United Nations Environment Programme

Bangladesh: Enabling activities for the preparation of initial national communications related to the United Nations Framework Convention on Climate Change

UNEP/GEF subproject GF/2200-97-59

Final evaluation report

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Contents

Abbreviations and acronyms

ALGAS	Asia Least-cost Greenhouse Gas Abatement Strategy
BCAS	Bangladesh Centre for Advanced Studies
BUP	Bangladesh Unnayan Parishat
DFID	Department for International Development
GDP	gross domestic product
GEF	Global Environment Facility
GNP	gross national product
IPCC	Intergovernmental Panel on Climate Change
RING	Regional and International Networking Group
SPARRSO	Space Research and Remote Sensing Organization
UNCCD	United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCC	United Nations Framework Programme on Climate Change

Executive summary

1. Bangladesh is a developing country in south Asia with an area of 147,570 square kilometres and a population of 123.1 million (2001 census). The physical environment of Bangladesh is diverse. There is a mix of both traditional and modern methods of land-use, all very closely adapted to the heterogeneous conditions. This complexity of environment and land-use patterns has important implications for the vulnerability and depletion of the natural resource base in the country. Floods are common in Bangladesh, where flood plains constitute about four fifths of the landmass. The adverse impacts of floods become particularly extensive and severe when the effect of drainage congestion is combined with several other factors, including excessive rainfall in the Ganges-Brahmaputra-Meghna basin. Being one of the world's most vulnerable countries from the point of view of climate change, the Government and the people of Bangladesh are sensitive to environmental issues.

2. The Global Environment Facility (GEF) approved the present project with UNEP as the implementing agency for the preparation of Bangladesh's initial national communication under the United Nations Framework Convention on Climate Change. Prior to this, a few earlier projects taken up in the country have alerted the relevant agencies to the importance of climate-change issues. The Department of Environment in the Ministry of Environment and Forests was the designated nodal agency for implementing the project, which focused on the following activities:

(a) Preparation of a national inventory of anthropogenic emissions of all greenhouse gases except those covered by Montreal Protocol for the year 1994;

(b) Identification and assessment of mitigation options;

(c) Development of a comprehensive vulnerability assessment for various sectors;

(d) Identification of stage I adaptation options;

(e) Building capacity to integrate climate change concerns into planning; and

(f) Provision of public awareness and other information.

3. The project, costing $175,000, was approved for a period of 18 months, to run from August 1999 to January 2001. Owing to institutional structure constraints, the project only started in July 2000 and had to be extended to June 2002. The project was implemented through an inclusive consultative process involving various stakeholders.

4. In order to evaluate the outcomes of the project, on-site interviews and discussions were undertaken with the project director and other concerned stakeholders. Project implementation has been largely satisfactory particularly in terms of preparation of the initial national communication to the Framework Convention on Climate Change. It has facilitated the compilation and collation of relevant data pertaining to various sectors in Bangladesh and has helped the country compile a greenhouse gas inventory for the year 1994, to prepare a realistic vulnerability and adaptation assessment and to identify various mitigation measures. The Government of Bangladesh appears to have given due attention to the issues related to climate change impacts and to adopt appropriate arrangements to address those impacts. The project has helped in identifying institutions that have the capacity to be involved in such initiatives. More important, the project has helped the Government of Bangladesh and other stakeholders understand the consequences of a climate change scenario in a highly vulnerable country that is heavily dependent on agrarian economy. Adequate interest has been generated in policy evolution on climate change and the integration of these issues with concerned sectoral planning.

5. The initial national communication of Bangladesh has been successful in identifying a number of future plans of action and policy measures. Some of these concerns include: protection of arable lands; improving water management; improving agro-technology and research; formulating land-use policies; coastal zone management; and – last but not least – higher energy efficiency in both demand and supply side management. The project has also been successful in highlighting the need for strengthening the disaster warning and disaster preparedness systems in Bangladesh.

6. While certain elements of existing policies and programmes have some kind of interface with climate-change issues, Bangladesh lacks an integrated, coherent and internally consistent climate change policy. Such a policy may essentially focus on five broad areas of concern, namely, mitigation, vulnerability and adaptation, coordination with other sectoral policies, synergies with multilateral environmental agreements, and research and training. The country has also accorded high priority to formulation of a national adaptation plan of action. Bangladesh is now poised at a stage where, if this work is not carried forward with new contributions of scientific and technical knowledge and financial resources for implementing various action plans, the knowledge acquired will stagnate and become valueless. The evaluation exercise has conclusively established that Bangladesh has the institutional strength to prepare a national communication using its own capacities but would require further help in developing the knowledge and skills to deal with issues relating to climate change, an area where the international community has a strong role to play.

7. The project performance and achievements of expected outcomes were evaluated on the basis of eleven indicators on a grading scale of 1–5 (5 being the lowest score). The evaluation score is presented below:

No.	Rating factor	Score
1	Achievement of objectives and planned results	1
2	Attainment of activities and outputs	1
3	Cost-effectiveness	1
4	Impact	3
5	Sustainability	3
6	Stakeholder participation	2
7	Country ownership	1
8	Implementation approach	2
9	Financial Planning	3
10	Replicability	2
11	Monitoring and evaluation	3
Overall rating		**2**

8. The overall rating indicates that the project could be categorized as belonging to the "very good" category.

9. Project implementation was inclusive and involved major stakeholders. Albeit to a somewhat limited extent, the project has enhanced the capacities of various institutions involved in the process of preparing the initial national communication. The project's organizational structure was well conceived. The strength of project implementation derived from the acumen of the national coordinator, an extremely motivated and enthusiastic manager. On the debut side, the selection of the firm Development Design Consultants Ltd. to run the project management team was a very controversial decision, about which UNEP expressed reservations since the hired consultant had no previous experience in climate change. UNEP had earlier suggested a well known climate change non-governmental organization, namely the Bangladesh Centre for Advanced Studies (BCAS), which the Ministry initially approved but later revoked its approval, without consulting UNEP. There were some delays involved in launching and establishing the technical working committee under the project.

10. The project has raised several new ideas and activities which could be developed into full programmes. It is in the interest of the Government of Bangladesh and the concerned international community to ensure that these ideas and activities are further developed and supported.

11. The evaluation has established that the project was largely successful in achieving its objectives. A notable feature observed during the evaluation and one which was instrumental in the satisfactory implementation of the project was the constant close liaison between the task

manager and the national team. It must be appreciated that, when conducting highly scientific exercises in developing countries, local capacities are often not available to the extent desired. In such scenarios, the umbilical cord between national capacities and the capacities of the implementing agency must be nurtured. As a possible follow-up to this project, UNEP may initiate a comprehensive dialogue with the countries in south Asia, which share similar geo-climatic conditions and are passing through a similar process of development. Sharing of information including methodologies among these countries has tremendous potential in terms of offering a cost-effective solution to climate change-related issues. UNEP can play a catalytic role in bringing together countries in this region and in addressing in a comprehensive manner various climate change-related concerns, which may perhaps take place when the countries embark on the exercise of preparing their second national communications.

12. The evaluation indicates the lessons learned from project implementation. These lessons and recommendations, which have been summarized at the end of the report, highlight salient features that create a sound basis for the further strengthening of Bangladesh's capacity in dealing with climate-change issues.

I. Background, scope and criteria of the evaluation

A. Background

13. The present project evaluation was carried out under the direction of the United Nations Environment Programme (UNEP), which is the implementing agency for the enabling activities project supported by Global Environment Facility (GEF). The evaluation was conducted during the period of 15 March–30 April 2004. The evaluation included a visit to Dhaka, Bangladesh, from 20 to 23 March 2004 and involved interviews with key officials in the Ministry of Environment and Forests of Bangladesh, lead and contributing authors of the initial national communication, expert reviewers, scientists and representatives of non-governmental institutions. A list of persons contacted by the evaluator in Dhaka may be found in annex I at the end of this evaluation. During the course of the evaluation, the evaluator had access to officials responsible for implementing this project in Bangladesh. The evaluation was done under the guidance of the Chief of the Evaluation Unit and in close collaboration with the UNEP Task Manager for Climate Change Enabling Activities.

14. The project provided financial assistance to Bangladesh for the following activities:

(a) Preparation of the greenhouse gas inventory for the year 1994;

(b) Identification and assessment of mitigation options;

(c) Development of a comprehensive vulnerability assessment for various sectors;

(d) Identification of stage I adaptation options;

(e) Building capacity to integrate climate change concerns into planning; and

(e) Provision of public awareness and other information.

15. After completing the designated activities, the Government of Bangladesh submitted its initial national communication to the secretariat of the United Nations Framework Convention on Climate Change (referred to in the present report as "the Framework Convention") on 29 October 2002. A copy of the transmittal letter is provided in annex II below.

B. Scope

16. The scope of the evaluation includes the following:

(a) To compare the planned outputs of the project to the actual outputs and assess the steps taken to follow-up in the country with a view to maintaining the capacity built;

(b) To highlight the lessons learned from the implementation of climate-change activities and assess the appropriateness of the present project in meeting the longer-term objectives of Bangladesh, UNEP, GEF and the Framework Convention;

(c) To review the national institutional and technical capacity built by the UNEP/GEF project and its linkages established with related existing and planned activities in the country;

(d) To recommend corrective and other practical steps required to strengthen and improve the institutional framework, specifically to ensure successful implementation of the following activities:

(i) Official submission of the initial national communication to the Framework Convention secretariat;

(ii) Phase II climate change enabling activities to assess technology needs; and

(iii) Participation in regional climate change projects such as capacity-building for systematic observation systems and development of local emission factors.

17. The terms of reference for this evaluation are provided in annex III below.

C. Criteria for evaluating the success of the project

18. According to the terms of reference, the success of the project should be evaluated on a ranking scale for the following 11 attributes:

1. Achievement of objectives and planned results;
2. Attainment of activities and outputs;
3. Cost-effectiveness;
4. Impact;
5. Sustainability;
6. Stakeholder participation;
7. Country ownership;
8. Implementation approach;
9. Financial planning;
10. Replicability; and
11. Monitoring and evaluation.

19. Each of the items was rated separately and then, with equal weight assigned to each of the attributes, an overall rating given. As suggested in the terms of reference, the following rating system was applied:

1 = Excellent	(90 - 100 per cent achievement)
2 = Very Good	(75 - 89 " ")
3 = Good	(60 – 74 " ")
4 = Satisfactory	(50 – 59 " ")
5 = Unsatisfactory	(49 per cent and below)

II. Guidelines for the preparation of initial national communications by non-Annex I Parties

20. The guidelines for the preparation of initial communications by Parties not included in Annex I to the Convention (non-Annex I Parties) have following principal objectives:

(a) To present the information in ways that are consistent, transparent and comparable as well as flexible, and to take into account specific national situations and requirements for support to improve the completeness and reliability of activity data, emission factors and estimations;

(b) To serve as policy guidance to the interim operating equity of the financial mechanism for the timely provision of financial support needed by the developing country Parties to meet the agreed full costs in complying with their obligations;

(c) To facilitate the process of preparation, compilation and consideration of the communications, including the preparation of compilation and synthesis documentation; and

(d) To ensure that the Conference of the Parties has sufficient information to carry out its responsibilities to assess the overall aggregated effects of the steps taken by the Parties in the light of the latest scientific assessments concerning climate change, and to assess the implementation of the Convention.

A. Scope of the initial national communication

21. In accordance with article 12, paragraph 1, of the Framework Convention, the communication should include:

(a) National inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, to the extent its capacities permit, using comparable methodologies;

(b) General description of steps taken or envisaged by the Party to implement the Convention; and

(c) Any other information that the Party considers relevant to the achievement of the objective of the Convention and suitable for inclusion in its communication, including, if feasible, material relevant for calculations of global emission trends.

22. In its scope, the initial national communication of Bangladesh to the Framework Convention, prepared through the enabling activities programme funded by GEF and implemented by UNEP, was in accordance with the provisions set out above.

B. National circumstances and inventory of greenhouse gases

23. In presenting the information through the initial national communication, non-Annex I Parties should specify their national and regional development priorities, objectives and circumstances on the basis of which they will address climate change and its adverse impacts. While describing the national circumstances, the initial national communication of Bangladesh covered a wide range of information. This communication included basic economic, geographical and climatic information, as well as other factors relevant to climate change. The initial national communication of Bangladesh was prepared in accordance with the provisions of the Convention and with the help of adequate financial support provided by GEF through UNEP to the Government of Bangladesh.

III. Bangladesh: country profile

24. Bangladesh is a developing country in south Asia with an area of 147,570 square kilometres and population of 123.1 million (2001 census). The average annual growth rate of population was 1.4 per cent during 1991–2001. Over 72 per cent of the country's population lives in the rural areas. The per capita gross national product (GNP) of Bangladesh is $370

(World Bank 2000). Bangladesh is predominantly an agricultural economy, with 32 per cent of its gross domestic product (GDP) deriving from agricultural activities employing 68.5 per cent of the labour force.

25. The physical environment of Bangladesh is diverse. There is a mix of both traditional and modern methods of land-use, all very closely adapted to the country's heterogeneous conditions. This complexity of environment and land-use patterns has important implications for the vulnerability and depletion of the natural resource base. Rapid and frequent natural changes take place in the river systems, which are also subject to the influence of various human interventions. Thus, dynamic changes are constantly taking place in the hydrological system. These in turn influence land-use patterns.

26. Floods are common in Bangladesh, where floodplains constitute about four fifths of the landmass. The floodplains are formed by sedimentary deposits that are carried by three of the largest rivers of the world, namely, the Ganges, the Brahmaputra and the Meghna, and their numerous tributaries and distributaries. The country is situated at the end of the three river systems' combined catchment area, and occupies only about 7.5 percent of that catchment area. Since such a small fraction of the catchment area has to manage the drainage of over 92 per cent of the total water volume, over 80 per cent of it is discharged in a five-month period during monsoons. Floods frequently hit the deltaic plains and cause havoc. Impediments to drainage caused by both natural and human factors retard the recession of floodwaters, thereby prolonging the floods.

27. Bangladesh's low-lying areas are used to inundation by seasonal floods. From time immemorial, people living in the delta have experienced what they call "*barsha*". People have adapted to such annual events over the centuries and often found ways even to turn them to their advantage. In the event, however, of any further increase in the intensity and frequency of extreme climatic events, as predicted by the Intergovernmental Panel on Climate Change (IPCC), the question of adaptation will be of paramount importance to the people of Bangladesh.

28. The adverse impacts of floods become particularly extensive and severe when the effect of drainage congestion is combined with several other factors, including excessive rainfall in the Ganges-Brahmaputra-Meghna basin; a rise in river beds due to gradual sedimentation; development and unsound water-use practices; synchronization of peak discharges in the major rivers; backwater effect of spring and neap tides; and other climatic factors.

29. Being one of the world's most vulnerable countries, Bangladesh is highly dependent on support from the international community for the Government and the people of Bangladesh in adopting mitigation and adaptation activities to tackle the adverse effects of climate change.

IV. Climate-change activities in Bangladesh

30. In addition to the present enabling activity, Bangladesh has participated in the following major studies on Climate Change:

(a) United States country study programme: This – the first climate change study in Bangladesh – was implemented over the period 1994–1996. The salient features of this project were:

(i) Preparation of a preliminary greenhouse gas emission inventory, following a top-down approach, for the year 1990. The main limitation of this study, however, was the lack of appropriate emission factor data necessary for emissions calculations;

(ii) Vulnerability assessments in a limited number of sectors, covering water, coastal resources and partially agriculture. The results of this study were considered only as preliminary and not sufficient for policy development;

(b) "Asia Least-Cost Greenhouse Gas Abatement Strategy" (ALGAS) project: Bangladesh was one of the 12 participating countries in this UNDP/GEF/Asian Development Bank regional project started in 1995 and completed by the end of 1997. The overall objective of the ALGAS project was to follow a bottom-up approach in the verification of the greenhouse

gas inventory prepared under the United States country study programme and to correct or update figures on the industrial sector and on land-use change and forestry based on 1990 data. ALGAS focused in particular on the energy sector of Bangladesh. The main results of this project were:

(i) Updated greenhouse gas inventory for 1990; and

(ii) Least-cost mitigation strategies for the energy and forestry sector without a detailed social and economic analysis;

(c) Bangladesh Centre for Advanced Studies study: The Government of the Netherlands provided limited financial support to the Bangladesh Centre for Advanced Studies for an assessment of the country's sectoral and overall vulnerability to climate change and sea-level change. This study represented the first association of a non-governmental organization with climate-change activities in Bangladesh.

31. To some extent, the above three studies laid the foundations for further work in the climate-change sector through the current enabling activity in Bangladesh. Experience gained by following both the bottom-up and top-down approaches in the first two studies was useful in evaluating various options for the current enabling activity.

V. Organizational structure of the project

32. The project's organizational structure was well conceived. The Ministry of Environment and Forests was designated as the lead agency, the Department of Environment as its technical arm for implementing the project. A part time national project coordinator from the department was selected to supervise the day-to-day project execution activities. The strength of project implementation derived from the acumen of the national coordinator, an extremely motivated, enthusiastic and qualified official. The National Climate Committee, comprising various governmental, non-governmental and academic organizations, was entrusted with oversight and giving advice on project execution in Bangladesh. The national project coordinator was supported by a project management team as his technical advisory body. This team was made up of four technical working groups on greenhouse gas inventory, mitigation options, vulnerability and impact assessment and adaptation, and national communication.

33. The firm Development Design Consultants Ltd. was selected by the Government of Bangladesh to provide necessary technical support to this project. While the selection was effected through an apparently transparent process, the selected consultant had no prior background of working on climate change-related activities. According to the project document, the project management team should include experts from relevant sectors, including government agencies, academic institutions, non-governmental organizations and the private sector. Hiring a private consultant did not meet that stipulation. In addition to the team leader, the consultant's team consisted of only four other subject specialists. The task manager also informed the evaluator that hiring a private consultant to run the project management team had been a very controversial decision about which UNEP had expressed reservations, since the selected consultant had no previous experience in climate change. UNEP had earlier suggested a well known climate change non-governmental organization, namely, the Bangladesh Centre for Advanced Studies, a selection which the Ministry initially endorsed but later revoked, without consulting UNEP. Similarly, UNEP had also nominated the local United Nations Development Programme (UNDP) office in Bangladesh to form part of the panel that selects the consultant. For its part, however, the Ministry failed to keep UNDP informed and involved.

34. During the process of preparing the initial national communication, various stakeholders, including the representatives of the agriculture and technical universities, concerned ministries, the Meteorological Department, the Planning Commission and prominent non-governmental organizations participated in the two workshops and other formal and informal consultations. The Technical Working Committee, comprising government representatives, experts and non-governmental organizations, was constituted under this project. After the second workshop, the Ministry of Environment and Forests of Bangladesh assigned the task of drafting the report to a group of leading experts in the country. The draft report prepared by the lead and contributing authors was reviewed by another group of eminent Bangladeshi experts, whose names may be found in annex IV below.

35. According to the evaluator's assessment, this project was run on professional lines despite selecting Development Design Consultants Ltd. and the hiring of a consultant lacking experience in climate change-related areas.

VI. Assessment of project activities

36. The project has identified eight activities with pre-indicated outputs. In the following sections each of the eight project activities have been examined and assessed as to whether the desired outputs have been delivered, partially delivered or not delivered. At the end of this assessment, the entire project was ranked according to the terms of reference for this evaluation.

A. Establishment of the project management and national study teams

37. The major output of this activity was to designate a national project coordinator and to establish a project management team and a technical expert team. Two part-time national project coordinators – both directors in the Department of Environment – were designated to coordinate day-to-day activities under this project. Their details are provided in annex V below. The firm Development Design Consultants was selected to carry out various functions of the project management team. A group of leading personalities and experts in Bangladesh also contributed to the process of preparing the initial national communication through their association as the members of the Technical Working Committee, and as authors and reviewers. Under the supervision of the national project coordinator, the project management team was entrusted with various implementation and management aspects of the project. The technical expert team was essentially an in-house expert team within Development Design Consultants. Later, other experts joined the technical expert team, which had divided itself into a number of sub-teams to work on various chapters of the draft report. The work done by the technical expert team was further refined and peer-reviewed by the Technical Working Committee, consisting largely of an inter-ministerial group of experts and representatives of non-governmental organizations.

38. As the first step in the preparation of the initial national communication, an introductory workshop was held in Dhaka on 28 August 2001. This workshop was attended by over 100 expert participants, representing a cross-section of organizations, such as government agencies, academic bodies, non-governmental organizations and the media. The workshop benefited from the presence of two top-ranking government officials, the Secretary in the Ministry of Environment and Forests and the Director General of the Department of Environment, clearly demonstrating ownership of the project by the Government. The technical session was presided over by the Vice-Chancellor of the Bangladesh University of Engineering and Technology. At this workshop, the leader of the project management team presented the draft methodology and other related issues. Subsequently, in consultation with the concerned stakeholders, the project management team worked on the various components of the draft initial national communication.

39. This initial workshop was followed by another day-long national workshop held on 17 August 2002 in Dhaka. This workshop benefited from the presence of the Minister and the State Minister for Environment and Forests of Bangladesh. During this workshop, which was attended by a range of stakeholders, it was suggested that the 1994 baseline data pertaining to various sectors, in particular agriculture, forestry, natural gas and energy, should be reviewed and revalidated. It was also suggested that the findings of the draft initial national communication should be compared with the findings of the ALGAS study.

40. According to the evaluator's assessment, the best available minds in Bangladesh were enlisted in the process of preparing the initial national communication. Although the formal involvement of most stakeholders was confined to two workshops, informal channels of communication ensured sufficient involvement of concerned experts in the process. The selection of Development Design Consultants as the project management team was not justified, for the reasons stated in chapter V above. This step also alienated some prominent non-governmental organizations which had themselves hoped to secure this assignment. The involvement of their representatives in the preparatory process was subsequently ensured,

however, by co-opting them as members of the technical expert team, and as contributing authors and reviewers.

B. Greenhouse gas inventory

41. This was one of the most important tasks of the project. Initial climate change projects implemented prior to the present project had created a good knowledge base for building up further information on this activity. The enabling activity project was successful in producing a critically reviewed and comprehensive greenhouse gas inventory based on the 1994 data for Bangladesh. The methodology used for the greenhouse gas inventory in the energy sector was in accordance with the IPCC 1996 guidelines. While data was collected mostly from secondary sources, these were reliable. When estimating total emissions for Bangladesh, proper carbon emission factors and quantum of carbon stored were taken into consideration and adjustments were made for unoxidized carbon. The methodology adopted for industrial processes involved the product of activity level data, in other words, the total amount of material produced or consumed, and an associated emission factor per unit of production. The default emission factors were taken from the IPCC 1996 guidelines. The agricultural sector emissions were estimated for four types of agricultural activities: first, livestock – enteric fermentation and manure management; second, rice cultivation – flooded rice fields; third, field burning of agricultural residues; and, fourth, agricultural soils. Based on various assumptions, necessary adjustments were made in defining the water management regime and seasonally integrated emission factors, the scaling factor and emission coefficient and these were used for calculating methane emissions from the flooded rice fields.

42. In the case of enteric fermentation and manure management, since no country-specific data were available for Bangladesh, default figures for the Asian and Indian subcontinent were used. Although the project document made provision for further work on country-specific emission factors, to provide more realistic estimates for greenhouse gas sources and sinks, this aspect was ignored by the Technical Working Committee, which cited lack of time and financial constraints. The National Climate Committee also appeared to have overlooked this aspect. In the opinion of the evaluator, the project implementation mechanism was not properly geared up to accomplish this task. Ideally, a few independent studies by universities and technical institutions could have been commissioned as an integral part of this project, with a view to identifying country-specific emission factors.

43. All three major forest types of natural vegetation in Bangladesh – namely, semi-evergreen forests occurring on the eastern hills (hill forests); deciduous sal (*Shorea robusta*) forest on the central and north-western terraces; and the littoral mangrove forest facing the Bay of Bengal; as well as an assortment of artificially cultivated village forests – were covered in the initial national communication. In the present enabling activity, cognizance has only been taken of changes in forest and other woody biomass stocks. No account was taken, however, of such factors as forest and grassland conversion and abandoned agricultural land. There is a need for further research work in determining country-specific emission factors for various forestry activities as well, which could not be completed within the mandate of the current project.

44. The total emission figures in the current study for nitrous oxide from agricultural soil seem to be incomplete. There is a need for targeted research on all four main sources of nitrogen in agricultural soils, namely, soil organic matter, atmospheric nitrogen, biological nitrogen fixation and nitrogen fertilizers. The nitrogen deposited on agricultural land is directly responsible for the production of nitrogen in soils through microbial processes. Given the increasing use of synthetic fertilizers, the importance of nitrous oxide as a greenhouse gas must be taken into account in a predominantly agricultural economy. According to the evaluator, it is, therefore, necessary to estimate the total nitrous budget in the atmosphere and to elucidate the regulatory factors with a view to reducing these emissions along with other greenhouse gases.

45. As envisaged in the project document, an effective computerized database system for storing and updating data efficiently and on a regular basis could not be achieved under this project. As the work was given to a consultant, the issue of information technology capacity in the relevant governmental agencies was overlooked. It is suggested that the management of information systems in the respective ministries and departments coordinated by the Department of Environment needs to be improved in the future. The hardware and software procured under

this project was inadequate to maintain the computerized climate change-related database as envisaged under the project document.

C. Programmes to address climate change and its adverse impacts, including abatement and sink enhancement

46. On the basis of updated greenhouse gas inventory, the project document envisaged identification and assessment of a range of least-cost mitigation options and recommendations on viable measures to abate the increase in greenhouse gas emissions in Bangladesh. In the opinion of the evaluator, the enabling activity made possible the financial evaluation of various options pertaining to both the demand and the supply-side management of conventional energy resources. The brick manufacturing and paddy parboiling industry were identified for process improvements. It has been ascertained that, as a follow-up measure to this enabling activity, GEF had approved a medium-sized project for the brick industry in Bangladesh. Some of the other mitigation options identified in the study include fuel switching and increasing fuel efficiency in cars, reducing the rate of deforestation, the recovery of methane from landfills, and enhanced efficiency in biomass use.

47. Increasing the area of forests on one hand and forest protection and conservation on the other were identified as sink enhancement measures in the study. Given the existing social and economic conditions in Bangladesh, there seems to be little possibility for further enhancing the forest area. Forest cover in terms of the higher canopy could, however, be increased by following better conservation practices and involving local communities in forest protection. Similarly, there is the possibility of taking up agricultural, urban and community forestry in Bangladesh. Concerted efforts are needed by the forest department and other stakeholders in this regard.

48. The enabling activity made possible the identification of essential elements of mitigation options but did not produce a fully fledged mitigation strategy for the country. There is a need to work on the mitigation strategy and to take up projects in the areas identified as mitigation options in Bangladesh.

D. Policy options for monitoring systems and response strategies for impacts

49. According to the evaluation, the project has generated important baseline data required for the assessment of climate change vulnerability and impacts and adaptation options. It has also resulted in a comprehensive vulnerability assessment for various sectors and regions based on certain assumptions. The veracity of these assumptions needs to be tested in real-life situations. The project suggested a range of policy options for adequate monitoring systems and response strategies for climate change impacts on terrestrial and marine ecosystems. The National Climate Committee needs to take a serious look at various policy options in this regard.

E. Policy frameworks for implementing adaptation measures and response strategies

50. In the context of developing countries, adaptation to climate change in different sectors is crucial. The vulnerability and adaptation assessment for Bangladesh was performed through the following stages under this project:

(a) Generation and selection of climate scenarios for Bangladesh;

(b) Impact assessment on the basis of climate change scenarios; and

(c) Identification of adaptation measures.

51. Issues covered under this study included: the three major river basins – the Ganges, Brahmaputra and Meghna; freshwater resources; coastal zone, coastal resources and coral reefs; agriculture and food security; forests, biodiversity and ecosystems; fisheries and marine resources; human health and social and economic impact. In so far as adaptation measures are concerned flood management, sharing of common rivers, water resource management, dry season flow augmentation were dealt with in the report. While performing vulnerability analysis, topics such as flooding, changes in flooded area and land inundation, drainage congestion and sedimentation, river erosion and accretion was included in the report. The

adaptation section covers both physical and institutional adaptations. Saline water intrusion was identified as an important priority area for Bangladesh.

52. One of the important outputs of this activity in the project was to identify, analyse, evaluate and assess a range of potential stage I options of adaptation. This was required to develop a national strategy for the viable adaptation measures and to implement programmes to minimize the impacts of climate change in Bangladesh. Under this project excellent analytical work was carried out on examining the adaptation options. As a policy response to the likely impacts of climate change in Bangladesh a national action programme for adaptation, supported by UNDP and the United Kingdom's Department for International Development (DFID), was approved by the Government of Bangladesh.

53. The evaluator has been given to understand that this programme is currently under implementation in Bangladesh. It has two important components, namely, a sustainable environment management programme and a comprehensive disaster management programme. As far as adaptive responses are concerned, coastal and wetland biodiversity management and geographical information system (GIS)-based agro-ecological data and mapping were identified as thrust areas.

F. Building capacity to integrate climate change concerns into planning

54. As a response to the 1992 National Environment Policy, the following legal and regulatory framework exists for environmental management in Bangladesh:

(a) 1995 Environment Conservation Act;

(b) 1997 Environmental Conservation Rules;

(c) 1997 environmental impact assessment guidelines for industries; and

(d) 1999 Environmental Court Act.

55. As may be seen, the legal and regulatory framework is of recent origin in Bangladesh. The Environmental Conservation Act is the only umbrella legal framework dealing with almost all environmental concerns, including climate change, in Bangladesh. The present Government has taken various steps towards compliance with and enforcement of multilateral environmental agreements such as the framework Agreement on Climate Change and the Kyoto Protocol. According to the evaluator, integration of environmental concerns by other sectoral ministries and departments should be more heavily promoted and sustained efforts are needed to that end. There is also a need to create a systematic institutional memory within the Ministry of Environment and Forests.

56. In addition, the linkages between the major conventions, such as the framework Convention itself, the Convention on Biological Diversity and the United Nations Convention on Desertification, need to be better understood. There is a need for an effective inter-ministerial institutional mechanism, which could facilitate a better understanding of the three conventions and identify the actions required to bring about synergies and effective domestic action.

57. Integration of environmental concerns in the planning process as well as in fiscal policy remains another major concern. The first need is to incorporate economic considerations in environmental matters and then logically move towards the adoption of economic instruments for mitigation efforts. The adoption of appropriate technology policy and securing the corresponding financial support for implementing related programmes are extremely desirable measures where Bangladesh is concerned.

G. Programmes related to sustainable development, research and public awareness

58. The project was expected to develop a cost-effective public awareness programme. Dissemination of information packages, video aids and relevant publications in English and Bengali was an important component of this enabling activity. Apart from general awareness-raising measures; no systematic effort seems to have been made under this activity. During this evaluation, a considerable awareness of climate change-related issues among the intelligentsia in Bangladesh was noted that said, however, there is a greater need to enhance public awareness in villages and towns identified as vulnerable to climate change in Bangladesh.

59. In so far as raising public awareness is concerned, the Association of Development Agencies (ADA), an umbrella organization of various non-governmental organizations in Bangladesh, is working on this aspect. Other non-governmental organizations, such as the Institute of Water Modelling, the Centre of Environment and Geographical Information Systems, the Bangladesh Agriculture Research Council, the Bangladesh Institute of Development Studies and the Bangladesh Centre for Advanced Studies, are also doing some work in this regard. For example, the Bangladesh Unnayan Parishad (BUP) has prepared a manual for community based flood management. Similarly, the Bangladesh Centre for Advanced Studies is working on mainstreaming natural resource management into policies, institutions and processes in Bangladesh. Such small steps have a catalytic effect and the potential for replication elsewhere in work on poverty reduction and sustainable livelihoods in the country. In order to ensure community preparedness, there is a need for the Government to launch a well conceived awareness programme on climate-change concerns.

60. As far as research in climate change-related activities is concerned, the project was able to identify several new areas where research and systematic observations would be needed. Some of these activities are listed below:

(a) Strengthening the GHG monitoring system in the country;

(b) Research on climate change impacts, vulnerability and adaptation;

(c) Climate change impact modelling for the coastal zone; and

(d) Research on improved designs and identification of suitable technologies for various economic sectors.

61. It is heartening to note that a number of institutions in both the public and non-governmental organization sectors are operating in the climate-change sector in Bangladesh. The Regional and International Networking Group (RING) of organizations working for sustainable development could also facilitate experience-sharing among various countries about climate-change issues. At the same time, sharing of information and networking among various stakeholders within the national context needs to be further strengthened in Bangladesh.

H. Provision of other information

62. According to the project document, this activity is related to the identification of technology needs and specific concerns arising from climate change. The enabling activity had led to the identification of technological and other needs on a large-scale level in Bangladesh. Some of these needs are:

(a) Modernization of rainfall, water level and river discharge data collection systems;

(b) Development of heat, salt and waterlogging-resistant crop varieties using the latest biotechnology;

(c) Further research in the forestry, fisheries and animal husbandry sectors; and

(d) Geographical information system-based agro-ecological data and mapping.

63. This now needs to be further translated into the specific plan of action for the various sectors. Local communities need to be involved in carrying out mitigation, vulnerability assessment and adaptation activities. The enabling activity has resulted in a precise reference document useful for policy makers, planners, researchers and activists alike. At the same time, it has enabled Bangladesh to meet its obligation under the Framework Convention. In view of the critical nature of climate-change issues, there is a need to build a comprehensive approach to all multilateral environmental agreements in Bangladesh.

VII. Financial management of the project

64. This chapter deals with the various aspects of the financial management of the project. Table 1 below provides details of financial allocations for carrying out activities as stated in the project document:

Table 1

No.	Activity	Allocation (in US $)
1.	Establishment of the project management unit and national study teams	40 000
2.	Greenhouse gas inventory	25 000
3.	Programmes to address climate change and its adverse impacts	20 000
4.	Policy options for monitoring systems and response strategies for impacts	20 000
5.	Policy framework for implementing adaptation measures	14 000
6.	Building capacity to integrate climate change concerns into planning	27 000*
7.	Programmes related to sustainable development, research and public awareness	9 000
8.	Provision of other information	20 000
Total		**175 000**

*Amount specifically not indicated in the project document

65. On the basis of project-related quarterly expenditure statements forwarded to the evaluator by the UNEP secretariat, table 2. below gives a concise snapshot of component-by-component expenditure incurred during the project:

Table 2

Components of expenditure	FY 2000	FY 2001	FY 2002	Total
Personnel	2,854	-	77,646	80,500
Subcontracts	-	-	56,000	56,000
Training	660	-	21,840	22,500
Equipment	2,007	-	6,993	9,000
Miscellaneous	1,112	-	5,888	7,000
Total	6,633		168,367	175,000

66. As can be seen from table 2, the bulk of the expenditure was incurred during the last year of three-year project. During the 2001 financial year, no expenditure seems to have been booked under this project. The empirical conclusion to be drawn from this is that the project activities were carried out in a period shorter than that stipulated. This expenditure pattern raises serious concerns about the overall efficacy of the activities carried under the project. Yet, as the project used its full budget without any financial over-run, it could on this count be categorized as very good.

VIII. Looking ahead

A. Future needs

67. Through its task manager UNEP lent a helping hand to the project team. It was acknowledged by the national project coordinator that interaction with UNEP was extremely fruitful and helped in dealing with many uncharted issues. The awareness of decision-makers in

Bangladesh has been substantially raised; this process must, however, be extended laterally into other ministries and the political decision-making apparatus. A reasonable framework of legal provisions for dealing with sustainable development issues has been developed in Bangladesh. The results of the initial national communication project must now be incorporated in the country's policy framework.

68. Similarly, there are action plans and projects already under way for biological diversity conservation. These activities must also be informed by the results of the initial national communication project, with a view to developing a comprehensive natural resource conservation strategy. Public awareness and stakeholder involvement are of critical importance for the sustainability of future climate-related activities, as a follow-up to the initial national communication. In addition to the need for the Government to find resources, multilateral and intergovernmental institutions must help Bangladesh in taking up the projects and concepts identified in the initial national communication.

69. As a follow-up to this project, UNEP may initiate a dialogue with the countries in south Asia, which share similar geo-climatic conditions and are also passing through the process of development. The sharing of information, including methodologies, among these countries has tremendous potential to offer a cost-effective solution to climate change-related issues. UNEP can and must play a catalytic role in bringing together countries in this region and in addressing various climate-change issues in a comprehensive manner.

B. Technical and operational constraints

70. The constraints observed in implementation were not many. That said, a few merit particular mention. There were some delays in the launching of this project and in establishing the technical working committee. The transfer of concerned officials both in the Ministry of Environment and Forests and the Department of Environment was yet another factor leading to a mid-stream change in the project's focus. Similarly, the institutional arrangements for coordination between various ministries, scientific and technical institutions and non-governmental organizations were rather weak. Initial teething problems in the project management and selection procedure also impinged on the project performance. The project laid down a monitoring and evaluation mechanism and tried to follow the established UNEP guidelines for reporting. Monthly and quarterly progress reports were not, however, made available in due time to the Ministry of Environment and Forests and the National Climate Committee. Owing to competing preoccupations and the fact that the project coordinator was only available part-time, the internal financial and administrative review mechanism within the Department of Environment was unable to monitor progress of the project sufficiently closely. Lateral reviews in other concerned ministries and institutions were perhaps missing and certainly not as frequent as they should have been.

C. Measures to be taken by national institutions to integrate the results of the initial national communication

71. The national communication has highlighted the response strategy to climate change which Bangladesh has to implement in the following important fields:

(a) Protection of arable lands;

(b) Improving water management;

(c) Improving agro-technology and research;

(d) Formulating land-use policies;

(e) Coastal zone management; and

(f) Strengthening the disaster warning and disaster preparedness systems.

72. It has also outlined the policy measures for future actions. Two issues are of particular importance in this regard – capacity-building and financial resources for carrying out these activities. Because other ministries and agencies have failed to buy in to the necessary extent to climate change-related issues, the existing mechanism provided by the National Climate Committee seems inadequate. Even revitalizing the committee at its existing level of composition will be insufficient to grapple with the climate-change issues faced by Bangladesh.

In order effectively to coordinate climate-change activities, it is essential that the national committee is chaired either by the Prime Minister or by some other important political figure. This would ensure the political commitment for climate-change activities in the country. It is, therefore, imperative for a strengthened and appropriate national institutional mechanism to be put in place in Bangladesh for dealing with climate-change issues in a comprehensive manner, including through the preparation of plans and programmes of action in response to those issues.

D. Contribution of the project in furthering the objectives of the Framework Convention

73. The project achieved considerable success in meeting the objectives of the Framework Convention, GEF and UNEP and other related multilateral agreements on the one hand and fulfilling the commitments of the Government of Bangladesh on the other. With some minor refinements the initial national communication could be used as a blueprint for taking up various climate change-related activities in Bangladesh.

IX. Related issues

74. Some of the other related issues are briefly discussed in this chapter of the evaluation report.

A. Gender considerations

75. During the inception and implementation of the project, only a handful of women representatives participated. The final document has also failed to produce any clear-cut recommendations from the gender perspective. This is one area which perhaps needs to be emphasized in future activities.

B. Missed opportunities

76. As the project was largely implemented through the firm Development Design Consultants Ltd., the Ministry of Environment and Forests missed a valuable opportunity to build its own capacity. An alternative approach could have been to set up a dedicated climate-change cell in the Department of Environment. Similarly, there is a need for networking among various ministries, scientific and academic institutions and non-governmental organizations, with a view to harvesting synergies between their efforts in climate change-related activities. In the opinion of the evaluator, this project has, to a limited extent, helped improve the human capital of the Department of Environment and raised awareness among other relevant stakeholders about climate change concerns in the country.

X. Evaluation of project performance

77. The evaluation set out above gives a more or less adequate description of the quality of the project outputs. Barring a few, most of the activities were completed as planned. For a country of the size and complexity of Bangladesh, the evaluator would like to consider this project implemented in a fairly cost-effective manner. The project was supposed to commence in August 1999, but, owing to initial teething trouble, could only be started in July 2000. Similarly, instead of its scheduled closure in January 2001, it was completed in June 2003. There seems to be excellent country ownership of this project in Bangladesh. Most of the relevant stakeholders participated in the process. The intensity of their involvement could have been improved, however. The project outcome has good replicability potential, in that it is capable of generating ideas for similar projects. As far as its implementation approach and internal monitoring and evaluation are concerned, it is the considered opinion of the evaluator that these areas could have been further improved.

78. With enabling activity projects it is very difficult to measure any impacts at such an early stage. One option could be to look at capacity-building within and outside the Government. The impact of any capacity built outside the Government is likely, however, to be limited in terms of

overall sustainability. This fact has been kept in view when deciding the rating to be accorded to various components.

79. The overall rating of this project on the basis of the various parameters stipulated in the terms of reference is set out in the table below:

Table 3

No.	Rating factor	Score
1	Achievement of objectives and planned results	1
2	Attainment of activities and outputs	1
3	Cost-effectiveness	1
4	Impact	3
5	Sustainability	3
6	Stakeholders participation	2
7	Country ownership	1
8	Implementation approach	2
9	Financial planning	3
10	Replicability	2
11	Monitoring and evaluation	3
Overall rating		2

80. The overall rating indicates that this project could be categorized as belonging to the "very good" category. In the evaluator's perception, the project merited a rating of 2 on a scale of 1–5. Overall it appears that a good quality product was delivered.

A. Perception by different stakeholders of the impact of the project

81. During the evaluator's stay in Dhaka, he met as many officials and experts as possible between 20 and 23 March 2004. The main objective of these meetings was to learn the perception of different stakeholders about the implementation and impact of the project in Bangladesh. These interviews also helped the evaluator in assessing the climate change-related activities planned as a follow-up to this project in Bangladesh. In the evaluator's opinion, this project has catalysed, stimulated and initiated a wide range of actions in climate change-related areas in Bangladesh, as discussed in the chapter on findings, below.

82. During meetings with the concerned stakeholders, the impression was gained that they were planning to take up a number of follow-up activities as envisaged in the initial national communication. Although the current Secretary for Environment and Forests and the Director-General were not involved in the implementation of the project, they seem to be satisfied with its over-all quality. In order to hasten the pace of climate-change activities, the Government of Bangladesh is also keen to tap resources under its Clean Development Mechanism. It may be recalled that Bangladesh has already established a two-tier system for clearing projects under the Mechanism. The Board of the Clean Development Mechanism is chaired by the Principal Secretary to the Prime Minister, while the Mechanism's Committee is chaired by the Secretary for Environment and Forests.

83. In addition to these two committees, there is a requirement for projects under the Clean Development Mechanism to be cleared by the National Planning Commission. The Bangladesh Centre for Advanced Studies, a prominent local non-governmental organization, has proposed the following two projects under the Mechanism:

(a) Emission reductions for battery-powered vehicles in Bangladesh; and

(b) Home solar-energy systems for non-electrified rural households in Bangladesh.

84. Another non-governmental organization (Gramin Shakti, a sister concern of the Gramin Bank) and the Bangladesh Centre for Advanced Studies are contemplating – on a wider scale – the dissemination of energy-efficient devices, such as compact fluorescent lamps in place of incandescent lamps. The UNDP adviser involved with this project is at present working on the project to prepare a national action plan for adaptation.

85. The need for further refinements to the greenhouse gas inventory and the system for determining country-specific coefficients of emission was highlighted by various experts, in particular when work was under way on preparations for the second national communication for Bangladesh. All the experts interviewed were of the view that, within the available time and resources, Bangladesh has done a fairly good job in preparing its initial national communication, with the excellent support given by UNEP/GEF. Some experts also highlighted the need for a geographical information system-based platform for future studies and for the sharing of remote-sensing data among countries in the south Asian region.

86. All the interviewees felt that both UNEP and GEF could play an important role in implementing various climate change-related activities identified under this project. Another important point that emerged during these discussions was the need for a dedicated information base for future assessments. Although a considerable amount of ground has been covered under this project, UNEP/GEF can further help Bangladesh by supporting some activities related to systematic observation, assessment of vulnerability and quantifying likely impacts of climate change on various sectors.

87. According to the evaluator, the project activities in future are likely to have an important influence on the climate change-related policies, strategies and other activities of cooperation agencies, the Government and partners in Bangladesh.

B. Findings

88. The present evaluation exercise studied the implementation of the project in detail and its main findings are summarized below:

(a) The awareness and information dissemination side of the project would seem to be relatively weak;

(b) The crucial requirement of developing local emission factors has not been fulfilled. It was reported that the necessary investigation work would have required substantial funds and that no provision was made for this in the current budget;

(c) The gender dimension of impacts of climate change seems to have been overlooked;

(d) The most important areas identified during the course of this evaluation for further investigation and research are, among others:

(i) Customizing emission factors;

(ii) Developing vulnerability and impact indices;

(iii) Conduct of impact studies on surface and ground water; and

(iv) Conduct of impact studies on human and livestock health;

(e) Systematic observations particularly in the case of point source emission and monitoring of saline water intrusion are desirable.

C. Lessons learned

89. In the light of the observations set out in the above chapters, the following lessons might be proposed:

(a) Further sensitization of concerned ministries is desirable. The linkages between the three major conventions, namely, those on climate change, biological diversity and desertification, need to be better understood. An inter-ministerial institutional mechanism needs to be developed for facilitating better understanding of these conventions and bringing out the synergies among them, and for effective domestic actions;

(b) The integration of environmental issues both in the planning process and in fiscal policy seems difficult. The first requirement is to incorporate economic considerations and environmental matters and then logically to move towards the adoption of economic instruments for mitigation efforts;

(c) There is also a strong need to incorporate more institutions in future climate change programmes;

(d) Attention should be given to building the capacity of public institutions, instead of contracting the work to outside agencies;

D. Recommendations

90. The degradation of the natural resource base and environment in Bangladesh like other countries started with various human and economic developmental activities, before adequate mitigation measures were considered an integral part of the development process. The major gaps that have been identified in mitigating pressures on the natural resource base are mostly related to the lack of institutional capability and financial resources, lack of proper data and research, and inadequate action on policy implementation. The impacts of climate change on the natural ecosystem, livelihood system, and sustainable development are of immediate concern. Therefore, it is important to develop a climate change adaptation strategy for the country, particularly to mitigate impacts of extreme climatic events such as droughts, floods, cyclones, and storm surges.

91. The following are some of the areas meriting priority action in Bangladesh:

(a) Finalization of national mitigation and adaptation strategies;

(b) Implementation of projects in the areas identified as mitigation and adaptation options;

(c) Exploration of various policy options for adequate monitoring systems and response strategies for climate change impacts on terrestrial and marine ecosystems;

(d) Work on agricultural, urban and community forestry;

(e) Management of coastal and wetland resources;

(f) Further research work in determining country specific emission factors;

(g) Integration of environment and climate change concerns into sectoral policies;

(h) Improvement of analytical laboratories, monitoring equipment, and training;

(i) Networking and dissemination of information;

(j) Real-time forecasting and preparedness for natural disasters;

(k) Launching of a well conceived awareness programme, looking into various aspects of climate change.

E. Conclusions

92. Bangladesh's initial national communication project was able to create a solid foundation for further work on scientific and policy issues. It has been able clearly to define the concerns relevant within the national context and has identified potential areas for further action. The project has alerted policy makers to the need to mainstream climate issues in the national policy and legal framework. It has helped enhance the capacity of the scientific and research communities of Bangladesh properly to appreciate climate issues. The project has further highlighted the need for stronger efforts to spread awareness among stakeholder groups and decision-makers. The sustainability of the project will entirely depend upon the national Government's own determination to follow up the results of this project and its efforts to ensure that its benefits are transferred both laterally and vertically through the various arms of government. It is also now incumbent on the international community to come forward in assisting Bangladesh, which is a highly vulnerable country from the point of view of climate change.

Acknowledgements

The evaluator received excellent support from the UNEP Task Manager – Mr. Ravi Sharma – and officials of the evaluation and oversight unit, namely, Mr. Segbedzi Norgbey, Ms. Catrina Perch and Ms. Mela Shah, without whose help it would not have been possible to carry out this evaluation. The evaluator also received complete cooperation from the officials of the Ministry of Environment and Forests and the Government of the People's Republic of Bangladesh, especially Mr. Mohd. Abdus Sobhan, the national project coordinator, and he would like to place on record his sincere appreciation of the overall assistance rendered by various officials and experts in Bangladesh. Acknowledgements are also due to all the experts who generously gave of their valuable time and efforts in their discussions with him and in critically reviewing the draft report during the evaluation process.

All efforts have been made to make this evaluation as objective as possible; that said, however, there is a measure of subjectivity inherent in the process itself. The onus of responsibility for any unintended error and adverse observation rests solely with the evaluator.

Annex I

Officials and experts with whom the evaluator had meetings in Dhaka between 20 and 23 March 2004

1. Mr. Syed Tanveer Hussain, Secretary (Environment and Forests), Ministry of Environment and Forests
2. Mr. Khan M. Ibrahim Hossain, Director-General, Department of Environment
3. Mr. Mohd Abdus Sobhan, Project director
4. Mr. Mohammad Reazuddin, Director (Technical), Department of Environment
5. Mr. Monoj Kanti Roy, Conservator of Forests, Forest Department
6. Mr. Q. S. I. Hashmi, Deputy Director (Development and Planning) Department of Environment
7. Mr. Farid Ahmad, Asst. Director (Environmental Awareness)
8. Mr. Mozaharul Alam, Research Fellow, Bangladesh Centre for Advanced Studies, House No. 10, Road 16A, Gulshan-1, Dhaka 1212, Bangladesh
9. Dr. M. Aminul Islam, Sustainable Development Adviser, UNDP, IDB Bhaban, Sher-e-Bangla Nagar, GPO Box 224, Dhaka – 1000, Bangladesh
10. Dr. Anwar Ali, ex-Chair, Space Research and Remote Sensing Organization (SPARRSO), Bangladesh
11. Dr. Ainun Nishat, Country Representative, World Conservation Union (IUCN), House 11, Road 138, Gulshan-1, Dhaka 1212, Bangladesh
12. Dr. Ahsan Uddin Ahmed, Director (Water and Environment), Centre for Water and Environment Bangladesh Unnayan Parishad, House 50, Road 8, Block D, Niketon, Gulshan-1, Dhaka 1212, Bangladesh

Annex II

Transmittal letter from the Government of Bangladesh

Secretary

Ministry of Environment & Forest
Government of the People's Republic of Bangladesh

D. O. No. MoEF/Secy/2/2002/606 Dated the....29-10-2002

Subject: Submission of Initial National Communication of Bangladesh.

Dear, Ms. Joke Wallet

I would like to inform you that the Government of Bangladesh has prepared the Initial National Communication to the United Nations Framework Convention on Climate Change through the enabling activities programme funded by Global Environment Facility and the Government of the United States of America, implementing agency being the United Nations Environment Programme.

Kindly find herewith two copies for your information and necessary action.

With best regards.

(Sabihuddin Ahmed)

Ms. Joke Waller-Hunter
Executive Secretary UNFCCC
Secretariat
P.O. Box 260124
D-53153 Bonn
Germany

Annex III

Terms of reference for the evaluation

The terms of the reference for evaluation were as follows: -

- Analyse the quality and usefulness of the planned and current project outputs, and determine how these contribute to the attainment of results and overall objectives identified in the approved project proposal in meeting its UNFCCC commitments. It should determine whether the project has been able to answer the identified needs and problems in Bangladesh.

- Measure the impact of the planned and current results of all the activities to prepare the initial national communications to the UNFCCC and to consult majority of the stakeholders who participated in the preparation of initial national communications to the UNFCCC.

- Assess the decision-making process and the criteria used to attract qualified consultants for the implementation of the various project components and identify the lesson learned providing recommendations on how such involvement could be improved.

- Assess the role the project made in building the capacity of the participating national institutions in the area of reporting to the UNFCCC and assess the long-term sustainability of the benefits of this capacity-building.

- Assess the additional information generated and capacity built by this project in particular following the completion of the US Country Study Programme (USCSP) and the Asia Least-cost Greenhouse Gas Abatement Strategy (ALGAS).

- Determine the future assistance required from UNEP and GEF and provide recommendations that might improve the delivery of similar assistance in future projects.

- Review the adequacy of national and international monitoring and evaluations systems developed to supervise and implement the project and based on the lesson learned, provide recommendations that could improve current procedures related to monitoring and evaluation.

- Review the effectiveness of the institutional structure, management and financial systems, which played an important role in the implementation of the project, investigating the staffing, administrative arrangements and operational mechanisms with an emphasis on coordination within and outside of UNEP.

- Identify any technical and/or operational constraints encountered during project implementation including those that contributed to delays in implementing the approved work plan. Identify further the actions required by UNEP and the national executing agency to overcome the constraints and any appropriate alternative measures that need to be taken.

- Identify and assess any measures that national institutions have initiated to integrate the results and recommendations of the initial national communications into national policy making and/or planning. In addition to recommend follow-up measures that would enable longer-term benefits and sustainability of project activities.

- Determine the potential contribution of the project to furthering the objectives of the relevant global, regional, and national environmental assessments, policy frameworks and action plans, and to strengthen the United Nations Framework Convention on Climate Change.

- Evaluate whether the actual results of the project compare with the long-term and short-term results identified in the project document and what needs to be done further.

- The extent to which the environmental management options selected in the project design represent missed opportunities to generate greater levels of institutional capacity: essentially looking at what the projects did not do, as well as what they did do.

  (a) Has the intervention promoted improvements to (or deteriorations in) physical capital, as shown by the acquisition of new tools and technologies, investments in buildings, infrastructure, and any other sort of physical asset that can be used by the Department of Environment or relevant stakeholder?

  (b) Has the project led to improvements to (deteriorations in) human capital, as shown by enhanced skills, knowledge, social capabilities and productive potential of the Department of Environment and relevant stakeholders?

- Determine the extent to which gender considerations were incorporated into the various technical and operational aspects of the project.

- Propose concrete suggestions or recommendations, to the Ministry of Environment and Forests and UNEP on how further to build Bangladesh's capacity in implementing the provisions of the UNFCCC and decisions of the Conference of Parties and advise them in undertaking them as appropriate.

Annex IV

List of experts participating in initial national communications

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Annex V

Details of the national project coordinators

	Name of the officer	Period
1.	Mr. Md. Reazuddin Director (Technical) Department of Environment	29 May 2000–9 November 2000
2.	Mr. Md. Abdus Sobhan Director (Administration, Development and Planning) Department of Environment	9 November 2000 until completion of the project