

Road to Effective Introduction of Strategic Environmental Assessment (SEA) in Bangladesh: A Case Study from a Project Intervention

Sheikh Tawhidul Islam^{1*}, Tapas Ranjan Chakraborty², Syed Hafizur Rahman³

¹Department of Geography and Environment, Jahangirnagar University, Dhaka-1342, Bangladesh

²Oxfam, Bangladesh

³Department of Environmental Sciences, Jahangirnagar University, Dhaka-1342, Bangladesh

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Abstract

Environmental Impact Assessment (EIA) is the long-standing tool used by the Government of Bangladesh and also by the development proponents to make sure the proposed development project does not undermine environmental sustainability. Strategic Environmental Assessment (SEA) implied to policy, plan and programme is comparatively a new tool in Bangladesh although emerged elsewhere in the world since 2000 and recently incorporated into the Environmental Policy of Bangladesh 2018. This paper presents arguments on how SEA could effectively be introduced in Bangladesh. Qualitative data gained from PROTC project (Oxfam) intervention areas (Satkhira coast, Nilphamari char lands and Sunamganj haors) were used to develop rationale why local environmental and social elements are pivotal in ensuring their sustainability. Effective application of SEA will not only strengthen the legal framework relating to the environment in Bangladesh but also will provide necessary guidelines for the safeguard of social and environmental components of the country.

Keywords: EIA, DIA, PROTIC, Environmental Policy of Bangladesh.

Introduction

Assessment of environmental and social impacts of development interventions at project level has been in practice for the last few decades in Bangladesh using the tool known as Environmental Impact Assessment (EIA). However, examining the likely impacts of Policy, Programs and Plans (PPPs) on environmental and social components using Strategic Environmental Assessment (SEA) for higher-level decision-making has not conclusively been started in Bangladesh yet. However, other regions of the world have been in the use of this instrument since 2000 ([OECD, 2006](#)). SEA is a systematic and participatory assessment process aiming to ensure that environmental and other sustainability aspects (social, cultural and economic) are considered affectively in the PPPs-making processes. The EIA guidelines are explicitly spelt out in Bangladesh through Environment Conservation Rules ([GoB, 1997](#)). However, the exercise of SEA at policy and program design level is still at the initial stage, and no detailed guideline is present, though it is just nimbly mentioned in the Environment Policy 2018 ([GoB, 2018](#)).

Absence of prior screening of likely cumulative environmental, social, economic impacts of development interventions (both structural and soft interventions) in different sectors such as water,

*Corresponding Author (s.t.islam@juniv.edu)

land, environment (e.g., conserving flora and fauna) caused severe environmental degradation leading to food and livelihoods insecurity conditions in Bangladesh in the past ([UNDP, 2017](#); [Talukder and Samsuddin, 2012](#); [Mirza and Ericksen, 1996](#); [Rahman, 1995](#)). Learning lessons from these negative consequences may justify the requirement of assessing environmental and social impacts well before the interventions are implemented in the field and based on that the decision-makers at the early stage of planning could understand the likely consequences and could avoid costly mistakes ([Barrow, 2000](#)). In SEA exercise, projected scenarios are made against which proposed development interventions (e.g., also including proposed climate change adaptation projects) are examined in order to measure the intensity and magnitude of effects ([GoB, 2009](#)).

However, it is imperative to note that the Government of Bangladesh does not yet declare the detailed guidelines of how the SEA will be administered/used in Bangladesh. In this context, this work was commissioned at this initial stage of SEA application to shed lights on the importance of upper-level decision making on local level resource management based on which local food and livelihoods security of people depends; in doing that an informed community, who are introduced with ICT for climate-adaptive agricultural practices in rural Bangladesh, were taken to gather information on the need for protecting local natural resources. Moreover, to seek suggestions on how dominant PPPs should be formulated that will create less harm to the environment and society. This exercise is also important while considering the lessons learnt from historical mistakes in policy formulation and implementation (i.e. [Water Master Plan/IECO, 1964](#)) that left millions of people in long term challenges and devastations. In current times, the government of Bangladesh is taking large size programs/projects as to realise policies towards significant economic growth and to graduate from LDC (Least Developed Country) status. Providing in-depth understanding and guidelines on SEA process at this stage would be beneficial for several reasons, (i) identifying more effective reasoning in decision-making and provide a structured framework of environment-and-society-sensitive decision making, (ii) shed lights on a systematic decision making using SEA framework that could be developed based on Bangladesh/local contexts and creating the context for more focused PPP making and subsequent project planning and EIA exercises, (iii) discussion may help the government agencies to take mainstreaming actions that are congruent with SEA requirement mentioned in a number of Articles of Environmental policy 2018 ([GoB, 2018](#)). A number of examples ([Talukder and Samsuddin, 2012](#)) can be given in Bangladesh that the right decisions are not made at the right times. This exercise will also contribute to filling up gaps in that regards as well.

Materials and Methods

Literature review, field-based experience and expert judgement were used in this study. The policy, plans and EIA related reports published by Bangladesh Government were consulted for conducting this exercise. Moreover, SEA related international documents were also used to show practical ways of SEA introduction in Bangladesh. The needs and justifications of SEA exercise in Bangladesh were carried out in three regions (Satkhira, Nilphamari and Sunamganj) of Bangladesh where REECALL (Resilience through Economic Empowerment, Climate Change Adaptation, Leadership and Learning) and PROTIC (Participatory Research and Ownership with Technology, Information and Change) interventions of Oxfam were undertaken. The project PROTIC could be termed as a second-generation project which was built on a robust conceptual framework proven

through earlier implementation in different challenging conditions in Bangladesh. PROTIC stands on REECALL's conceptual framework for its capacity to address community challenges caused from disasters and climate change through implementing actions towards economic development, women's transformative leadership and creating an atmosphere for good governance and upholding rights of people. The operational process of the project was navigated by using state-of-the-art technology and information to bring sustained change in the lives of the community.

The women members of the community were put at the heart of the project to mobilise the activities through a participatory action research (PAR) process. The lifeblood of the project was comprehensive and accurate information that is needed by the community (especially women) to overcome challenges that the rural women face in crop farming, homestead gardening, fisheries, livestock, horticulture and poultry. Exchange of information on agriculture, agro-meteorology, weather forecast and early warning was carried out through SMS service of mobile phones, Outbound Dial (OBD), Interactive Voice Response (IVR), Apps and call centre services. The project was implemented in cyclone and salinity affected Satkhira coast, flood-affected Nilphamari char lands and flash flood-affected Sunamganj haors. It is imperative to mention that 'control' villages were taken in the project nearby 'treatment' villages so that the results and effectiveness of the project could be scientifically compared. Six FGDs (Focus Group Discussion, 72 people) sessions involving local women were conducted to gather information in this regard.

Results and Discussion

Defining Strategic Environmental Assessment (SEA)

Development of SEA is rooted in the development of EIA guidelines that could be traced back in 1969 with the introduction of The National Environmental Policy Act (NEPA) by the United States Congress. It made the federal agencies and departments mandatory to consider and assess the environmental effects of proposals for legislation. The NEPA was later supported by USCEQ regulations (US Council for Environmental Quality) passed in 1978. Afterwards, OECD/DAC adopted principles to analyse and monitor the environmental impacts of programme assistance in 1992. [Loayza \(2012\)](#) mentioned that the major tools used in different countries, and by national agencies or development partner agencies under the legislations/directives mentioned above primarily include EIA (Environmental Impact Assessment), CIA (Cumulative Impact Assessment), CEA (Country Environmental Assessment), REA (Regional Environmental Assessment), SBA (Strategic Basin Assessment), SEPSA (Strategic Environmental Poverty and Social Assessment). These family of tools are termed as 'para-SEA tool' by [Dalal-Clayton and Sadler \(2005\)](#).

In this evolutionary process SEA clearly and forcefully appeared during 2000-onwards, especially with the introduction of EU Directive 2001/42/EC that asked the member states of EU to undertake environmental assessments of plans and programs ([Table 1](#)). In South Asian Countries (including India), up until now, specific legal requirements are non-existent or vague under which the SEA should be carried out, SEA is preferably conducted under the guidelines of lending Banks (e.g. World Bank) and development partner agencies (e.g., UNDP).

Table 1: Legal provisions in different countries and regions that make SEA mandatory

Regions/countries /Agencies	Legal provisions (direct and supportive)
1. EU	European Directive (2001/42/EC) on the <i>Assessment of the Effects of Certain Plans and Programmes on the Environment</i> , known as the SEA Directive, came into effect in 2004 and applied to all 25 member states of the European Union.
2. World Bank	Operational Policy (OP) - OP 4.01 on SEA, OP 8.60 on Development Policy Lending that acknowledged the need for ‘upstream analysis of social and environmental conditions and risks’, OP 4.10 on Indigenous Peoples, OP 4.12 on Involuntary Resettlement, OP 7.50 on International Waterways.
3. Canada	Policy Impact Assessment is applied to appraise environmental effects of policies and cabinet-level decisions (Canadian Cabinet Directives on SEA 1990, updated in 1999 and 2004).
4. Finland	The Norm Law, issued in 1996, requires application of SEAs to policies.
5. Netherlands	The Government of the Netherlands introduced ‘Environmental Test’ (E-Test) in 1994 to assess the environmental impacts of proposed legislation. E-Test results are appended with the proposed policy/plan/programme.
6. China	National legislation in China requires SEAs of plans; The EIA Law of 2003 regulates the environmental impact assessment of projects and plans, referring to the latter as “Plan Environmental Impact Assessment.
7. Vietnam	The Law on Environment Protection (1993), Decree 175/CP, and Circular No. 490 mandated that EIA must be carried out not only at the project level but also for master plans for the development of regions, sectors, provinces, cities, and industrial zones.
8. Indonesia	In 2009 Law No 32 on Environmental Management and Protection requires SEA for spatial plans.
9. South Africa	Passage of the National Environmental Management Act 1998 enabled the Department of Environment and Tourism to issue guidelines for “integrated environmental management”. In 2000 the Council of Scientific and Industrial Research (CSIR), in partnership with the Department of Environment and Tourism, issued a guideline document on SEA.
10. South Asian Countries (Bangladesh, Bhutan, India, Pakistan, Nepal)	The most SEAs in the South Asian region were driven by international development bank (e.g. World Bank) or agency requirements.
	The Environment Conservation Policy 2018 of Bangladesh mentioned about SEA requirements.

(Source: [Ahmed and Sanchez-Triana, 2008](#)); [Loayza, 2012](#); [Agarwal and Agarwal, 2013](#).)

SEA is an instrument that helps public agencies to make decisions in formulating policies, programs and projects by making a balance between economic growth and environmental sustainability. SEA

is a systematic decision-making process that shows what benefits will be achieved at the cost of what (who will be the beneficiaries and who will be the losers). Information on these issues may help higher-level decision-makers to take decisions regarding addressing trade-offs and taking necessary actions for political manoeuvring. [Sadler and Verheem \(1996\)](#) defined SEA as ‘a systematic process for evaluating the environmental consequences of a proposed policy, plan or programme initiatives in order to ensure that they are fully included and appropriately addressed at the earliest stage of decision making on par with economic and social considerations’. [Ahmed and Sanchez-Triana \(2008\)](#) presumed the meaning and scopes of environmental assessments from benefits perspectives, i.e. what benefits could be earned if environmental assessments are appropriately done, and safeguards are ensured while implementing a development project. They mentioned that “good management of the environment and natural resources protects health, reduces vulnerability to natural disasters, improves livelihoods and productivity, spurs economic growth based on natural resources, and enhances human well-being”. Two types of SEAs are primarily used, (i) impact-based SEA and (ii) institution-centred SEA. In impact-based SEA, biophysical environmental considerations are integrated into higher levels of decision making by predicting potential effects of policies, plans, and programs on the environment and adopting the equal protection and mitigation measures.

On the other hand, institution-centred SEA aims to mainstream the environment and sustainability across higher levels of policymaking by assessing the capability of the institutional and policy framework to detect environmental risks and its capacity to manage them in a timely and effective manner. Public participation ([IAIA, 2002](#)), giving the vulnerable a voice ([Ahmed and Sanchez-Triana, 2008](#)) are the essential ingredients of the SEA process so that the poor and marginal communities could be heard. [Salmen and Kane \(2006\)](#) proposed three tools, i.e. stakeholder analysis, institutional analysis, and social impact analysis, for incorporating the voice of vulnerable groups into the policy process.

The background contexts of SEA in Bangladesh

Agricultural production is the fundamental basis of security and wellbeing of the people of Bangladesh. The significant supports that agricultural systems provide to the people include the supply of adequate, nutritious food for good health, income generation from the selling of agricultural produce, employment generation through various kinds of engagements. The agricultural activities occur and thrive when supportive physical environment such as fertile and well-drained soil, water for irrigation, favourable climatic conditions exists in a place, and at the same time human capital like knowledge and skills, expertise gained through practice over the generations remain in a harmonised fashion. Besides, societal resources such as financial institutions, market places, required infrastructure for communication and transportation also play useful roles in making agricultural activities better performed in an area. Women members of the community, in parallel to male counterparts, play significant roles in performing agricultural activities in rural contexts of Bangladesh. Women engage in ensuring storage of quality seeds, seedbed preparation, doing different types of post-crop harvesting activities at home, in many instances women work in the agricultural fields for field preparation, sowing of plants, weeding the fields, watering plants. Presence of all the actions in harmony is a prerequisite to get the final outputs, i.e. the agricultural produce from farming activities and these conditions happen as

common characteristics in rural Bangladesh. The similar situations are also similar for the fishery, livestock rearing and raising poultry resources by rural households.

These favourable conditions for agricultural production are disturbed, in many instances, by natural and man-made hazards which are widely discussed in the disaster management literature. A growing concern has emerged in recent times on how the impacts of (human-induced) development interventions could be reduced on environmental and social components so that primary production processes such as agriculture is less hampered. In that connection, the government made policies and rules and ask the development proponents to undertake environmental and social impact assessments so that risks are identified before project implementation, and choices could be made, and environmental management plans could be offered. At this moment, the government of Bangladesh is in the process of using three instruments in this connection such as EIA, DIA (Disaster Impact Assessment) and SEA for three different purposes and applicable for three different scales. EIA is meant to be used for project-level impact assessments at the lowest tier; DIA is planned to be used at the sector level and aiming for assessing disaster and climate change impacts on the project and at the same time examine how the proposed project create conditions that may exacerbate existing disaster and climate change impact scenarios in project intervention areas. The SEA is the top-level decision-making instrument for examining environmental and social components of policies, programs and plans (PPPs). Applications of all these instruments need an in-depth local understanding of physical, social, economic, ecological systems and functions. The experts on these instruments are therefore gathered field levels data using participatory methods involving representatives of social-economic-ethnic groups. In that consideration, well-informed community groups play useful roles by providing information from their perspectives. SEA was introduced in Bangladesh recently through the promulgation of Environment Policy 2018, although few SEA works were undertaken ([RAJUK, 2020](#); [GoB, 2019a](#)) under the administration of the World Bank.

Contributions of the PROTIC project as a case in contextualising SEA

The community members, i.e. the women who run the project at the field level for about five years (2015-2020) have acquired a number of competence that could be characterised as (i) familiarity with information, communication and technology (ICT) to solve their everyday challenges, (ii) accustomed with a range of social media platforms for information sharing (e.g. Facebook, YouTube, Camera, Internet), (iii) gained knowledge and importance on the nexus between environmental integrity, natural resources and food production, (iv) ability to raise the voice, claim rights and communicate relevant agencies for seeking services, (v) organise themselves as individuals to evolve as a collective force in the society. In scholarly terms, it could be said that this maturity and exposure make the grassroots level women aware of the facts and phenomenon happening around them, make them capable of establishing a link between causes and consequences, of understanding everyday science to make informed choices and decisions. Even the women appeared to be self-reliant and confident in understanding climate change science and their impacts, characterising disasters and their consequences, realising the effects of environmental degradation on primary production processes. The inheritance of useful lessons from the previous project coupled with PROTIC project's gains made the project as a continuum of value-driven

actions and thus providing invaluable inputs for improvements in future project formulation, objective setting and selection of spatial conditions of its implementation. The discussions above suggest that the project is unique compared to the traditional forms of projects that take place in different parts of Bangladesh towards vulnerability reduction of the communities. In this backdrop, the PROTIC project was used as a case to make SEA contextualise to Bangladesh and to validate the generic processes given in its conceptual framework (Figure 1).

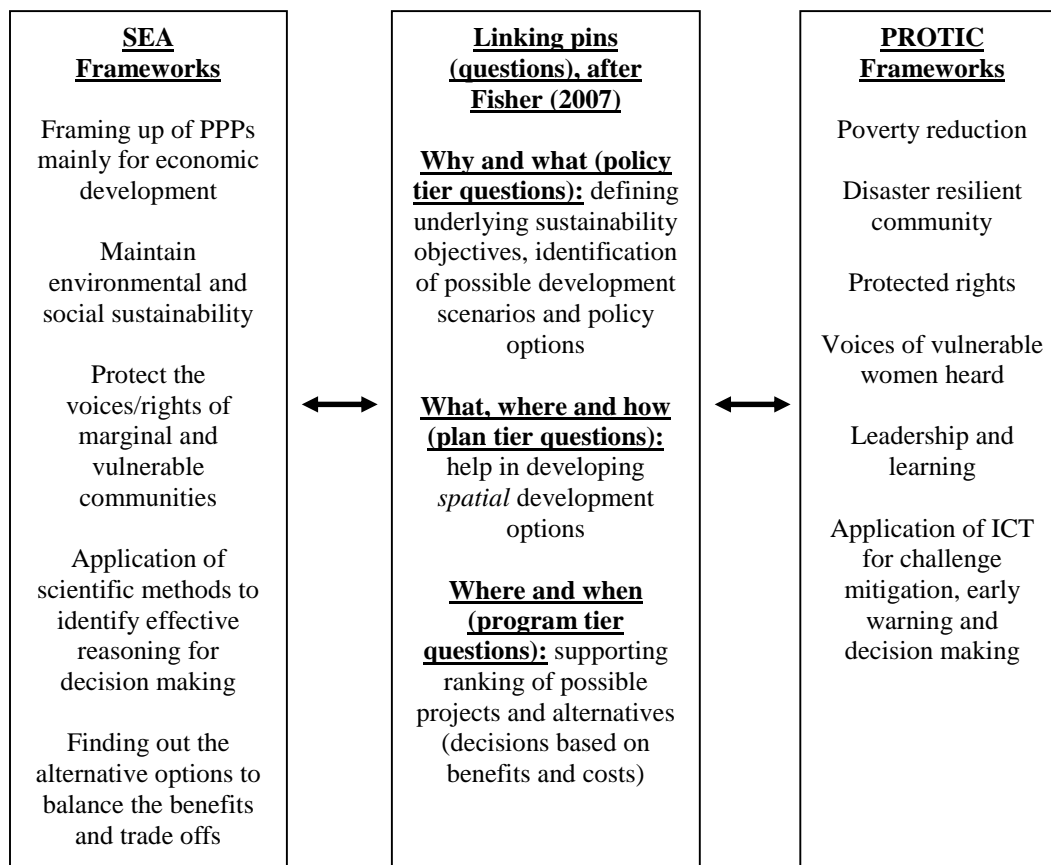


Figure 1: Overlapping environmental and social elements between SEA and PROTIC frameworks which makes functional linkage amongst the duo.

It was advocated to adopt a participatory process and involve local level communities (OECD, 2006) in conducting SEA exercise so that voices and choices of the grassroots people could be heard in terms of the benefits and trade-off of the proposed policies, programs and plans. In this connection, it is worthy of quoting Chambers (1994) where he mentioned that poor and vulnerable people generally prefer to have secured livelihoods and risk-free condition to live than only maximising their income. In that case, people need to be resilient to shocks without undermining the natural resource base that supports them for ensuring secured livelihoods (Kanji and Ware, 2002). In this background contexts, the SEA exercise was carried out involving the informed

women of the PROTIC project in order to capture the voices of the grassroots vulnerable communities as to understand the potential direct and indirect outcomes of a large scale proposal (if taken) with potentials to influence the land and water resources, the biodiversity of the area, climatic patterns and the overall wellbeing of the human population. Fisher (2007) proposed three-tier questions for SEA of PPPs, which are powerfully relevant here and could be used to get answers necessary for strategic environmental assessments. For instance, the policy-tier questions ‘why’ and ‘what’ (Figure 1) could provide necessary understanding for setting the ‘sustainability’ objectives of the project that is going to be designed for a community living in a specific environmental and disaster (including climate change) contexts. Policy formulation process will lead the plan and program development process and the questions relevant for those tiers will provide the necessary information, judgements in a similar fashion. Application of participatory research with local communities is the central requirement in this regard. The women members of the PROTIC project provided information about different stages of the agricultural process where different categories of people, including women take part using a range of land, water, air, biodiversity-based local resources. The women members mentioned nine different activities happen successively, and as a result, they receive the outcomes from agricultural processes. Several professional groups in an interdependent, mutually beneficial manner interact in the process that finally created enabling conditions for agricultural production. The women in Borokupot Union (Shyamnagar upazila) mentioned that they are dependent on a number factors like physical resources/factors (e.g., location of the land, land quality, surface and groundwater availability), institutions (e.g., local government institutions, NGOs, Banks, Post Office), market facilities (for getting agricultural inputs and selling their produce), infrastructural facilities (like roads, embankments, water gates), energy supply systems like electricity, crop storage facilities like food storage silo for receiving benefits from agricultural productions. Existence and functionality of all these complex systems/facilities are crucial to maintaining a thriving agricultural system of the area. The women informed that problems in any one of these elements leave a negative consequence in the whole production relations and radiate in the entire system (both lower and upper hierarchies). It indicates that assessment of vulnerability in agriculture sector does not necessarily mean that the condition of only crop cultivators/farmers will inform the existing challenges of the (agricultural) system as a whole and based on those facts problems could be addressed. In this regards, it could be said that formulation of PPPs should be designed in such a way so that problems of the sector (even at the micro-level) could adequately be understood by taking all the details through a participatory investigative process. This knowledge and understanding might be helpful for taking the time and required actions to address the likely future challenges.

Nevertheless, some examples could be given how the development of unplanned sector policies (e.g., water sector) and associated plans and programs happening at a larger scale such as a watershed or river basin, create huge, long term and mostly irreversible impacts at local scales. The first water sector Master Plan of Bangladesh (20-year long) was developed by California based company IECO in 1964 that proposed a large number FCDI (Flood Control Drainage and Irrigation) projects by erecting embankment to enclose areas. As a results Bangladesh Water Development Board (BWDB) developed about 140 polders in the coastal areas aiming to make the lands flood free and enhance agricultural production. These polders created a massive waterlogging crisis in the south-western coastal areas of Bangladesh (UNDP, 2017) and impacts radiated up to the grassroots level,

such as Shyamnagar where the PROTIC project implemented. Drying up of Gorai river in the immediate upstream of the PROTIC intervention areas, increased salinity conditions (causing degradation of soil quality and land degradation) because of the shortfall in the upstream river waters and backflow of seawater from the Bay of Bengal, loss of biodiversity are the results of unplanned development interventions in the area prescribed by the Water sector Master Plan 1964. To integrate nature-based coastal defence into best practice, SEA should be there including running scaled pilots of coastal protection in appropriate locations, with the view to adaptively managing defence options as new information arises ([Morris et al., 2020](#)) which might guide coastal administrators, controllers and donors.

Methodologies for Conducting SEA: Rationales given by the PROTIC project

SEA denotes to a range of systematic and participatory methods that aim to integrate environmental considerations into policies, plans and programs and evaluate their interlinkages with economic and social considerations ([OECD, 2006](#)). SEA is a flexible tool that could be made adaptable to specific contexts by incorporating a variety of tools (ibid.). The multi-agency PROTIC project champions (especially the women involved), through some FGD sessions, providing information about the dependence of people on environmental resources to make their living and also informed how changes subtle or prominent in the environmental elements as results of external forces make the systems destabilised and ultimately caused the primary production processes to break down. Based on the understanding, earlier chapters portrayed a picture by providing discussion how improper policy, plan or programs could jeopardise local living conditions and argued how SEA as an analytical tool could identify potential environmental and social threats well before the PPP is being implemented. The results give the high-level policymakers at the early stages of decision-making, and necessary arguments whether the PPP should be approved or further adjustments are required to ensure the PPP's potential, long term development effectiveness and sustainability. However, based on the discussion given above, this section provides some generic criteria based on which proponents of policies, plan and programs could make decisions about the likely methods the SEA expert will be opting for to investigate the case and be able to offer alternatives options. The methodologies might be different based on the thematic areas for which the policies, plan or programs are developed. Sometimes SEA needs to be based on multi-criteria methodology and sometimes uses analytical and participatory processes simultaneously to internalise the environmental and social considerations. A set of criteria are considered and discussed in the following sections that may be helpful to make decisions in selecting methodological strategies.

Choose the right method

The researcher needs to choose a method or a set of methods that can examine the likely impacts of an event or action originated from implementation of a policy or plan on different aspects of environmental and social elements in cumulative terms ([CEQ, 1997](#)). The impacts in this way have to be assessed by examining the snowballing effects that are radiated in the whole systems. In more straightforward words, the expert may need to think how implications of one action may incur changes in many sub-systems leading to a fundamental change in the original characteristics of the pre-existing functions and processes in cumulative terms. Community Risk Assessment (CRA) tool comprised of some methods could be an option to examine the consequential impacts at grassroots

levels happening as results of adopting a plan or policy at national levels. Results generated from a few case studies may help to provide strategic suggestions about the likely changes of plans or policies if implemented. However, some methodological options are suggested in the following sections in regards to undertaking SEA exercise.

Tools for ensuring full stakeholder engagement:

- Stakeholder analysis to identify those affected and involved in the PPP decision
- Consultation surveys
- Consensus building processes

Tools for predicting environmental and socio-economic effects:

- Modelling or forecasting of direct environmental effects
- Matrices and network analysis
- Participatory or consultative techniques
- Geospatial methods (using GIS, remote sensing, and GPS based locational information) as tools to analyse, organise and present information

Tools for analysing and comparing options:

- Scenario analysis and multi-criteria analysis
- Risk analysis or assessment
- Cost-benefit analysis
- Opinion surveys to identify priorities

Segregation of results

Efforts are necessary to be taken to ensure that the results of the assessments are adequately segregated for different sectors/themes (e.g. geographical locations, gender, thematic domains) so that consequences of planned interventions could be appropriately understood. This in-depth and segregated understanding will help to measure the degree of impacts (e.g., low, medium or high) on environmental, socio-economic, demographic elements (e.g., gender dimensions) and allow for prioritising and rationalising actions for giving necessary safeguards to specific sectors, elements of concern or communities at danger. Considering this will allow to take suitable methodological strategies and to set appropriate tools to investigate impacts. Even this disaggregation of results will be useful to know how a proposed plan or policy or program may push systems and societies in the transition towards total breakdown.

Critical assessments for offering alternatives

The researcher or the consultant who will be responsible for carrying out the SEA exercise should have maturity and capacity to make critical assessments on how the plan has impacts on land, air, water, flora, fauna and human being and at what scale. Issues have to be covered such as what would be the inter-scale connections, co-benefits, trade-offs, what elements might co-evolve and retained in the systems as added substances, what alternatives could be imagined/identified for what kinds of cost and benefits. Assessing these aspects will give the policymakers a clear understanding of how environmental benefits could be enhanced, connecting with ecosystem services towards environmental and social wellbeing, also economic and social empowerment. The results of the assessments will also inform at the early stage decision making about identifying the residuals,

which will be left even the case that enough mitigation options are exhausted and still could create cumulative impact conditions. In doing the critical assessments, the following suggestions might be considered: A. Combining macro assessments (national level) with micro-level assessments based at-scale, microdata (e.g. specific case studies); B. Longitudinal survey data or retrospective survey data on, for example, work and fertility histories which would be especially crucial for examining work-life transition and intergenerational mobility issues; C. Causal inference using exogenous variations in policy or natural experiments; D. Qualitative evidence and/or a mixed-methods study will be useful.

Way to effective SEA in Bangladesh

SEA is a relatively new concept in Bangladesh although Environmental Policy 2018 mentioned about its introduction in Bangladesh. The instrument has yet not made mandatory in Bangladesh through any legal instrument/process (e.g. Act or Rules). Currently, SEA exercises are undertaken in the country under the directives and guidelines of World Bank such as Environmental Assessment (OP/BP 4.01), Natural Habitat (OP/BP 4.04), Forest (OP/BP 4.36), Physical Cultural Resources (OP/BP 4.11), Involuntary Resettlement (OP/BP 4.12) and also OECD/DAC guidelines (2006), [EU guidelines \(2016\)](#). These instruments generally provide the general guidelines to assess the environmental and social impacts but effective use of the international instruments might be difficult without making necessary adjustments and modifications in respect to local contexts. The Environment Policy 2018 provides suggestions for 24 sectors and mentioned that the SEA has to be conducted in appropriate cases (i.e. see Objectives - 2.12) ([GoB, 2018](#)). Administering SEA is mainly recommended for two sectors, highlighted in two sections; these are (i) Section 3.1 - land resources management, and (ii) Section 3.15.4 - policy implementation plan regarding establishing industries. SEA is also mentioned in Section 3.19 (climate change preparedness and adaptation) as it advised to develop climate change resilient Master Plan for all the sectors. SEA has eventually entered into the policy instrument of Bangladesh through the Environment Policy 2018. However, relevant sections/articles do not include any instructions or clear guidelines on how to apply the SEA in different sectors. Even the conceptual framework and the scope of SEA ([OECD, 2006](#)) and its implementation process are not reflected adequately in the instruction given in this Policy. However, separate Rule for SEA (like ECR 1997 that provides detailed guidelines for EIA) is necessary, what is absent now, to make application of SEA more explicit for sectors in concern and to ensure the implementation process is adequately understood and valued by different corners of the society. Besides, the institutional preparedness of administering SEA, the capacity of professionals to evaluate SEA studies and aspects like necessary capacity development needs and related training are missing in the Environmental Policy 2018. This study, in this regard, may help in promoting this beneficial instrument by the following means.

It shows the importance of man-nature interface in regards to food and social security using PROTIC project's field operations. It also provides rationale on how informed PPP making by at top-level policy planners could help to avoid costly mistakes by implementing inappropriate and sometimes irreversible development-interventions. The study shows the gaps and provides arguments that plenty of actions have to be taken to make sure that SEA processes are adequately backed up by legal and institutional provisions. At this stage, SEA stands at the very elementary stage, and the SEA studies what have so far been done (e.g., SEA in the purview of Risk Sensitive

Land Use Planning of RAJUK; SEA in the Rohingya refugee management, see [GoB 2019a](#)) has been carried out under the guidelines of World Bank.

Conclusions

The primary production system of Bangladesh (that combines agriculture, fisheries, livestock) is the backbone of the country since it supplies about 100 million tons of food¹ ([GoB, 2019b](#); [GoB, 2019c](#)) every year to feed 167 million people and employs more than 50 per cent (84 million) of the total population in related sectors. Even a range of industrial inputs are also supplied from agricultural sectors. The strengths of the backbone in terms of its sustainability and resilience depend mainly on the condition of natural resources that, in turn, is determined by the environmental integrity of the country. In this backdrop, the paper argues that higher level policymaking (termed as PPPs) should be done in such a way so that the local environment and social elements and processes are protected. The case study findings demonstrate that agricultural productions happening at local scales are generally the outcomes of environmental processes that occur at a much larger scale (e.g. basin or watershed level). The paper thus makes an effort to establish a link between local, regional and national scales and recommends that SEA should effectively be used in Bangladesh to lessen the external impacts on the local productions and to ensure a balance between economic growth and environmental and social sustainability. The study proposes a roadmap for effective introduction of SEA in Bangladesh by giving a number of suggestions such as methodological guidelines and options, scope of research activities and structure of a standard SEA report, implementation of SEA processes. Efforts were also given how climate change related challenges could be taken into consideration in the SEA process. The results could be used for broader level advocacy for further actions to be taken by appropriate agencies.

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¹ The agricultural production in 2018-19 in Bangladesh was (in million tons): rice - 39, potato - 10, pulses – 3.5, oil seeds – 1, onions – 1.8, vegetables – 13.1, sugar crops – 3.6, fruits – 4.4, fish – 4.3, meat - 7.5. In addition, milk, eggs, different types of minor crops are also produced every year.

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