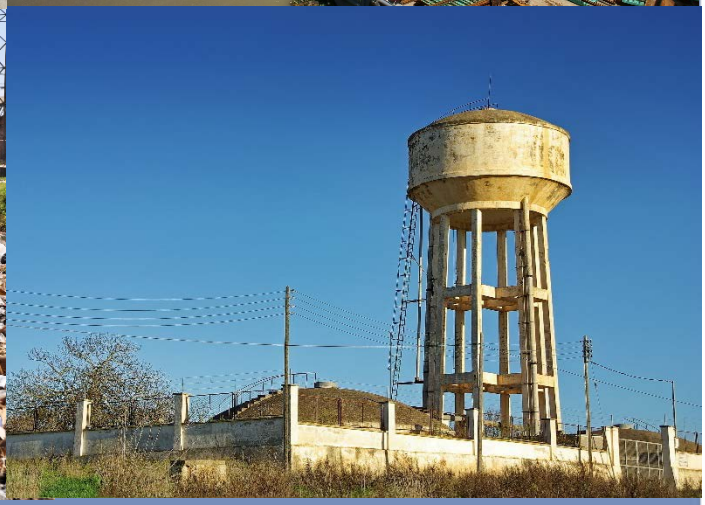
Netherlands Commission for Environmental Assessment

BANGLADESH (ORIO11/BD/21)

Quick Scan (Review) of the ESIA Report on the Water Management Infrastructure Project in Bhola District

Final Report of 18 November 2014



24 March 2015
Ref: 2015-08

Advice of the Secretariat

To	RVO
Attn.	Ms Kim Tran
CC	Ms Barry Nieuwenhuis, Ms Tamar Schrofer
From	The Netherlands Commission for Environmental Assessment (The NCEA)
Date	24 March 2015
Subject	Quick Scan (Review) of the ESIA Report on the Water Management Infrastructure Project (ORIO11/BD/21) in Bhola district, Bangladesh, Final report 18 November 2014
	By: the Secretariat of the Netherlands Commission for Environmental Assessment – Ms Ineke Steinhauer, Ms Bobbi Schijf, with expert input from Mr Hans van Maanen
	Advice 2015-08

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1. Introduction

An Environmental and Social Impact Assessment (ESIA) report has been prepared as part of the Development Phase of a Water Management Infrastructure project in Bhola District, Bangladesh. The consultancy consortium for this project, together with the Bangladesh Water Development Board, has applied for ORIO funding.

Bhola Island has been ravaged by floods and cyclones for decades. The existing water management infrastructure on the island is not equipped to protect the land and the people from increasing erosion and flooding. Therefore, the project intends to improve the water management infrastructure on Bhola Island at one or two locations on the east coast. The proposed works consist of:

- construction and maintenance of bank protection to protect against river erosion and loss of valuable land. According to the ESIA, the bank protection is most urgent and needs to be performed first, before the works below should be considered;
- rehabilitation of embankments, behind the bank protection;
- replacement of the sluice, connected to one of the two locations, to improve the water management regulation.

1.1 Approach to this Quick Scan

The RVO, who manages the ORIO facility portfolio, has requested that the Netherlands Commission for Environmental Assessment (NCEA) review the ESIA report, preferably before 24 March 2015. Aside from informing RVO decision-making, this ESIA review advice can also be used in decision-making by the local authoritries (Department of Environment in Bangladesh) on (environmental) permitting. This advice is also intended to help to come to a better project design, and more local support for the project.

The NCEA does not express an opinion on the project itself, but focuses on the quality and completeness of the ESIA. Given the short time available, the NCEA has limited itself to a Quick Scan of the ESIA. In this quick scan review, the NCEA has checked the ESIA against the Approved Terms of Reference (ToR) for the ESIA report 14 September 2014.

This Quick Scan advice is a so-called NCEA 'Advice of the secretariat', which means that the review is undertaken by staff of the NCEA secertariat. In this case it was decided to engage additional external expertise (on water related infrastructure and EIA) for the review. Since Chapter 3 of the ESIA, (project description) contains rather technical details on the proposed works, this expertsie was considered necessary to check the quality and completeness of this chapter in particular. Note however, that this review has been prepared based on a desk review only, and therefore does not constitute an in-depth technical review of the ESIA report contents. Also, the review has not been verified ‘on the ground’ in Bangladesh. The review is based on the knowlegde available at the NCEA’s secretariat and the additional external expert on:

- the nature and scale of the proposed interventions and potential impacts;
- general knowledge of the areas where the interventions would take place;
- experience from similar projects in the past.

The NCEA had already provided some preliminary comments on a draft version of this ESIA (6 August 2014). The majority of these observations had been forwarded by RVO to the project director in Dhaka on 8 August 2014. In Appendix 1 of the ESIA report; 'Comments on the Draft ESIA report with responses from the project team', it is explained how most of the issues raised in the preliminary comments have been addressed in the final ESIA report.

Making use of the knowledge above, this Quick Scan review gives additional pointers on how sustainability issues and environmental risks can be managed in project implementation. Where shortcomings in the ESIA report have been identified, the consequences for decision making are assessed and recommendations are given for any supplementary information that may be needed to address these shortcomings.

The ESIA report was reviewed as a stand-alone document, meaning that all information necessary for decision making should be contained in the ESIA report, without requiring the reader to consult other documentation to complement gaps in information in the ESIA itself.

In the following chapters, the NCEA first presents key observations in relation to the national ESIA requirements and the technical contents of the ESIA report (chapter 2). In chapter 3, the NCEA elaborates in more detail how conclusions have been reached, by providing observations on each chapter of the Bhola Island ESIA report.

2. Key observations

2.1 Conformity with national EIA procedure

The ESIA report has been prepared according to the approved Terms of Reference for this particular project (Appendix 6 to the ESIA report, ToR approved on 14 September 2014). There are some minor deviations from this ToR, and sometimes the order of certain paragraphs has been changed, or paragraphs deleted when these were not considered relevant for the project. Moreover, the ESIA report has used EIA sector guidelines, notably the guidelines for Environmental Assessment of Water Management (Flood Control Drainage and Irrigation) Projects in Bangladesh, by the Water Resources Planning Organization (WARPO, 2005).

■ The NCEA therefore concludes that the ESIA report satisfactorily complies with the ToR and guidelines provided by the Bangladeshi Department of Environment.

2.2 Quality of Technical content

Overall, the ESIA report provides a comprehensive description of relevant information concerning the legal, policy and administrative framework, the environmental and social baseline, assessment of impacts and a preliminary Environmental Management Plan (EMP). Public consultation and disclosure activities undertaken so far are well presented and documented.

However, note that an update of the ESIA will be required once the exact locations of the works are known, including the related footprint and affected population. The need for this update is acknowledged by the ESIA team in the report. Similarly, a Resettlement Action Plan

can be drafted when these locations are identified. At the time of such an update, additional information can also be provided on a number of aspects, which the NCEA considered not yet sufficiently addressed in the current ESIA.

■ The NCEA therefore recommends that an updated version of the ESIA report provide additional information on at least the following issues:

- A better justification of the selected project components (bank protection, embankment rehabilitation and replacement of the sluice). Even within the limited budget available, other project alternatives could have been considered. For example, bank protection only without embankement reinforcement and hydraulic constructions.
- The site selection for the 2 locations for project interventions is currently not easily verifiable when looking at the summary results of the applied Multi-criteria analysis. The NCEA does not call these 2 selected locations into question, but recommends that the developer pay due attention to possible interaction with neighbouring locations. The risk that rehabilitation of certain sections of the embankment may increase the risk of breaching of adjacent non-rehabilitated sections is particularly relevant.
- The ESIA report contains almost all relevant information needed for a sound Environmental (and social) Management Plan (EMP). The NCEA considers implementation of the EMP essential to meet the objectives and enhance the sustainability of the project. Therefore this EMP needs to be further detailed before project approval or Environmental Clearance be given and cannot be left as a task for the contractor for the construction phase alone. Therefore the EMP should be an integral part of an the ESIA update that is still to come.
- A number of other recommendations is given in chapter 3, but are less relevant to remedy urgently.

3. Detailed observations per chapter

The structure of this chapter will follow the structure of the ESIA report.

3.1 Introduction

The NCEA notes that the introduction in the ESIA states that there will be considerable period of time will between the completion of the report and commencement of works. In a dynamic environment, as caused by the Megna river, the shoreline may change significantly in a few years time. Therefore, it is impossible to determine at this moment the exact location of the proposed works. The Environmental Clearance by the Bangladeshi authorities can only be given once the actual locations of the project components have been decided upon. Also, the ESIA states that a Resettlement Action Plan (RAP) can only be presented when the exact locations of the works are known, including the related footprint and affected population. Therefore the developer may not be able to deliver the clearance and updated ESIA within the timeframe of the ORIO development phase.

■ The NCEA confirms that an update of the ESIA report, including a RAP, should logically be prepared when the exact location of the proposed interventions is known.

3.2 Legal, policy and administrative framework

The NCEA has no observations on this chapter of the ESIA.

3.3 Project description

Budget estimates

In general the proposed works and project activities are described well and provide sufficient basis for the assessment of the expected environmental en social impacts of project implementation. However, the descriptions are rather technical and sometimes difficult to understand for non-technical readers. E.g. for readers not familiar with the Bangladeshi currency, it is very difficult to understand the given cost estimates. The matter is further confused by the use of different monetary units throughout the report (BDT/Taka/Crore/Lakh, etc).

■ The NCEA recommends to provide budget and cost figures in US $ or € as well, because the given indications in Bangladeshi currency are not self explanatory. This can be done in the up-date of the ESIA which has to be prepared anyway at a later stage (see 3.1).

Project components and design

There seems to be insufficient or limited budget to implement all desired and needed protection works along the full 75 km length of the eastern coastline of the Bhola Island. The ESIA indicates that choices had to be made and priorities set. Firstly from the 6 potential sites, a selection was made of two locations for reinforcement.

Another choice was made in selecting bank protection as the main protection method, above embankment reinforcing and/or hydraulic constructions. A comprehensive description is given in the ESIA of bank protection and embankment options. The ESIA does a good job of substantiating the chosen project interventions. The report shows that, in the present situation of Bhola Island, bank protection is the most effective protection measure.
The ESIA also concludes that the available budget is too limited to realise all the desired protection measures. However, the NCEA wonders whether the embankment works and designs could not be simplified (quantitatively and qualitatively) to allow more areas to be reinforced. The chosen works seem very sound and robust, and perhaps even a little overdone considering the limited budget and project time span of 25 years.

Furthermore, the ESIA states that the present sluice, although old, is still functioning satisfactorily (dewatering) and could easily and in a sustainable way be renovated, in a less costly manner. Apparently the most important reason for a new structure seems to be that no flushing can be done with the present structure. Here again the question is, considering the limited budget, why priority is not given to more bank protection works instead of a costly new hydraulic structure? The ESIA report does not explore such an alternative approach.

The choice for bank protection and embankment materials and measurements is difficult to understand for non-technical readers. Although the NCEA does not question the choice of the selected measurements, it could be better explained in terms of why and on what grounds the materials have been chosen (size of the blocks and thickness of layers, etc).

■ The NCEA finds that the decision that the priority is given to bank protection above embankment and/or hydraulic structures is well substantiated in the ESIA, but some more explanation for the non-technical reader would be very helpful. In general, the choices made in the ESIA report seem to be logical, but not much explanation is given nor were alternatives presented. An alternative could be for example to leave out the works on the hydraulic structures and spend all available funds on bank protection on a third location. Therefore the NCEA recommends to either include this explanation and justification for the choices made in the up-date of the ESIA or present an alternative project implementation in which for example only bank protection will take place.

Interaction with neighbouring locations which are not part of the project

At present reinforcement works are being undertaken on other locations of the eastern coast of Bhola Island. The ESIA report makes no reference to how synergy could be gained between the proposed works and the ongoing and recently completed works.

In addition, the ESIA report does not contain information on whether in the site selection possible interaction of a reinforced site with a not-reinforced area/site has been taken into account. For example, increased erosion may occur on sites which are presently less vulnerable, after protection works have been carried out on neighbouring locations.

■ The NCEA recommends to provide more information in the up-date of the ESIA on possibilities for synergy with ongoing and recently completed works. In addition, the ESIA should investigate and confirm that the proposed works do not lead to more erosion elsewhere along the Bhola Island eastern coastline: solving a problem at one location should not lead to creating a problem in another stretch of the coast.

Multi criteria analysis for site selection

For the site selection a Multi Criteria Analysis (MCA) method has been applied. The background information of the applied MCA, such as the parameter selection, the values of the weights and whether a sensitivity analysis has been carried out, was not included in the ESIA report, so could therefore not be checked. Reference is made to a separate report: 'Component 1b, Analysis of Development scenarios' of May 2014, but not made available as part of the ESIA nor available to the NCEA.

In the MCA, 6 locations with relative large differences in length and other characteristics were compared: two long locations ranging from 7 to 10 km and 4 much smaller locations, roughly ranging from 1 to 4 km. It is striking that from the 6 locations, the 2 largest locations received have the highest scores (the largest location (nr 4) had the highest score). There seems to be a clear relationship between score and the length of the site.

Furthermore, it is not clear why the only ecological parameter ('sensitive ecological areas') in the MCA (as shown in Table 3.3.) has a weight of '0' and why all locations have the same score of '0' but do lead to a different ranking? This suggests that ecological considerations did not play any role in the site selection. In the opinion of the NCEA, the use of MCA as a tool in this particular case is rather questionable.

■ The NCEA concludes that the site selection by means of the applied MCA can not be verified with the given information. Therefore in the up-date of the ESIA, the background information on the MCA should be added. Currently the locations 1 and 4 have the highest scores, which can possibly be different once parameters would be added/deleted and other weights would be applied (e.g. not '0' for sensitive ecological values but a higher weight).

No project alternative

The purpose of the description of the 'no-project alternative' in par. 3.2.2 is not very clear. If this is intended to be a description of a reference situation, to compare and evaluate the environmental and social impact without the project, then it appears to be rather vague ('numerous people will be affected', 'a large area of land with its assets will be lost'). In this case a fixed date/period should be chosen and a clear description should be given of the (environmental and social) situation at that time.

■ The NCEA recommends to include more, prefarably quantitative, information on the no-project alternative: how many people will be affected by flooding without the project and what will this mean for sources of income of people? When there are uncertainties (which may be the case in the highly dynamic estuary of the Megna river), optionally some scenarios could be described as part of the no-project situation in the up-date of the ESIA (see for instance also paragraph 6.2.3 p. 126 on effects on hydrodynamics and morphology).

Erosion Early Warning System

In the paragraph on the proposed Erosion Early Warning System (EEWS), a clear description of the possible and available techniques is given. However it remains unclear which of these will be used in this project and in what way exactly.

■ The NCEA recommends to provide more details in the update of the ESIA on the techniques of the EEWS that will actually be used in the project. In addition, the NCEA observes that the monitoring frequency of the EEWS (bi-weekly) during the wet season and bi-monthly during the dry season may seem logical as a starting point, but should soon after implementation be evaluated in terms of whether the measurements during the wet season are enough and the frequency during dry season could be reduced. In particular after heavy storms and/or heavy rainy periods monitoring could be more extensive, especially the under water monitoring of erosion. The NCEA recommends to further elaborate on this in an update of the ESIA.

Project plan

In the paragraph Project Plan (3.5.) it is mentioned that the construction works will be carried out during the dry period, starting beginning of November till 30 April. No mention is made of the breeding season that starts, according to the executive summary, in February. During the wet (breeding) season the construction and transportation of construction materials (CC blocks) will continue as well.

■ The NCEA notes that the ESIA report states that no construction activities will take place during the breeding season/fish spawning. Adding up the given relevant periods, construction activities could only be carried out from November until February. The NCEA recommends to explain in the update of the ESIA, whether a construction period of 3-4 months/year is feasible at all, even assuming that the dry period coincides with this period. If

this results to be risk to the project feasibitliy, than the consequences for project planning should be described.

Interventions under selected option per project phase
In paragraph 3.7 the activities of the different project phases are described. The given information on the various activities is well documented in general and should be sufficient for a robust assessment of environmental and social impacts. The NCEA notes that coordination with stakeholders in the area is anticipated (activity P 8 in Table 3.12), but that apparently no public hearings are organised during the pre-construction phase.

■ The NCEA recommends that in the update of the ESIA report more information be provided on stakeholder consultation and required land acquistion during pre-construction. Probably this can be part of the RAP which still needs to be elaborated (see also 3.1).

3.4 Environmental and social baseline

As the NCEA has not been able to perform a site visit and has no knowlegde of this specific area, it was unable to assess whether the information is complete and correct. The NCEA notes however that the current description seems to be very comprehensive and meets the content requirements of the approved ToR. There are some minor inaccuracies, like for instance: Tables 4-5 appears twice in the text, Table 4-6 even three times. Paragraph 4.4.4 and 4.4.6 are both about crop production and contain the same Table 4-9. Table 4-10 also appears twice in paragraph 4.5.1 and 4.5.2.

3.5 Identification and analysis of key environmental issues

The NCEA has no observations on this chapter of the ESIA.

3.6 Impact assessment

Impacts in pre-construction, construction, operation and maintenance and decommissioning
These paragraphs provide an overview of positive and negative impacts in the different project phases and are clearly summarized in Table 6-2 to 6-5. The texts accompanying the Tables give further explanations for each of the identified impacts. The descriptions seem complete and the scores on significance of impacts (6 possible outcomes) are plausible and imitable.

Cumulative impacts
Paragraph 6.2.5 notes that rehabilitation of certain sections of the embankment may increase the risk of breaching of adjacent non-rehabilitated sections. This risk would specifically increase for sections next to the rehabilitated stretches. When the complete coastline has bank protection, the benefit will be much more than the sum of separate stretches. However, potentially other neighbouring islands may then be affected by higher erosion rates.

■ The NCEA has already addressed this issue in Par. 3.3. above (interactions with neighbouring locations). The NCEA considers this issue of utmost importance: the proposed project interventions cannot be seen and assessed in isolation, but should be part of a sound plan for the reinforcement of the whole length of the eastern coast of Bhola island. In the up-date of the ESIA, this part requires further justification and/or explanation how the proposed

project is embedded in ongoing coastal protection works and how other locations might be affected.

3.7 Public consultation and disclosure

The public consultation process so far seems to be well done. Results of the consultations are documented for different categories: local population, government officials and NGO representatives. Paragraph 7.2.4 states that the project proponent will disclose the report findings by organizing public meetings, and including public representatives in those meetings once the final ESIA is submitted. The NCEA cannot check whether this has happened since November 2014, when the final ESIA was published.

■ The NCEA recommends to provide information on public consultation events and results thereof in an up-dated version of the ESIA. This up-date should also include a public participation plan for the pre-construction phase, as at this stage important major negative impacts will occur in terms of relocation of people, their properties, agricultural land and cultural heritage sites. Probably this will be part of the RAP, which will also have to address compensation for physical and economic relocation.

3.8 Environmental Management plan

The Environmental (and social) management plan (EMP), contains the formulation of measures to mitigate, enhance, compensate or monitor the significant negative and positive impacts as described in the chapter titled Impact assessment. This chapter is well elaborated, clearly describing the mitigation and/or enhancement measures, the residual impact after implementation of the proposed measures and the significance of the residual impact. This is done for each phase of the project and summarized in Tables 8-1 to 8-5. For the major and moderately positive and negative impacts more detail is provided in the text.

It is stated (p. 139) that the measures are further elaborated in an actual implementation plan, including responsible organizations for the implementation and monitoring, timeline and costs involved. The NCEA notes that indeed Annex 4 to the ESIA report contains tables with activities, impacts, measures, residual impacts, as well as additional colums with responsible parties for implementation, monitoring and cost estimates. However, no timeline is provided.

On p. 139 it is also stated that 'the EMP will guide the implementation of the project in all its phases' and that 'for the construction phase the contractor should detail this EMP in an Environmental Action Plan and Occupational and Community Health & Safety plans'.

■ The NCEA is however of the opinion that the EMP should not be considered as 'guidelines' only, but recommends the further elaboration and detailing of the EMP, and its direct integration in the updated version of the ESIA report. The EMP should be presented in a form allowing 1) easy consideration of the acceptability of the proposed project for the decision maker by providing clear insights in project risks and cost implications, and 2) once approved, easy implementation and monitoring, including designation of the organisations executing each measure and the necessary budget requirements. The NCEA considers

implementation of the EMP essential to meet objectives and enhance sustainability of the project. Therefore this EMP needs to be available before project approval or Environmental Clearance be given and cannot be left as task for the contractor for the construction phase.

Monitoring plan

The ESIA report states that the following elements will have to be monitored:

- the turbidity near the bank protection works and near the dredging sites;
- the fish catch;
- the changes in livelihood as a result of the works;
- the potential morphological changes at the chars need to be followed by means of satellite images.

The first monitoring measure (turbidity) may be useful, but only in relationship to vulnerable ecosystems or when other sensitive areas are at stake. Instead of monitoring, efficient mitigating measures against excessive spreading of turbidity could be implemented as an alternative. Monitoring of fish catch and changes in livelihood are questionable indicators in this context, because those activities may not produce relevant information which may lead to adaptation in project execution. Monitoring (morphology) is by far the most important, but then this should not be limited to remote sensing but also be done with field/underwater measurements.

■ The NCEA recommends the elaboration and integration into the updated version of the ESIA report of a detailed monitoring plan to monitor implementation of the EMP. To ensure execution of the EMP and the monitoring plan, institutional capacity should be identified and appointed as well. Paragraph 8.3 and 8.4 already give some useful information, but this requires further detailing.

3.9 Cost estimates for measures

Currently, the costs are very rough estimates still and mainly related to costs for resettlement. This should be further detailed as part of the EMP and RAP (see previous recommendations).