPs making. This study also revealed that currently all major donor agencies which are working in Bangladesh have their own SEA guidelines. Therefore, proper implementation of SEAs are largely dependent on the requirements of the donor agencies and actually there is a lack of coordination among the various organizations involved in environmental decision making and of adequate infrastructure to ensure proper SEA.

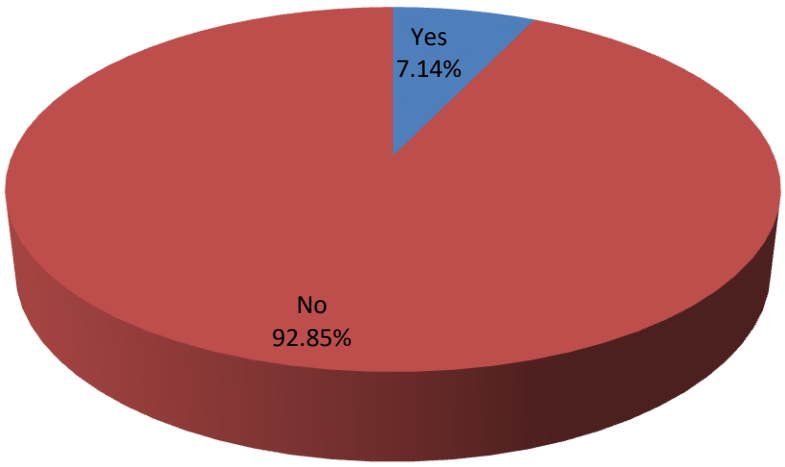


Figure 4.4: Respondent's perception about the presence of acts/laws/regulation for SEA in Bangladesh.

4.6 Stakeholder's participation during SEA practice and decision making

4.6.1 Stakeholder's participation during SEA practice

In case of the stakeholder (public, lead agencies, NGOs and interest groups, SEA certified experts, proponents and nationanal environment managment authority) participation during the SEA process, the score of the respondents opinion was ranged from 2 to 17 against possible range 0 to 18 and based on the opinion the respondents were categorized into four groups such as very inadequate (2-6), inadequate (7-11), adequate (11-15) and very adequate (>15). The distribution of the respondents opinion about stakeholder participation during SEA practice are shown in Figure 4.5.

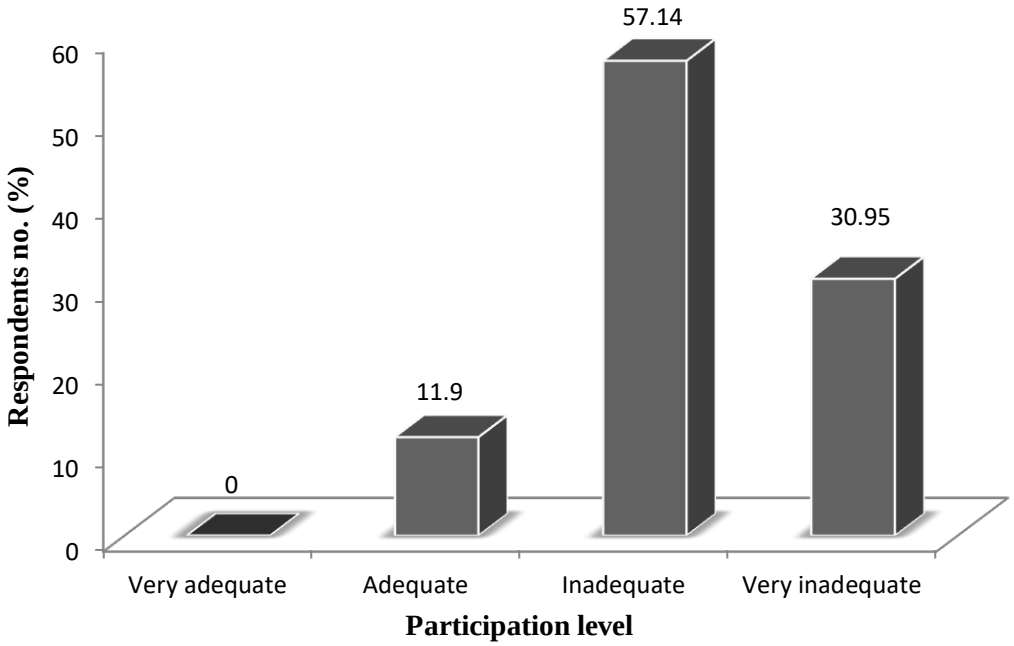


Figure 4.5: Stackeholder's participation during SEA practice in Bangladesh.

Table 4.5 indicates that the inadequate category constituted the highest proportion (54.14 per cent) of the respondents followed by 30.95 per cent as very inadequate whereas only 11.9 per cent of the respondents opinion as adequate of stakeholder participation during SEA practice. This data revealed that the stakeholder participation during SEA process is not sufficient enough in Bangladesh perspective. So, it needs to increase the participation of stakeholders during SEA process. The reason behind this could be incomplete regulatory framework on SEA in Bangladesh which hinder the stakeholder involvement in the SEA process.

4.6.2 Stakeholder's participation during decision making

In case of the stakeholder participation during the decision making process of SEA, the score of the respondents opinion ranged from 3 to 16 against possible range 0 to 18 and based on the opinion the respondents were categorized into four groups i.e. very insufficient (3-6), insufficient (7-10), sufficient (11-14) and very sufficient (>14). The distribution of the respondents opinion about stakeholder participation during decision making process are shown in Figure 4.6.

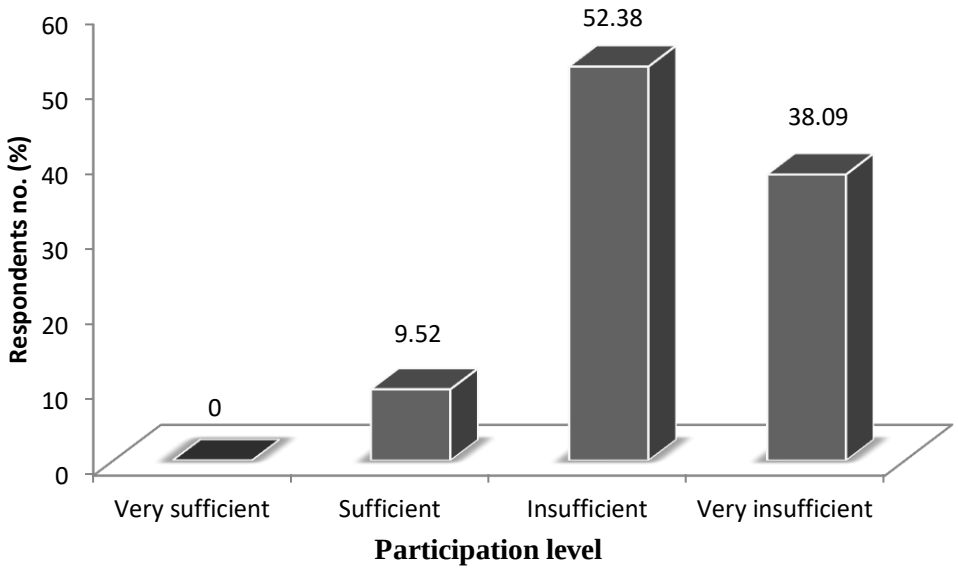


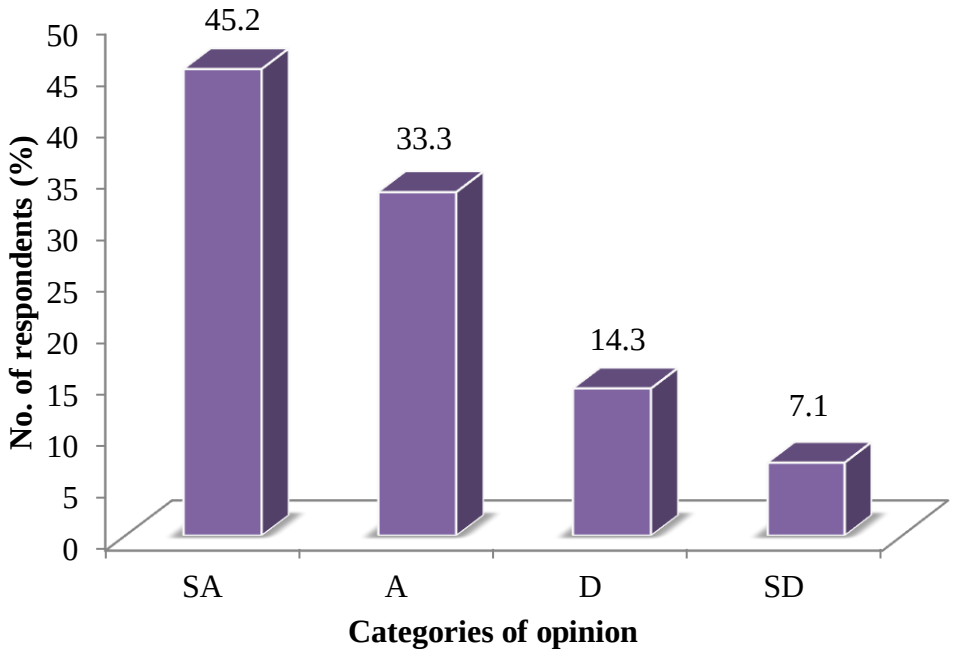
Figure 4.6: Stackeholder's participation during decision making in Bangladesh.

Table 4.6 indicates that the insufficient category constituted the highest proportion (52.38 per cent) of the respondents followed by 38.09 per cent as very insuffcient whereas only 9.52 per cent of the respondents opinion as sufficient of stakeholder participation during decision making process. This data indicated that the stakeholder participation during decision making process in Bangladesh situation is not enough. Therefore, there is essential need to increase the participation of stakeholders during decision making process of SEA. Indeed, in case of the environmental decision making process, there is absence of public participation in Bangladesh which is a problem for SEA implementation. Ministries have vested power in drafting law proposals without consultation with other stakeholders.

4.7 Attitude towards SEA and its implementation in Bangladesh

4.7.1 Respondent's opinion about the statement "SEA helps to achieve environmental protection and sustainable development".

SEA helps to achieve environmental protection and sustainable development through consideration of environmental effects of proposed strategic actions, identification of the best practicable environmental area and early warning of cumulative effects and large scale changes. In case of the perception about the statement "SEA helps to achieve environmental protection and sustainable development" shown in Figure 4.7. The result indicated that the maximum respondents (45.2 per cent) were strongly agreed about the statement as compared to 33.3 per cent respondents were agreed about the statement, while 14.3 per cent of the respondent disagreed about the statement and only 7.1 per cent respondents were strongly disagreed about the statement. This findings revealed that overwhelming (78.50 per cent) of respondents had positive perception.



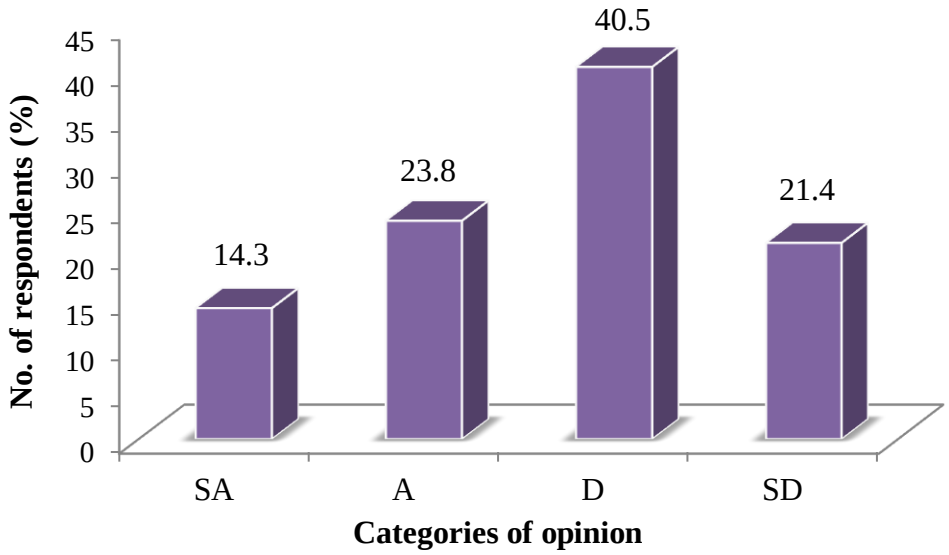
Note: SA = Strongly agreed, A = Agreed, D = Disagreed and SD = Strongly disagreed

Figure 4.7: Respondent's view about SEA helps to achieve environmental protection and sustainable development.

It can be noted that the government of Bangladesh has focused on attaining Sustainable Development Goal (SDGs) to achieve Agenda 2030. Prime Minister's office and the Planning Commission are working on to prepare a SDG Action Plan, which will have the opportunity to incorporate SEA as a tool to be introduced for attaining SDGs (CEGIS, 2018). Actually, now the government employees are more concern about the environmental aspect during any planning or exucuting any actions.

4.7.2 Respondent's opinion about the statement "SEA integrates the environment into sector-specific decision-making in Bangladesh".

SEA integrates the environment into sector-specific decision-making through promoting environmentally sound and sustainable proposals and changing the way decisions are made. In case of the perception about the statement "SEA integrates the environment into sector-specific decision-making in Bangladesh" shown in Figure 4.8. The maximum respondents (40.5 per cent) were disagreed with this statement as compared to 23.8 per cent respondents were agreed, while 21.4 per cent of the respondent were strongly disagreed and only 14.3 per cent respondents were strongly agreed about the statement. This findings revealed that majority (62.1 per cent) of respondents had negetive perception that SEA integrates the environment into sector-specific decision-making.

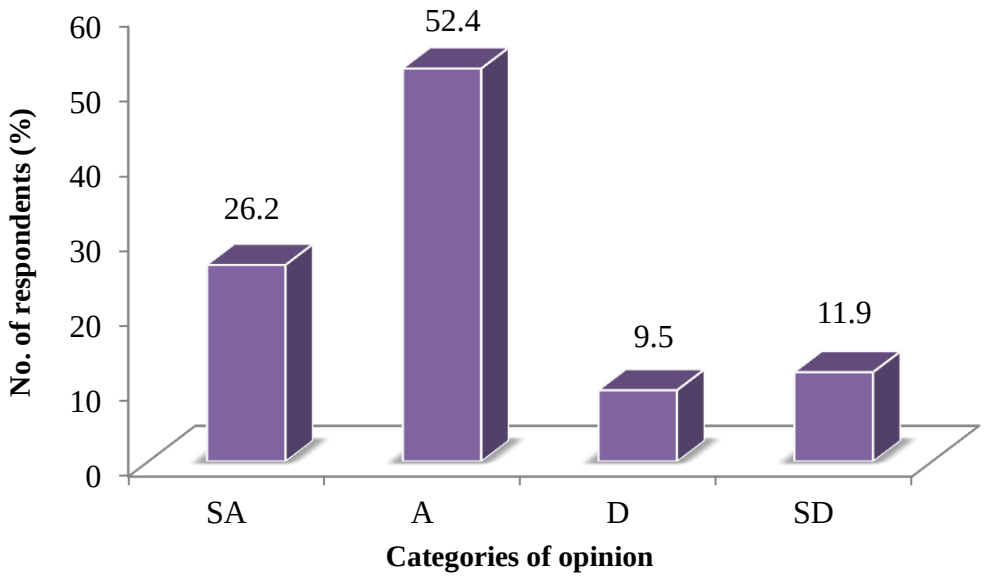


Note: SA = Strongly agreed, A = Agreed, D = Disagreed and SD = Strongly disagreed

Figure 4.8: Respondent's view about SEA integrates the environment into sector-specific decision-making in Bangladesh.

4.7.3 Respondent's opinion about the statement "Stakeholders and practitioners in Bangladesh are not interested in environmental assessment activities through SEA".

An assessment is about values judgment. The wider the range of values considered in the assessment, the greater the chances of achieving an outcome that is accepted by the majority of the stakeholders. In case of the perception about the statement "Stakeholders and practitioners in Bangladesh are not interested in environmental assessment activities through SEA" shown in Figure 4.9. The result indicated that the maximum respondents (52.4 per cent) were agreed about the statement as compared to 26.2 per cent were strongly agreed, while 11.9 per cent of the respondent were strongly disagreed and only 9.5 per cent respondents were disagreed about the statement. This findings exposed that vast (78.6 per cent) of respondents had positive perception that stakeholders and practitioners in Bangladesh are not interested in environmental assessment activities through SEA.

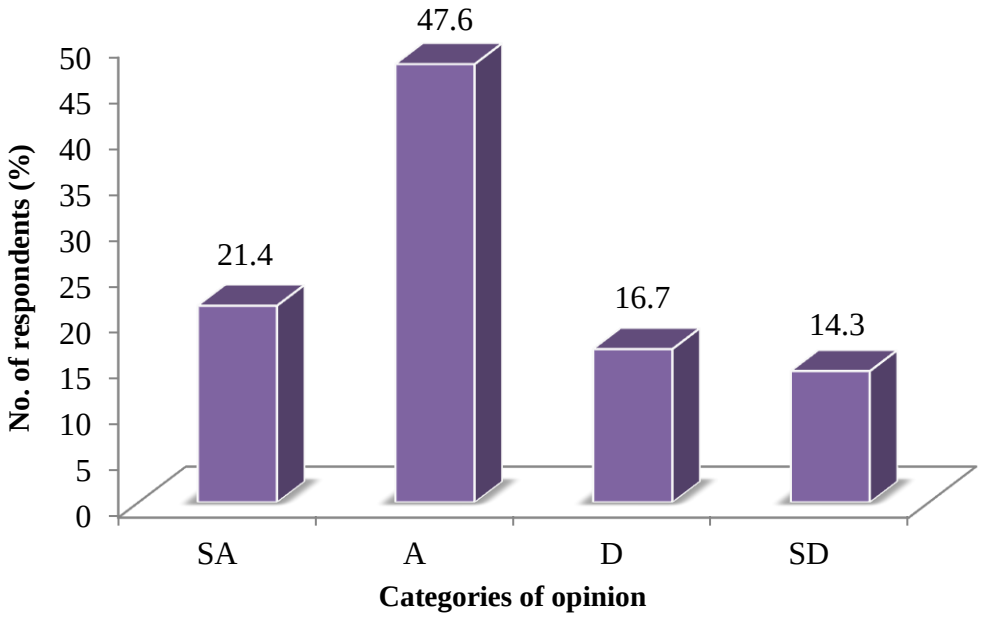


Note: SA = Strongly agreed, A = Agreed, D = Disagreed and SD = Strongly disagreed

Figure 4.9: Respondent's view about stakeholders and practitioners in Bangladesh are not interested in environmental assessment activities through SEA.

4.7.4 Respondent's opinion about the statement "Legal document relating to SEA in Bangladesh is not sufficient".

SEA has very recently begun to appear in high-level government policy documents. In case of the perception about the statement "legal document related to SEA in Bangladesh is not sufficient" shown in Figure 4.10. The maximum respondents (47.6 per cent) were agreed about the statement as compared to 21.4 per cent respondents were strongly agreed, while 16.7 per cent were disagreed and only 14.3 per cent respondents were strongly disagreed about the statement. Therefore, this findings showed that overwhelming (69.0 per cent) of respondents had positive perception that there is not sufficient legal document relating to SEA in Bangladesh. Section 5.1 of the Environment, Forestry, and Biodiversity Conservation Background Paper for the Seventh Five Year Plan1 states that the 7th Plan should "promote SEA as a planning tool". These commitments appeared indirectly in the December 2015 final version of the 7th Five Year Plan (2016-20) document. Nevertheless, for spatial plans for the Special Economic Zone (SEZ), SEA is suggested by the 7th Plan (CEGIS, 2018).

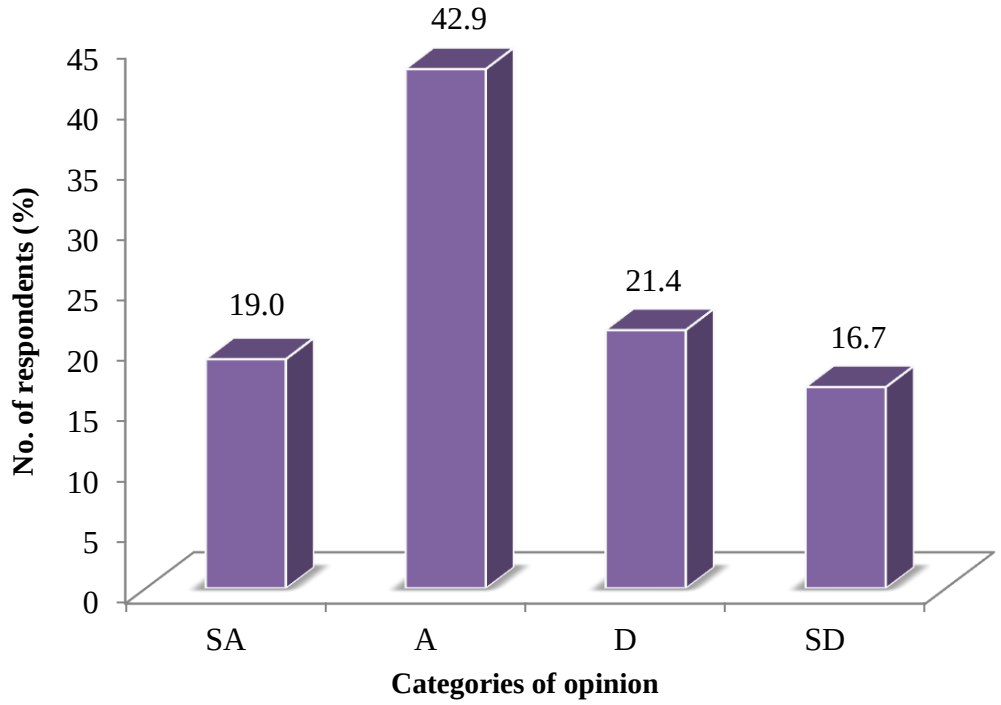


Note: SA = Strongly agreed, A = Agreed, D = Disagreed and SD = Strongly disagreed

Figure 4.10: Respondent's view about the availability of legal documents related to SEA.

4.7.5 Respondent's opinion about the statement "SEA practice in Bangladesh is not sufficient due to organizational capacity".

In case of the perception about the statement "SEA practice in Bangladesh is not sufficient due to organizational capacity" shown in Figure 4.11. In this case, the maximum respondents (42.9 per cent) were agreed about the statement as compared to 21.4 per cent respondents were disagreed and 19.0 per cent of the respondent were strongly agreed, while only 16.7 per cent respondents were strongly disagreed about the statement. So, it is needed to enhance the organizational capacity building for SEA practice in Bangladesh.

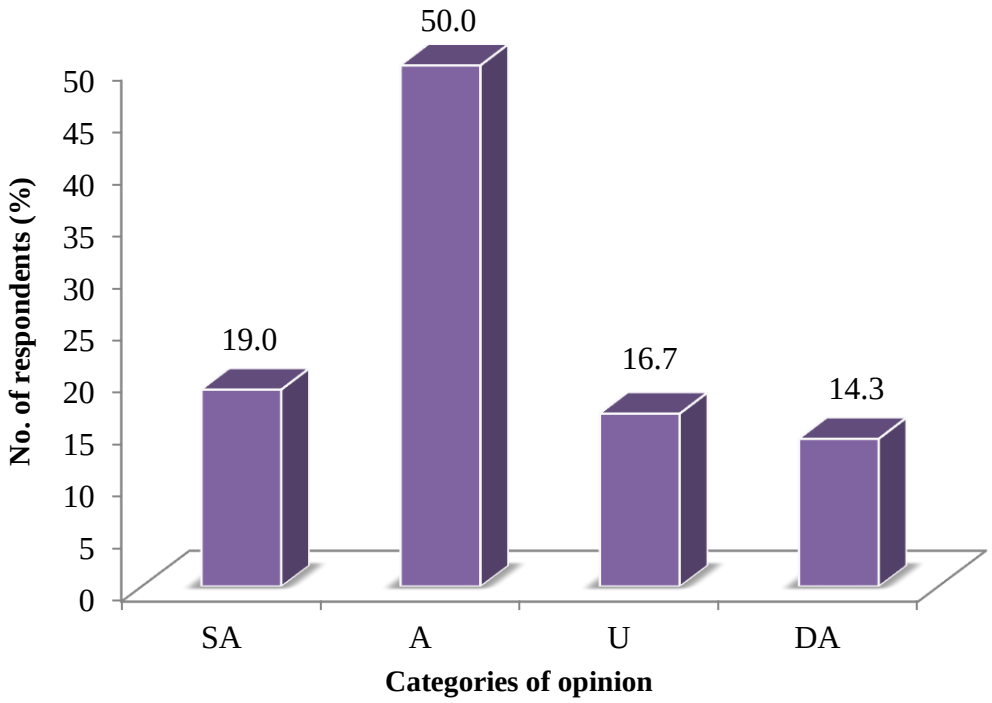


Note: SA = Strongly agreed, A = Agreed, D = Disagreed and SD = Strongly disagreed

Figure 4.11: Respondent's view about SEA practice in Bangladesh is not sufficient due to organizational capacity.

4.7.6 Respondent's opinion about the statement "SEA influence on decision making in Bangladesh".

The perception about the statement "SEA influence on decision making in Bangladesh" which is shown in Figure 4.12 indicated that the maximum respondents (50.0 per cent) were agreed about the statement as compared to 19.0 per cent were strongly agreed, while 16.7 per cent of the respondent said that they were unknown about the statement and only 14.3 per cent respondents were disagreed about the statement. This result revealed that the majority (69.0 per cent) of the respondents had a positive perception that SEA influence on decision making in Bangladesh.

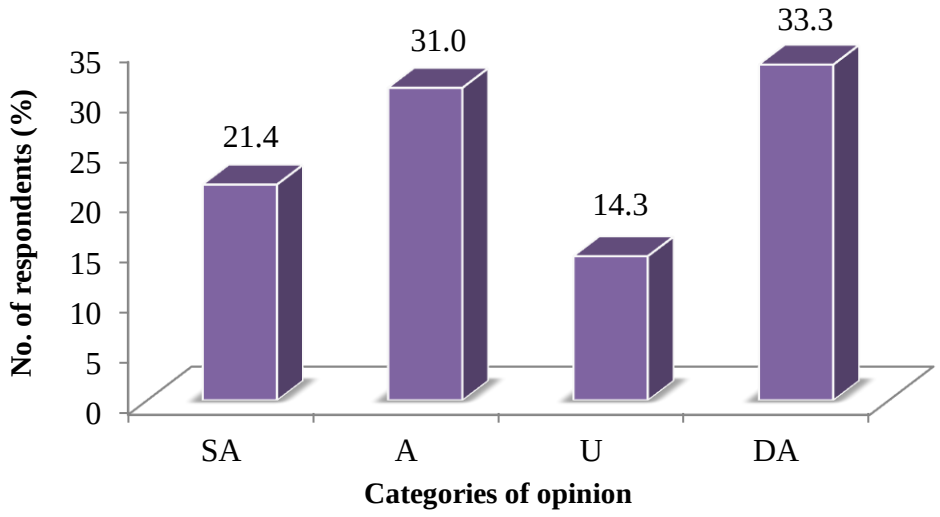


Note: SA = Strongly agreed, A = Agreed, U = Undefined and DA = Disagreed

Figure 4.12: Respondent's view about SEA influence on decision making in Bangladesh.

4.7.7 Respondent's opinion about the statement "The level of political commitment to addressing environmental problems in Bangladesh is not good".

The political commitments as well as community awareness are very important for the successful implementation of SEA in Bangladesh. In case of the perception about the statement "the level of political commitment to address environmental problems in Bangladesh is not good" shown in Figure 4.13. The findings of the study indicated that the maximum respondents (33.3 per cent) were disgareed about the statement as compared to 31.0 pe rcent respondents were agreed, 14.3 per cent of the respondent were unknown about the statement and 21.4 per cent respondents were strongly agreed about the statement. Many senior ministerial are not aware of the concept and benefits of SEA in the context of the planning process of Bangladesh. Actually, still the planning structure in Bangladesh is a top down procees where minister and high goverment officials play vital role. Sometimes the political leaders of Bangladesh thinking short term benefit for their reelected matters. Therefore, they ignore the long term environmental benefit of a plan or programme or policiey. However, a strong political commitment is necessary for implementing SEA properly in PPPs of Bangladesh. A huge motivation for ministers and high officials is very very urgent in this aspect.

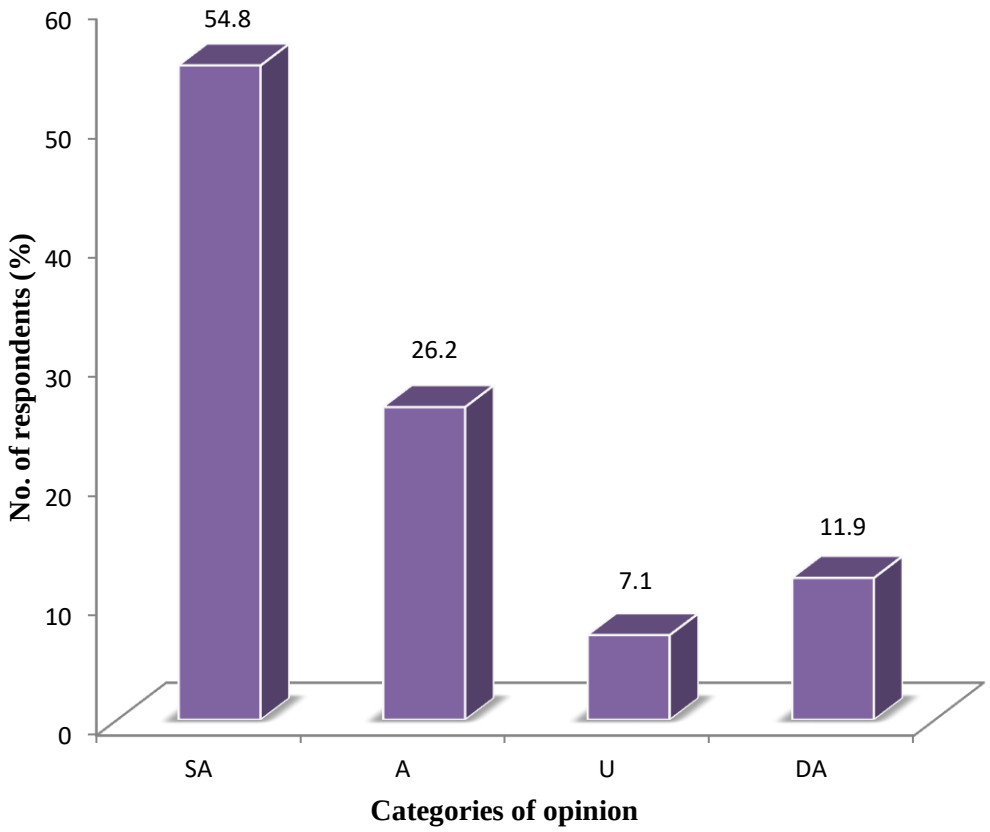


Note: SA = Strongly agreed, A = Agreed, U = Undefined and DA = Disagreed

Figure 4.13: Respondent's view about the level of political commitment to addressing environmental problems in Bangladesh is not good.

4.7.8 Respondent's opinion about the statement "Lack of knowledge and legal framework are the main constraints in using SEA in policy, plan and program in Bangladesh".

In case of the perception about the statement "Lack of knowledge and legal framework are the main constraints in using SEA in policy, plan and program in Bangladesh" is shown in FIgure 4.14. The result revealed that the majority (77.5 per cent) of respondents had a perception that lack of knowledge and legal framework are the main constraints in using SEA in PPPs in Bangladesh.



Note: SA = Strongly agreed, A = Agreed, U = Undefined and DA = Disagreed

Figure 4.14: Respondent's view about lack of knowledge and legal framework are the main constraints in using SEA in policy, plan and program in Bangladesh.

4.8 Constraints of successful SEA implementation in Bangladesh

The score of constraints of successful SEA implementation in Bangladesh could range from 0 to 36 but the observed range was 8 to 22. The mean and standard deviation of constraints of successful SEA implementation in Bangladesh score was 15.49 and 4.72, respectively. According to the respondents on the observed constraints of successful SEA implementation in Bangladesh were classified into three categories, such as low constraints (8-12), medium constraints (13-17) and high constraints (above 17). The distribution of the constraints of successful SEA implementation in Bangladesh based on their score has been presented in Table 4.4.

Table 4.4 Distribution of the constrains of successful SEA implementation in Bangladesh according to the respondents

Categories	Respondents		Mean	SD
	No.	(%)		
Low constraints	4	9.5		
Medium constrints	12	28.6	15.49	4.72
High constraints	26	61.9		

Table 4.4 indicates that the highest proportion (61.9 per cent) of the respondents mentioned that there are high constraints prevailed in Bangladesh for the implementation of successful and sound SEA in PPPs whereas 28.6 per cent of the respondents described it as medium constraints and only 9.5 per cent agreed as low constraints. Results obtained from the study indicated that a diverse list of constraits such as law environmental priority, inadequate finance, insufficient SEA appraisal, inadequate technical capabilities, lack of guidance, enforcement deficiencies, inadequate political will and legislative deficiencies are responsible behind the successful implementation of SEA in PPPs of Bangladesh. From the data it is also revealed that the successful SEA implementation in Bangladesh faced high constraints. Some ministries and organization may be requested to the appraisal team to pass unqualified SEAs. The SEA insufficient capabilities is further constrained by the lack of regular government budget allocation for SEA awareness and capacity building. So, for the successful SEA implementation in Bangladesh, all constraints should be removed or at least minimized and take appropriate strategies and policies to reduce the constraints.

4.9 Ranking of constraints for successful SEA implementation in Bangladesh

The constraints for successful SEA implementation in PPPs in Bangladesh are ranked according to the respondents opinion as shown in Table 4.9.

Table 4.5: Ranking of constraints for successful SEA implementation in Bangladesh

Constraints	Per cent of respondent	Ranking
Low awareness of SEA	19.0	2
Inadequate finance	16.7	3
Low environmental priority	14.3	4
Legislative deficiencies	11.9	5
Enforcement deficiencies	7.1	6
Inadequate political will	31.0	1

From the table 4.5, it is observed that the maximum respondent (31.0 per cent) agreed that lack of the political commitment is the major constraints for the successful SEA implementation in Bangladesh and this constrain ranked first. The second maximum respondents mentioned that lowawareness of SEA as the second major constraint for it. Consequently, inadequate finance, low environmental priority, legislative deficiencies were the third, fourth and fifth ranked constraint for successful SEA implementation in PPPs in Bangladesh, respectively.

CHAPTER 5
SUMMERY, CONCLUSION AND RECOMMENDATIONS

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Through a case study of Bangladesh, this research analyzed the present condition of Strategic Environmental Assessment (SEA) and understand the obstacles for successful implementation of SEA as an approach to integrate environmental considerations in the PPPs in Bangladesh.

This study is a suevey based work. All administrative divisions of Bangladesh have been selected as the study area including different ministries, departments under different ministries, infrustrural organizations in Bangladesh etc. The research study was conducted during the period from December 2019 to March, 2020. A semi-structured questionnaire was used as the data gathering instrument with both open and closed form.There were three methods viz. face-to-face, google form and by e-mail correspondence used in this study for data collection. Primary data were collected through in-depth interview and online survey by google form using standard questionnaire from different stakeholders like policy makers, administrative officer of concerned ministry, organizations etc. and some national informants like SEA regulators and practitioners who work at government agencies. Secondary informations were collected from current document review (research reports, online publications, governmental reports, scientific journals, international reports, books, journal articles and other academic resources) related to SEA in Bangladesh. The SPSS (Statistical Package for Social Sciences) computer program was used for analyzing the data. The summery of the finding were-

Most respondents (26%) have only read/heard of SEA terminology, which means they belong to a familiar group, while 61% participate/participate in SEA belong to a very familiar group, while only 13% of respondents are not familiar with the group That is, they have not heard of SEA terminology. The results highlight that the general unfamiliarity with SEA has caused several key problems, such as the lack of promotion of SEA in Bangladesh, and more fundamentally, the need to clarify SEA terminology.

The most interviewees belong to the supervision group because they are government officials responsible for good planning and monitoring of PPP because they are environmentally friendly.

The highest proportion (54.76%) of respondents received moderate training, followed by 35.71% with lower training exposure, while only 9.52% of respondents had higher SEA-related training.

The knowledge about SEA terminology and the respondents' SEA behavior is not good enough. The highest proportion (42.86%) of respondents have medium knowledge of SEA, while 33.33% of respondents have good SEA knowledge, while only 23.81% of respondents have poor knowledge of SEA. On the other hand, most of the respondents (59.52%) have a poor understanding of SEA transmission, while 23.81% of the respondents have a better understanding of SEA, and only 16.67% of the respondents have a better understanding of SEA.

For the case of conducting SEA in other organizations, the study shows that most organizations (government and non-governmental organizations), that is, 71.43% of organizations have never implemented SEA, while only 16.67% of organizations conduct SEA regularly, while 11.90% The organization partly carried out SEA. Evaluate SEA in its proposed PPP. SEA first appeared in Bangladesh in 2006 with the support of the World Bank as a donor agency. The first SEA was carried out in Bangladesh under the 2007 Dhaka Urban Development Plan.

The majority of respondents (92.85%) stated that Bangladesh does not have specific and comprehensive legislation and guidelines for SEA. However, only 7.14% of the interviewees stated that Bangladesh has SEA legislation, which has already mentioned or incorporated into the National Environmental Policy 2018. Although SEA has obtained official status in Bangladesh through the National Environmental Policy 2018, it is still not enough.

In case of the stakeholder participation during the SEA process, this research indicated that the inadequate category constituted the highest proportion (57.14 per cent) of the respondents followed by 30.95 per cent as very inadequate whereas only 11.9 per cent of the respondents opinion as adequate of stakeholder participation during SEA practice.

On the other hand, in case of the stakeholder participation during the decision making process of SEA, this research indicates that the insufficient category constituted the highest proportion (52.38 per cent) of the respondents followed by 38.09 per cent as very insuffcient whereas only 9.52 per cent of the respondents opinion as sufficient of stakeholder participation during decision making process.

This study indicated that the highest proportion (61.9 per cent) of the respondents mentioned that high constraints prevailed in Bangladesh for the implementation of successful sound SEA in PPPs whereas 28.6 per cent of the respondents described it as medium constraints and only 9.5 per cent agreed as low constraints. When ranked of the constraints according to the degree of the perception of the respondents, it was observed that the maximum respondent (31.0 per cent) agreed that lack of political commitment is the major constraints for the successful SEA implementation in Bangladesh and this constrain ranked first. The second maximum respondents mentioned low awareness of SEA as the second major constraint for it. Consequently, inadequate finance, low environmental priority, legislative deficiencies were the third, fourth and fifth ranked constraint for successful SEA implementation in PPPs in Bangladesh.

5.2 Conclusion

The practice of SEA was found to be generally poor and evidence suggests that SEA has not yet evolved satisfactorily in Bangladesh. Moreover, SEA has no significant position in PPPs in Bangladesh because of the lack of legal, institutional and political framework for SEA and the lack of a requirement for short, medium or long term development planning in addition to spatial planning. The current environmental assessment processes suffer from a number of common and continuing problems that need to be addressed earlier at the strategic level. The survey revealed that there is an explicit concern against the political commitment and governance system, which hinders the path of sustainable development. There is a huge potential for SEA to take the country in the avenue of sustainability. A coordinated effort between all agencies such as government and the development agencies would enable Bangladesh to pursue the path of sustainable development through the development and application of strategic assessment.

5.3 Recommendations

1. It is necessary to have SEA legislation to reflect the top leadership commitment and to ensure SEA legitimacy.
2. SEA legislation must be accompanied with enabling environment/condition for implementation. For example, awareness building for leaders and strategic planners, resource allocation for SEA implementation such as on-going personnel capacity building and budget regulation, information sharing and stakeholder's involvement capacity and mechanism, appraisal and monitoring capacity and regulations.
3. To gain motivation and more resources for SEA preparation, the cost norm for SEA should be developed based on realistic SEA experience in Bangladesh with reference from other countries and should be legislatedas soon as possible.
4. The law making structure should be revised to reduce vested interest's influence to the creation and approval of legislation.

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APPENDICES

APPENDICES

Appendix I: An English Version of Survey Questionnaire

Department of Agroforestry and Environment

Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200

AN INTERVIEW SCHEDULE ON

Strategic Environmental Assessment (SEA): policy and practices in Bangladesh

Serial No……

Name: ……

Designation/Responsibility: ……

Organization: ……..

E-mail:……...…… Mobile ..……..……..……..

(Please provide necessary information for the following issues and put tick (√) mark on the appropriate place where applicable)

1. **Familiarity with SEA:** Whereas EIA is applied at project level; SEA assesses policy, plan and programs. How familiar are you with SEA as a concept?

	Very familiar (taken/taking part in it)
	Familiar (read/heard about it)
	Not familiar at all

If taken or taking part in SEA in Bangladesh, on what capacity?

	Affected public member
	SEA practitioner/Certified expert
	Regulator
	Lead agent
	Proponent
	Interest group
	Others…….

2. **Training exposure**: Have you received any training related as SEA yet?

☐ No ☐ Yes…….day(s)

3. Organizational practice: Does SEA practice in your organization?

☐ Regularly ☐ Partially ☐ Never

4. Knowledge: Please answer the following questions.

Sl. No.	**Questions**	**Score assigned**	**Score obtained**
Knowledge on SEA as a concept			
1.	What do you mean by SEA?	2	
2.	How has SEA as an international concept been adopted in the context of Bangladesh?	2	
3.	When has SEA been introduced first in Bangladesh?	2	
4.	What driving forces/actors/motivation was behind the SEA introduction?	2	
5.	What could have been done differently given the experience of SEA introduction in Bangladesh?	2	
6.	How is SEA related to the strategic planning process in Bangladesh?	2	
7.	Why is SEA important?	2	
8.	Do you think SEA is effective for addressing the consequences of proposed policy, plan and program?	2	
9.	Compare between SEA and EIA.	2	
10.	What policy do you think the government should take to disseminate the use of SEA in Bangladesh?	2	
Knowledge on SEA conduction			
1.	Who decide if any SEA is to be conducted in your organization?	2	
2.	What procedure is followed in your organization?	2	
3.	How many steps are followed in a SEA process?	2	
4.	Mention the main steps of a SEA process.	2	
5.	What is the first step of a SEA process?	2	

6.	What do you mean by screening phase in a SEA process?	2	
7.	What do you mean by scoping in a SEA process?	2	
8.	What is monitoring and evaluation phase in a SEA process?	2	
9.	How long time does it take to complete a SEA process?	2	
10.	Give two examples within the Bangladesh policy framework where SEA has been applied?	2	

5. **SEA legislation and procedure/guideline:** Is there any Government provided laws/regulations and procedure/guideline provided for SEA in Bangladesh?

☐ No ☐ Yes

If yes, how would you classify their implementation in Bangladesh?

☐ Very good ☐ Good ☐ Poor ☐ Very poor

6. **Stakeholder participation:** Mention the extent of consultation of involvement of the following stakeholders during SEA practice and decision making.

Sl. No.	**Stakeholders**	**High**	**Medium**	**Low**	**Not at all**
During SEA practice					
1.	Public				
2.	Lead agencies				
3.	NGOs and interest groups				
4.	SEA certified experts				
5.	Proponent				
6.	National environmental management authority				
During decision making					
1.	Public				
2.	Lead agencies				

3.	NGOs and interest groups				
4.	SEA certified experts				
5.	Proponent				
6.	National environmental management authority				

7. **Attitude:** Please mention the extent of your agreement of disagreement towards the following statements.

Sl. No.	**Statements**	**Nature of opinion**				
		SA	**A**	**U**	**D**	**SD**
1.(+)	SEA helps to achieve environmental protection and sustainable development.					
2.(+)	SEA integrates the environment into sector-specific decision-making in Bangladesh.					
3.(-)	Stakeholders and practitioners in Bangladesh are not interested in environmental assessment activities through SEA.					
4.(-)	There is not sufficient legal document relating to SEA in Bangladesh.					
5.(-)	SEA practice in Bangladesh is not possible due to organizational capacity.					
6.(+)	SEA influence on decision making in Bangladesh					
7.(-)	The level of political commitment to addressing environmental problems in Bangladesh is not good.					
8.(+)	Lack of knowledge and legal framework are the main constraints in using SEA in policy, plan and program in Bangladesh.					

SA = Strongly agree, A = Agree, U = Undefined, D = Disagree, SD = Strongly disagree

8. **Constraints:** Please mention the extent of constraints for successful SEA implementation in Bangladesh.

Sl. No.	**Constraints**	**Very High**	**High**	**Medium**	**Low**
1.	Low awareness of SEA				
2.	Inadequate finance				
3.	Lack of guidance				
4.	Low environmental priority				
5.	Legislative deficiencies				
6.	Enforcement deficiencies				
7.	Insufficient SEA appraisal				
8.	Inadequate political will				
9.	Inadequate technical capabilities				
10.	Low budget allocation to SEA training and preparation				
11.	Low personal motivation in conducting SEA among civil servants				
12.	Weak law making system				

9. What steps would be taken to solve the above problems?

a) …….

b) …….

c) …….

Thank you for your nice co-operation.

Signature of the respondents

Date:

Appendix II: Summary of SEA Components in the National Environmental Policy (2018)

Section-2.12:	Ensure Strategic Environmental Assessment (SEA) implementation when necessary
Section-3.1.5:	Neighborhood and neighborhood-based land zoning should be performed and neighborhood-based SEA should be performed.
Section-3.7.1:	Before formulation of all regional projects and master plans for housing and urbanization, SEA must be implemented. The implementation authorities are Ministry of Housing and Public Works, Ministry of Environment, Forest and Climate Change, Local Government Division, Department of Environment, Public Works Department, Department of Architecture, Housing and Building Research Institute.
Section-3.7.6:	For the formulation and implementation of environment friendly regional urbanization plan, zoning should be done by SEA for the separation of residential, commercial and industrial area. The implementation authorities are Ministry of Housing and Public Works, Ministry of Environment, Forest and Climate Change, Ministry of Industry, Ministry of Land, Local Government Department, Survey of Bangladesh, Urban Development Organizations and Municipal Organizations.
Section-3.15.4:	To set up industrial enterprises in a planned manner on the basis of land zoning through the SEA, prohibit setting up factories in residential areas and transfer existing factories in the residential area to designated industries. The implementation authorities are Ministry of Industry, Ministry of Land, Ministry of Environment, Forest and Climate Change, Ministry of Housing and Public Works, Urban Development Organizations, District Commission, Municipal Organizations, Ministry of Textiles and Jute, Upazilla Administrations.
Section-5.8:	SEA should be implemented on policy, plan and program in ministries or departments when necessary. The implementation authorities are all concerned ministries/departments, Ministry of Environment, Forest and Climate Change and Department of Environment.

Appendix III: Some plates

Plate 1: Some workshop on SEA in Bangladesh

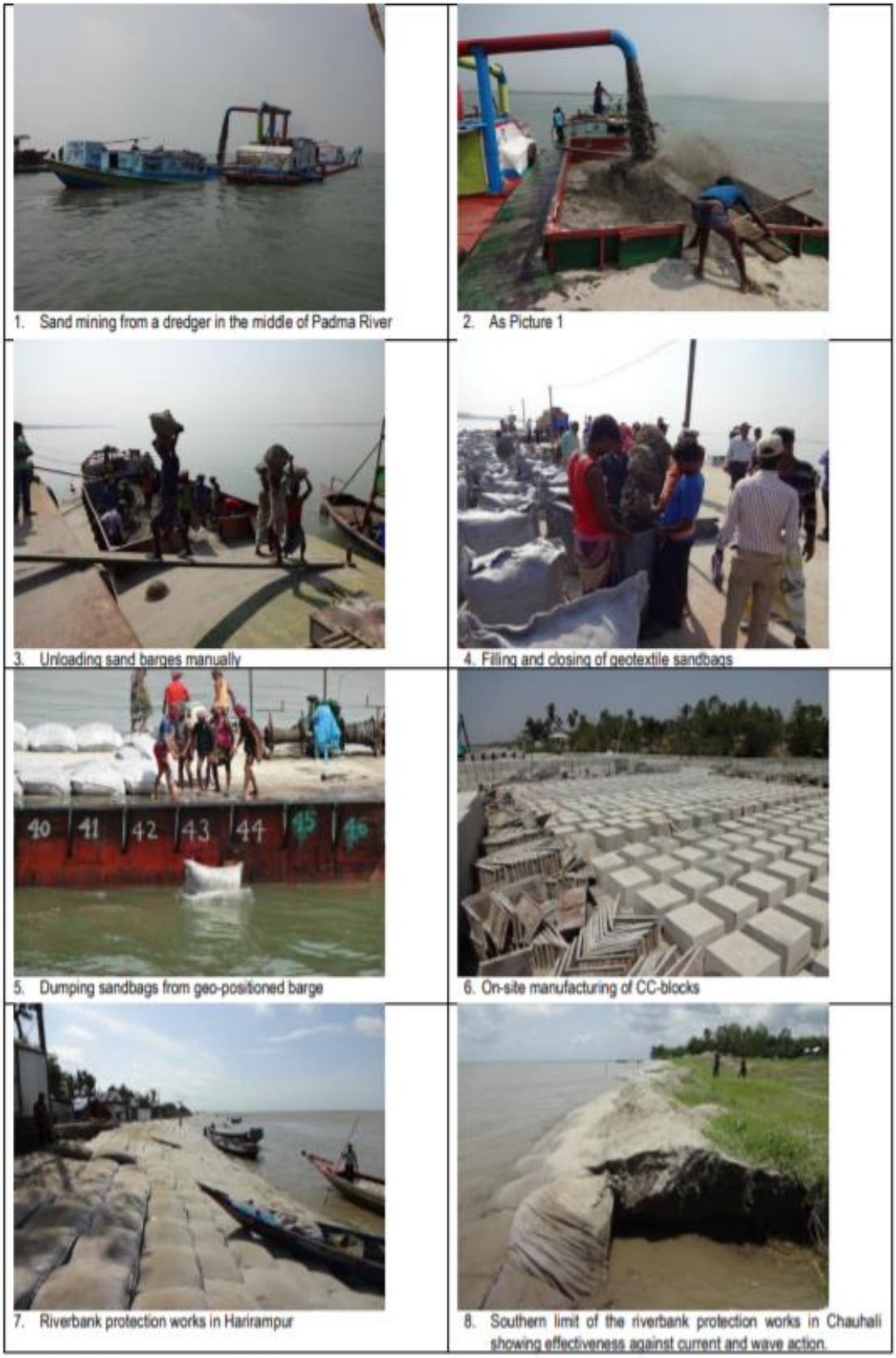

Plate 2: Strategic Environmental Assessment (SEA) for River Stabilization Plan project in Bangladesh

Plate 3: Strategic Environmental Assessment (SEA) for a renewable energy floating solar project in Bangladesh