

ENABLING ACTIVITIES FOR THE IMPLEMENTATION OF
THE UNITED NATIONS FRAMEWORK CONVENTION
ON CLIMATE CHANGE (UNFCCC) IN MONGOLIA

UNEP/GEF SUB-PROJECT GF/2200-97-53

EVALUATION REPORT

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Contents

Acknowledgements.....	4
Executive summary.....	5
Background.....	6
I. NATIONAL COMMITMENTS UNDER THE CONVENTION ON CLIMATE CHANGE FOR NON-ANNEX 1 PARTIES	7
II. DESIGNATED MANDATES OF THE GLOBAL ENVIRONMENT FACILITY AND UNEP FOR THE IMPLEMENTATION OF THE CONVENTION ON CLIMATE CHANGE	8
III. NATIONAL BIO-GEOGRAPHICAL AND SOCIO-ECONOMIC PROFILES.....	8
IV. CLIMATE CHANGE ACTIVITIES IN MONGOLIA.....	9
V. INSTITUTIONAL FRAMEWORK.....	9
VI. EVALUATION OF PROJECT ACTIVITIES	10
Activity 1: Establishment of the project management team and the national study teams	10
Activity 2: The greenhouse gas inventory	11
Activity 3: Programmes to address climate change and its adverse impact, including abatement and sink enhancement	12
Activity 4: Policy options for monitoring systems and response strategies for impacts	12
Activity 5: Policy framework for implementing adaptation measures and response Strategies	13
Activity 6: Building capacity to integrate climate change concerns into planning	14
Activities 7 and 8: Programmes related to sustainable development, research and public awareness.....	14
VII. EVALUATION OF PROJECT PERFORMANCE ACCORDING TO THE TERMS OF REFERENCE	15
A. Quality and usefulness of project activities.....	15
B. Impact of project activities on the initial national communication	15
C. Enhancement of the capacities of local experts.....	15
D. Development of the capacity of local institutions	16
E. Areas for future assistance.....	16
F. Review of monitoring and evaluation procedures.....	16
G. Organizational structure and financial systems	16
H. Technical and operational constraints	17
I. Integration into the national policy.....	17
J. Gender	17
VIII. RATING OF PROJECT PERFORMANCE.....	18
A. Timeliness	18
B. Achievement of results.....	18
IX. LESSONS LEARNED	19
X. RECOMMENDATIONS.....	19
XI. CONCLUSION.....	20

Annexes

I.	Terms of reference of the evaluation	21
II.	List of interviewees.....	23
III.	List of project meetings	24

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All efforts have been made to make this evaluation as objective as possible. Some subjectivity, however, is inherent in the process. Any unintended adverse observation may therefore be excused.

Executive summary

1. The objective of this project was to prepare the initial national communication under the United Nations Framework Convention on Climate Change (UNFCCC) in Mongolia. The National Agency for Meteorology, Hydrology and Environment Monitoring was the executing agency. The project focused on the following activities:

- (a) Preparation of a national inventory of anthropogenic emissions of all greenhouse gases, except those covered by the Montreal Protocol on Substances that Deplete the Ozone Layer;
- (b) Preparation of programmes to address climate change and its adverse impacts, including abatement and sink enhancement;
- (c) Identification of policy options for monitoring systems and response strategies for impacts;
- (d) Preparation of a policy framework for the implementation of adaptation measures and response strategies;
- (e) Building capacity to integrate climate change concerns into planning;
- (f) Preparation of programmes related to sustainable development, research and public awareness;
- (g) Preparation of a national communication for Mongolia.

2. The project commenced in November 1998 and was originally planned to be completed in two years. However, it had to be extended by one year owing to late start-up and constraints related to weak initial capacities and institutional development. The project was implemented through a long and inclusive process.

3. In order to evaluate the outcomes of the project, on-site interviews and discussions were held with the stakeholders. The implementation of the project has been largely satisfactory, particularly in terms of building capacities in Mongolia to appreciate and initiate further work on climate change-related issues. It has facilitated the preparation of local emission factors in sectors which are unique to Mongolia. The project has helped to identify institutions that have the initial capacity to be involved in such initiatives and whose capacities could be further enhanced to undertake further work on climate change in Mongolia. More importantly, the project has helped the Government of Mongolia and the stakeholders to understand the consequences of climate change in a land-locked country that is heavily dependent on an agricultural and pastoral economy. Adequate interest has been generated in policy development on climate change and the integration of these issues into overall development planning.

4. Mongolia is now at a stage where the knowledge acquired would stagnate and the efforts made so far would prove meaningless if this work was not supported further with new inputs in terms of scientific and technical knowledge and financial resources. The evaluation exercise has conclusively established that Mongolia is in a position to prepare a national communication using its own capacities but will require further help in developing knowledge and skills to deal with climate change-related issues, an area in which the international community has an important role to play. The project performance and the achievement of the expected outcomes were rated on the basis of seven indicators on a scale of 1–5 (5 being the lowest score). The evaluation score is as follows:

Aspect	Score
Attainment of outputs	2
Completion of activities	1
Project executed within the budget	1
Cost-effectiveness of the project	2
Impact created by the project	2
Sustainability	2
Timeliness	3
Overall performance rating	2

5. The implementation of the project was inclusive and involved the major stakeholders such as universities and technical institutions. University students also worked with the technical team. This enhanced the capacities of those already experienced in climate change and in addition created a new group of enthusiastic young people who will be dealing with climate change matters in the future. However, some of the stakeholders who should have been involved were either fully excluded or remained on the periphery. The non-involvement of non-governmental development institutions restricted the project to scientific work such that the sociological and political dimensions that should have been added to the project were not adequately pursued. There is a good case for recommending that all such projects, which have a substantial policy dimension, must involve not only the scientific community but all those who are likely to influence public opinion and have an impact at the community level.

6. The project has generated several new ideas and activities that can be expanded into full programmes. It is in the interest of the Government of Mongolia and the international community to see that these ideas and activities are further developed and supported.

7. The evaluation has established that the project was largely successful in achieving its objectives. A notable feature observed during the evaluation and which was instrumental in the satisfactory implementation of the project was the constant involvement of the Task Manager in the national team. It must be appreciated that in small countries, local capacities in a highly scientific exercise are not available to the desired extent and support from the implementing agency is therefore essential.

8. Lessons learned from the implementation of the project and the recommendations are summarized at the end of the report, highlighting the salient features that create a sound basis for further strengthening of Mongolia's capacity to deal with climate change issues.

Background

9. This project evaluation was carried out under the directions of the Evaluation and Oversight Unit of the United Nations Environment Programme (UNEP) which is the implementing agency for the Enabling Activities Project, supported by the Global Environmental Facility (GEF). The evaluation was conducted from 15 July to 30 August 2002. It included a visit to Ulaan Bataar, Mongolia, from 15 July and 19 July 2002 and involved interviews with scientists, administrative officials, representatives of non-governmental organizations and academicians. It also included a field visit, primarily to understand the bio-geographical features of Mongolia which play a very relevant role in the preparation of the initial national communication. During the evaluation process, the evaluator also had access to officials responsible for the implementation and evaluation of the project at the UNEP Headquarters in Nairobi.

I. NATIONAL COMMITMENTS UNDER THE CONVENTION ON CLIMATE CHANGE FOR NON-ANNEX I PARTIES

10. Article 4 of the Convention on Climate Change states that all parties, taking into account their common but differentiated responsibility and their specific national and regional development priorities, objectives and circumstances, shall develop, in accordance with article 12, national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer, using comparable methodologies to be agreed upon by the Conference of the Parties.

11. Article 12 of the Convention states that each party shall communicate to the Conference of the Parties, through the secretariat, 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. Each party shall also furnish a general description of the steps it has taken or it intends to take to implement the Convention and any other information that the Party considers relevant to the achievement of the objectives of the Convention and suitable for inclusion in its communication, including, if feasible, material relevant for calculation of global emission trends.

12. Article 12 further provides that non-Annex I Parties shall prepare their initial communication within three years of the entry into force of the Convention for each Party or of the availability of financial resources in accordance with article 4. Least developed countries may prepare their initial communication at their discretion.

13. The second Conference of the Parties to the Convention adopted guidelines for preparation of the initial national communication by non-Annex I Parties. The broad features of these guidelines are as follows:

- (a) The cope, which comprises the following:
 - (i) Preparation of a national inventory of anthropogenic emissions by sources and removal by sinks of all greenhouse gases not controlled by the Montreal Protocol;
 - (ii) A general description of steps taken or envisaged by the Parties to implement the Convention and any other information considered relevant by the Parties to the achievement of the objectives of the Convention;
- (b) 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;
- (c) A brief description of existing institutional arrangements which are relevant to the preparation of the inventory on a continuing basis for a list of perceived deficiencies in this area;
- (d) Information on specific needs and concerns arising from the adverse effects of climate change and the impact of the implementation of response measures, particularly in the context of the peculiar geo-ecological features of the country;
- (e) Default methodologies adopted by the Intergovernmental Panel on Climate Change (IPCC) should be used by the non-Annex I Parties. Information should be provided for carbon dioxide, methane and nitrous oxide;
- (f) Parties must try to develop their own emission factors through country-specific studies and field observations to decrease uncertainties associated with the inventory of these emissions;
- (g) Initial communications should seek to include programmes related to sustainable development, research and systematic observation, education and public awareness, training, policy options for adequate monitoring systems and response strategies for climate change impacts on land and marine eco-systems, a policy framework for implementing adaptation measures and response

strategies in the context of, inter alia, disaster preparedness, agriculture and forestry with a view to integrating information on the impact of climate change into the national planning process.

II. DESIGNATED MANDATES OF THE GLOBAL ENVIRONMENT FACILITY AND THE UNITED NATIONS ENVIRONMENT PROGRAMME FOR THE IMPLEMENTATION OF THE CONVENTION ON CLIMATE CHANGE

14. GEF is a multilateral financing mechanism for supporting projects with global environmental benefits. The Conference of the Parties to the Convention on Climate Change has recognized GEF as the interim financial mechanism. The Conference of the Parties further decided that all non-Annex I countries would be eligible for finance from GEF to support their preliminary obligations under the enabling activities provision.

15. UNEP is one of the three implementing agencies of projects funded by GEF. This project was signed on 12 November 1998 when the financing for \$239,500 was secured. It was planned as a two-year project and should have been completed by November 2000. However, it could only be completed in November 2001, thus necessitating a one-year extension.

III. NATIONAL BIO-GEOGRAPHICAL AND SOCIO-ECONOMIC PROFILES

16. In order to evaluate the project, certain salient national features need to be recognized. Mongolia is a land-locked country at an altitude of 1580 meters above sea level covering an area of 1566.5 million km². The country has a population of only 2.32 million (1995). The average population density is thus only 1.5 persons per km². The north-west and central parts are mountainous while the eastern part is a vast steppe. The southern part of the country is covered by semi-deserts and a desert (the Gobi Desert). Mongolia has a forest cover of 8.1 per cent. There are four natural zones, namely, the forest steppe, the steppe, the semi-desert and the desert. Hostile climatic conditions and inaccessibility of many regions have resulted in the concentration of most of the population in three urban areas, mostly the capital city of Ulaan Bataar. Annual precipitation averages 200-220 mm. with an average of 38.5 mm. in the desert region. Droughts occur frequently every five years in the deserts and every ten years in the rest of the country.

17. Land cover in Mongolia can be broken into the following components: 76.5 per cent of the area is used for agriculture, of which approximately 0.8 per cent is cultivated, 1.6 per cent is used for hay-making and 97.6 per cent is pastureland. 9.7 per cent of the total land area is covered by forests and shrub land whereas only 1.1 per cent is covered by water. Thus, the critical factor in Mongolia's land use is the predominance of pastureland and very little surface water. In sum, the Mongolian landscape is a mix of high altitude mountains, large tracks of undulating grasslands and a large area covered by scrubs and desert. Despite possessing a large surface area, Mongolia has very extreme bio-geographical features.

18. As stated earlier, the country is land-locked with no access to any large transboundary water body. Agriculture in Mongolia contributes 33 per cent of the gross domestic product (GDP), industry and construction another 27.5 per cent and services about 40 per cent. Copper mining is the main contributor to export earnings. The industrial sector also includes wool and cashmere, leather goods and meat processing. The country possesses about 30 million head of livestock, comprising camels, horses, sheep, goats and cattle. It has large deposits of coal which is not of high calorific value as it contains large amounts of lignite. An extremely harsh climate, particularly long winters, necessitates in-door heating which consumes huge quantities of coal. The energy sector is the largest contributor of greenhouse gases. Extreme climatic conditions necessitate use of huge quantities of fuelwood and low-energy coal which emit huge quantities of carbon dioxide, amounting to 9.5 tons per capita. This figure is higher than that of most developing countries and is even higher than the world average. Copper mining is the largest consumer of energy in the industrial sector. For example, one company, which contributes about 12 per cent to the national tax revenue, accounts for about 36 per cent of the country's electricity consumption and about 15 per cent of the peak power demand.

19. Mongolia is undergoing transition from a planned to a market economy. Compared to other developing countries, Mongolia has strong social indicators. However, there are perceptible tensions as a previous planned economy gives way to free-market mechanisms. Mongolia is prone to natural disasters and one of the frequent calamities has been the phenomenon of an extreme winter followed by droughts. Severe droughts are very frequent due to low rainfall during the winter, large runoff and low capacity for water conservation/harvesting. Consequently, rangeland is under extreme pressure, causing over-grazing or under-feeding of the livestock. The droughts are followed by an extremely severe winter, a phenomenon called “dzud”, which leads to large-scale deaths of the livestock because the livestock cannot store nutrients and during extreme winter, when energy is required, stored nutrients are not available. It was reported that over the last four years, because of extreme drought followed by the dzud, Mongolia lost about 10 million head of livestock. This is an extremely alarming phenomenon.

20. This unique feature of the dzud would indicate that Mongolia is more vulnerable to climatic factors than many other countries. Firstly, there is little diversity in its economy. Secondly, about 65 per cent of the land area is used for grazing, with a nomadic practice which leads to over-grazing as well as heavy reliance on natural precipitation as there is no scientific or technically managed rangeland economy. Thirdly, Mongolian industry is heavily dominated by energy-consuming sectors such as copper mining and power generation for industrial and domestic use. Fourthly, large-scale energy consumption is necessary to manage extreme winters. Fifthly, the availability of surface water in Mongolia is constrained, with river systems mostly drying up during the summer. Little work has been done on exploitation of groundwater. Lastly, because of the peculiar bio-geographical conditions and over-dependence on a livestock-based economy, Mongolia is also prone to natural disasters. Any effort directed at preparing the country to face up to the consequences of climate change therefore has to take the above issues into consideration.

IV. CLIMATE CHANGE ACTIVITIES IN MONGOLIA

21. Mongolia has a good record of sensitivity to climate issues. Even before the present project was launched, several projects had prepared concerned agencies to take up a more focused initiative like the present one. The first climate change study supported by the United States of America (the United States Country Studies Program) was implemented between 1994 and 1996. This project prepared a greenhouse gas inventory for 1990. However, the project relied heavily on IPCC default values for emission factors in forestry, grassland conversion, agriculture and wastes. Very little work was done on customizing the existing general circulation models and only one crop, namely, spring wheat, was examined. The inventory focused only on vulnerability and impact assessment for spring wheat, water resources and the grassland and livestock sectors. Vulnerability assessment for the grassland and livestock sectors was not completed.

22. Mongolia was one of the participating countries in another project entitled “Asia Least-Cost Greenhouse Gas Abatement Strategy” (ALGAS) project. This project was implemented in 1995 with the objective of improving the drawing up of inventories of greenhouse gas sources and sinks. The ALGAS project in Mongolia largely focused on the energy sector. It helped in updating the greenhouse gas inventory for the period 1990-95 and prepared a least-cost mitigation strategy for the energy and forestry sectors.

23. An ongoing project supported by the Government of the Netherlands has proved to be quite useful in examining the overall climate change impact assessment of the agriculture sector and for the preparation of a national climate change action plan. Thus, at the time of launching the project, Mongolia already had some experience of scientific study of climate change-related issues and there existed some capacity within the country for dealing with these issues.

V. INSTITUTIONAL FRAMEWORK

24. The Ministry of Nature and Environment, which was created a few years ago, has hosted the project. The ministry operates through agencies for the implementation of its policies. The National Agency for Hydrology, Environment and Meteorology (NAHEM) was identified as the focal agency

for this project. It was also the nodal agency for the earlier projects. The National Project Coordinator for the project is also the focal point for the Convention on Climate Change. Mongolia's commitment to sustainable development is confirmed by the fact that the Prime Minister heads the Ministry of Sustainable Development and is supported by an independent secretariat, the Secretariat for Sustainable Development. There is a national strategy for sustainable development and a Vision 21 document indicating clear commitment and the perceived action agenda for sustainable development. The National Climate Change Committee (NCCC) was also established as a part of the project. The minister chairs the Committee for Nature and Environment.

25. Mongolia's desire to work scientifically towards ensuring sustainable development and to take into account the growing environmental concerns is evidenced by the strong institutional framework within which this project has been initiated and implemented. Incidentally, during the implementation of the project, Mongolia underwent a change of Government and this, as expected in any developing democracy, may have slowed the process of integration of the environment into the development policy and planning although it has in no way diluted the resolve of the Government to address sustainable development and climate change issues aggressively.

VI. EVALUATION OF PROJECT ACTIVITIES

26. The project consisted of eight activities, including the preparation of the initial national Communication report. In the following section, each of the eight project activities will be examined and assessed to determine whether the expected outputs have been delivered, partially delivered or not delivered. At the end of this assessment, the entire project will be evaluated in the context of the terms of reference for this evaluation and finally the project will be rated in terms of overall performance. It should be noted that in view of a wider discussion of the above national circumstances, it may not be necessary to examine every output at length. Particular inference was drawn on objective criteria and based on impressions drawn during the course of interviews and field visits.

Activity 1: Establishment of the project management team and the national study teams

27. It was expected that during this activity, a national project coordinator would be appointed and a project management team and a technical expert team would be established. The National Project Coordinator of the project is the climate change focal point of the Government of Mongolia. He has been associated with all climate change projects undertaken in Mongolia so far and worked as the Scientific Secretary in the National Institute of Hydrology, Meteorology and Environmental Monitoring. He is now the Director of the Administration and International Cooperation Division of the National Agency for Hydrology, Environment and Meteorology and was the most suitable official to be the National Project Coordinator. The Project Manager is a designated Senior Scientist, Water Resources, Water Quality and Climate Change in the Institute of Meteorology and Hydrology. She has also been associated with earlier projects. Besides providing management support to the project, she was involved in many of the scientific activities, such as the preparation of the greenhouse gas inventory and mitigation issues and in assisting in the coordination of the entire project. These two experts constituted the core of the project management team. Besides, subject matter experts and representatives of the participating scientific institutions were co-opted for specific functions. These stakeholders included the universities, particularly the agriculture and technical universities, the Institute of Geo-ecology, the ministries of infrastructure, energy and environment and representatives from private consulting companies with experience in energy and environment as well as climate change issues.

28. The technical expert team was drawn from the participating institutions, some of which are mentioned above. This team included experts from the private sector as well as government institutions and autonomous government bodies. It also included some Mongolian students from foreign universities. The technical expert team had divided itself into five sub-teams, namely, the project management team, the policy and strategy team, the greenhouse gas inventory team, the greenhouse gas mitigation team and the adaptation assessment team. These teams met separately as

often as needed and the technical expert team and the project management team would meet as frequently as necessary to conduct their business.

29. With regard to the issue of nomination to the technical expert team, it was inferred that some other institutions such as institutes of botany and biology could have been involved. Some participation from industry, particularly the mining industry and the coal industry could have been ensured. Similarly, the awareness and information component of the project appeared relatively weak. The project management team could also have invited some non-governmental organizations, particularly those engaged in development and management of rangelands and livestock, to participate. This would have given the non-scientific inputs to the project a more pragmatic outlook. The present constitution of the project management team and technical expert team is heavily biased towards the scientific community. It cannot be ignored that though the Initial National Communication is a government response, it must have both strong scientific foundations and stakeholder support. Therefore, non-governmental institutions and academics from subjects other than the concerned scientific sectors could have been involved to give broader legitimacy to the outputs of the project.

Activity 2: The greenhouse gas inventory

30. This was one of the most important tasks of the project. The three projects on climate change implemented prior to the present project had created a good knowledge base for building up further information on this activity. The most crucial task to be undertaken under this activity was to prepare local emission factors, particularly in the forestry, land-use change, agriculture and waste sectors. The major expected outputs emerging from these activities were a comprehensive greenhouse gas inventory based on the 1994 data, identification of the shortcomings and gaps of the IPCC guidelines, measurement and development of new emission factors for specific activities, recommendations on areas of targeted research to improve future inventories and capacity-building activities for developing sustainability of knowledge and expertise.

31. It should be mentioned that this activity was quite important for Mongolia, particularly within the context of development of new emission factors. It had been planned that IPCC default values would be customized on the basis of local factors. It turned out, however, that whereas local data were available, further investigations for the customization of emission factors could not be undertaken. Experts had data and knowledge in their own fields and the project helped them to further organize and arrange data, improve availability and upgrade data. However, the crucial requirement for developing local emission factors in important areas such as pastoral animal husbandry, coal, enteric fermentation and steppe fire could not be met in a comprehensive manner. It was reported that this would have required funds for investigation. Such funds, however, had not been provided for in the budget. It is observed that this was an important objective of the project. As such, the project should either have originally provided for field investigations or such resources should have been made available through a complement of other projects. Consequently, the project teams continued to use IPCC values with slight local amendments, thereby affecting the accuracy of the data.

32. With regard to the identification of the shortcomings and gaps of the IPCC guidelines, the project has been able to identify specific areas which require further work and targeted research. This is particularly relevant in the case of coal mining, livestock methane emissions and traditional biomass combustion. There is thus a strong need for further work on these specific issues. The project was able to add value to the existing knowledge base by involving professional institutions and updating data. This activity also involved stakeholders in different scientific fields, including students, thereby increasing their knowledge base and building capacities for further work on climate change issues. Mongolia is also a party to a regional GEF project on capacity-building for improving the quality of the green-house gases inventory for the Common Wealth of Independent States and Mongolia and many of the gaps left in the project can be filled through this project.

Activity 3: Programmes to address climate change and its adverse impact,
including abatement and sink enhancement

33. On the basis of the updated greenhouse gas inventory, the project had to identify, analyze, assess and update a range of potential mitigation options so that a national strategy and plan for viable measures to abate the increase in greenhouse gas emissions and to enhance removal by sinks could be developed. The ALGAS study had focused on energy and forestry, hence this project had to concentrate on agriculture and land-use changes for analysing least-cost mitigation options. The major outputs are the identification and assessment of least-cost mitigation options, recommendations on reducing the number and intensity of emissions from various sources and the enhancement of sinks and preparation of a national mitigation strategy.

34. It may be noted that Mongolia, as a developing country, has no commitments. Its peculiar national circumstances, however, do warrant introspection into mitigation issues. Substantial per capita emissions, an exceptionally large livestock population, heavy reliance on bio-mass burning and on the use of low-grade coal as well as a heavy energy-consuming copper mining industry are some of the reasons why Mongolia needs to have a well considered mitigation strategy in place.

35. The main source of air pollution and greenhouse gas emissions in Mongolia is the high level of energy production. The energy sector contributes roughly 64 per cent of Mongolia's greenhouse gas emissions. Consequently, any mitigation strategy in Mongolia must concentrate heavily on the energy sector. The analysis carried out under the project appears well organized and focused. At some points, however, the absence of physical investigations, which could have helped in evolving a more focused strategy, was noted. Specific discussions on the technology scenario and the selection of appropriate technologies for Mongolia are missing in the document. In this context, a publication entitled *Greenhouse Gases Mitigation Potential in Mongolia* edited by the Project Manager and others is more informative and analytical. There is a wider discussion on technology options and the economic and social dimensions of available technologies in various sectors.

36. In the power sector, central energy systems with coal-fired combined heat and power plants and other provincial enterprises are major contributors to greenhouse gas emissions. Only two options, rehabilitation and refurbishment of existing central heating plants and automation of internal heating were considered. After a cost-benefit analysis, it has been shown that none of the options considered are economically viable. The focus in this exercise has been restricted to central heating plants and their limited environment. Analysis of construction-related issues, urban development and settlement-related issues would also have probably helped in adopting a more comprehensive approach to this problem. In the *Green House Gases Mitigation Potential in Mongolia* publication, some of these issues have been examined. Issues relating to housekeeping and mitigation options have been evaluated. There is a detailed analysis of issues and in-depth discussion on options, particularly in the above-mentioned report. However, a corresponding discussion on the enhancement of sinks is lacking. The national mitigation strategy emerging out of the project appears detailed and thoughtfully conceived. It was reported that the strategy would be integrated into the National Strategy for Sustainable Development.

Activity 4: Policy options for monitoring systems and response strategies for impacts

37. The project had envisaged a comprehensive vulnerability and impact assessment on terrestrial ecosystems such as agriculture, forestry and land-use change, water resources, human health, permafrost and snow cover, pests and diseases, using the 1994 data.

38. The major outputs of the activity were to include generation of baseline data for assessment, a comprehensive vulnerability assessment and policy options for adequate monitoring systems and response strategies for climate change impacts on terrestrial ecosystems. One of the outputs of this project was a very elaborate study on the impacts of climate change on Mongolia. Substantial efforts went into the publication of this document. As mentioned earlier, the peculiar bio-geographical circumstances make Mongolia quite vulnerable to potential climate change. Enough evidence exists to prove Mongolia's vulnerability, particularly to temperature changes and snow cover. The country depends heavily on pastoralism and livestock development. It also has a high demand for fossil energy.

39. The project facilitated a detailed study of the likely impacts of climate change on the natural resource base and agriculture, including animal husbandry. The study fails to establish vulnerability and impact indices despite the fact that this parameter could give a relative position of the vulnerability of various elements of Mongolia's natural resource base. One of the reasons for failing to do so could be the heavy reliance of the country on a single economic activity, livestock-breeding. It was therefore probably considered futile to undertake any further work on the development of vulnerability indices. The evaluator is of the view that a vulnerability study on possible alternatives in economic activities could help in developing alternative scenarios. A more detailed work on the exposure of the industrial sector to possible impacts could also have been relevant. As mentioned earlier, meat and leather processing and wool and cashmere production are important contributors to the country's economy and it would have been very useful to determine how climate change would affect these subsectors.

40. Climate change in Mongolia will have extreme effects on the availability of surface water. The project dwells at some length on the impact of climate change on the availability and flow of water in the major rivers of the country on the basis of studies on precipitation and melting of snow. As the country is entirely dependent on rains, the availability of surface water, particularly during summer, is extremely important to agriculture. Unfortunately, no work seems to have been done on the availability of and likely impacts of groundwater in Mongolia. In fact, the project does not appear to have examined the groundwater situation at all.

41. Another significant issue which the project appears to have overlooked is the impact of climate change on human and animal health. No empirical study appears to have been undertaken by the project to build on the existing knowledge base of the impacts on human health. These issues are of significant relevance in a developing country.

42. A large livestock population exerts heavy pressure on grazing lands. Frequent droughts lead to soil erosion and consequent desertification. Little research is available in Mongolia on how to distinguish between erosion due to over-grazing and erosion due to dry conditions. An empirical study of the specific conditions existing in Mongolia will probably help to better understand erosion-inducing factors and the consequent policy response. A more elaborate study on the vulnerability of forests also appears desirable and could be a topic for future study. The gender dimension of the impacts also seems to have been overlooked. Mongolia does not appear to have acute gender discrimination as witnessed in other developing countries. Gender-specific occupations still exist and an analysis of the likely impacts of climate change on these occupations would be desirable.

Activity 5: Policy framework for implementing adaptation measures and response strategies

43. The objective of this activity was to identify, analyze, assess and evaluate a range of potential adaptation options so that a national strategy with viable measures could be developed, formulated and implemented in order to minimize the impacts of climate change on the country. Two major outputs of the proposed activity were the identification and assessment of stage 1 options and the development of a policy framework for implementing adaptation measures and response strategies.

44. The project also outlines in tabular form adaptation measures for avoiding various impacts at the end of each discussion on impacts. Some commendable analytical work has been done on the examination of the adaptation options. Little scientifically-based discussion, however, has been included and the recommendations are therefore largely subjective. A screening matrix has been used to examine the adaptation options and evaluate their suitability for implementation. A future project may specifically address some of the critical subsectors. The present work may suffice for the initial policy development.

45. As a policy response to the likely impacts of climate change, the Government of Mongolia approved the National Action Programme on Climate Change. The programme establishes implementation strategies for priority response measures and provides an opportunity to integrate climate change concerns into other development plans and programmes. The action programme has been developed under the Dutch project referred to earlier. The action programme has also included

several project ideas which need to be further developed. It also identifies present barriers to adopting adaptation and mitigation measures and suggests ways to overcome them. Mongolia has a good legislative framework for environmental protection and many of the climate change concerns have been addressed under these laws. There is a state policy on the environment that was developed in 1997. An environmental action plan was prepared in 1995 and several other action plans on other environmental issues have subsequently been prepared and are in force. In a nutshell, a fairly dynamic legal framework is in place to address critical issues with respect to climate change.

Activity 6: Building capacity to integrate climate change concerns into planning

46. The legal framework for dealing with many of the concerns stated above already exists in Mongolia. The institutional framework for the smooth operation of this framework is, however, of crucial concern. The National Climate Change Committee, headed by the Minister of Nature and Environment, has been constituted with a view to coordinating and guiding national activities and measures aimed at climate change adaptation. This is a body with broad representation which includes all concerned government departments. In order to integrate climate change mitigation and adaptation activities into sectoral plans and other national plans, there are several mechanisms that are mostly in the form of integrated plans or concepts. What is more important, however, is how well these issues are accepted by other sectoral ministries and departments.

47. There was an impression that sensitization of the concerned ministries was still desirable and that a sustained effort was needed. Even within the Ministry of Nature and Environment, issues relating to desertification and biodiversity raised more concerns. The linkages between the three major conventions, the Convention on Climate Change, the Convention on Biological Diversity and the United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (the Convention to Combat Desertification) need to be better understood.

48. There appears to be a need for an inter-ministerial institutional mechanism that could facilitate better understanding of the three conventions and elicit points of actions required to bring about synergies and effective domestic action. Integration of environmental issues into the planning process as well as in fiscal policy was even more difficult. The first need is to incorporate economic considerations into environmental matters and then to logically move towards the adoption of economic instruments for mitigation efforts. The adoption of an appropriate technology policy and the corresponding financial support is highly desirable in Mongolia as the country does not have a sufficiently strong financial position to support many of the activities identified in the above plan. The pain of transition from a socialist economy to a market economy was quite visible. The energy sector seems to be the most likely and best-suited subject for such a review of the technology policy. The international community should be encouraged to help Mongolia in improving its energy and mining sectors.

Activities 7 and 8: Programme related to sustainable development, research and public awareness

49. The project was also expected to develop a cost-effective public awareness programme and a web site. Raising of public awareness is one of the most important operational actions envisaged under the project. Due to the typical demographic and geographical conditions of Mongolia, a well conceived awareness programme should be an important priority for the Government. An interesting feature of this activity was the involvement of university students in project implementation, thereby creating capacities for the future as well as making these students carriers of information for their immediate environment. It would, nevertheless, have been more important to make other stakeholders such as the pastoralists, non-governmental organizations, decision makers, academicians and the scientific community from other disciplines equally aware and conscious of their environment and of the likely impact of climate change on it. These activities are only beginning. It is important to mention that with the completion of the project, these activities can be sustained only when financial inflows for them are assured through the government budget or other financial mechanisms.

50. With regard to research in this new discipline, the project has been able to identify several new areas where research and systematic observation would be needed. In fact, this is the weakest area of climate change work in Mongolia. Firstly, there is a scarcity of good institutions. Secondly, the project has revealed several areas of concern where specific local work needs to be done, particularly in the context of Mongolia's demographic and bio-geographical features. The most important areas identified during this evaluation for further investigation and research were the customization of emission factors, the development of vulnerability and impact indices, impact studies on surface water and groundwater and studies on the impact of climate change on the health of humans and livestock. Systematic observations, particularly in the case of point source emissions and air quality monitoring, were found desirable. There is also a strong need to incorporate more institutions into future climate change programmes.

51. The three documents generated out of the project besides the report have discussed and analyzed the special needs of Mongolia in terms of financial and technological gaps and have also identified critical project ideas to carry on the present work for better understanding of climate change issues in the Mongolian context. These ideas now need to be expanded and translated into feasible projects.

52. Activities 1 to 8 all contributed to the final preparation of the initial national communication. The document was approved at the highest institutional level in the country before its submission to the Convention on Climate Change.

VII. EVALUATION OF PROJECT PERFORMANCE ACCORDING TO THE TERMS OF REFERENCE

53. This section evaluates specific aspects given in the terms of reference based on the assessment of the above-mentioned activities.

A. Quality and usefulness of project activities

54. This concerned the assessment of the quality of work and its usefulness in meeting country-specific needs. The examination of activities 1 to 8 above is sufficiently detailed to infer that the project team has been able to deliver a good quality product which is very relevant for country-specific needs. Areas where further work needs to be done have been identified either in the main report or in the supporting documents. The evaluator, in assessing the above activities, has also highlighted some areas of relevance. On the whole, it appears that a high-quality product has been delivered.

B. Impact of the project activities on the initial national communication

55. GEF is the interim financial mechanism of the Convention on Climate Change and therefore has the responsibility of supporting enabling activities under the Convention. It is a multilateral financial institution supporting project initiatives in its focal areas. It supports incremental costs of project initiatives which deliver incremental global benefits. The project has generated several project ideas which will be very significant in dealing adequately with the impact of climate change in Mongolia. These projects can be considered for GEF financing. UNEP has been taking a responsible interest in supporting activities in developing countries intended to build their capacities in dealing with the impacts of climate change. This project has definitely strengthened Mongolia's capacity to deal with such impacts. It is considered to be very relevant and appropriate to the mandate of UNEP.

C. Enhancement of the capacities of local experts

56. At the time this project started, Mongolia had already implemented a few climate change-related projects. Local capacities had thus been developed in the country. The project further helped to strengthen those capacities and to further identify new potential experts. The involvement of students was a commendable innovation in the project as it attempted to interest young people in climate change research and investigation. Mongolia is a developing country in which scientific

capacities were in the past retained within the Government with little involvement of local institutions. This project, however, has provided an opportunity to develop and strengthen some expertise in non-governmental institutions and autonomous educational institutions. It is felt that there is some scope to include more scientific institutions in the Government and professionals outside the Government such as sociologists and community workers. Development institutions should also be included.

D. Development of the capacities of local institutions

57. There has been an excellent development of the capacity of the institutions which were involved in the project. In Mongolia, much of the industrial activity is in the private sector and companies were involved in the data collection and projection work of the project, particularly in the mitigation exercises. The project provided companies with an excellent opportunity to gain skills in the focal area of climate change. In each of the technical areas, the technical teams organized awareness-creation and technical workshops. Similarly, institutions in the agricultural sector that were involved in the project also provided excellent opportunities to their experts for developing and enhancing their own skills in the focal area. All activities were initiated and concluded with stakeholder workshops which helped substantially in raising the levels of knowledge and filling the gaps in the understanding of important issues. Sector experts, the scientific and academic community and researchers attended these workshops.

E. Areas for future assistance

58. Areas in which further work needs to be done concern the enhancement of capacities in the country and the creation of a more country-specific information base for future assessments. UNEP would do well to support some of these activities such as those relating to systematic observation, vulnerability assessment and future impacts on crucial subsectors. It could also assist in customizing emission factors. The GEF project on Eastern Europe including Mongolia is currently performing a number of these tasks.

F. Review of monitoring and evaluation procedures

59. The project has established a monitoring and evaluation mechanism and followed UNEP's established reporting guidelines. Monthly reports were produced for internal institutional reviews but no newsletter was produced. The meetings of the National Climate Change Committee were not as regular as envisaged in the project document. Review at the technical level appears to have been more regular than at the administrative and highest institutional levels. Lateral reviews in other concerned ministries and institutions were perhaps not as frequent as they should have been. This is also a measure of the involvement of other ministries in the project, a phenomenon witnessed in most other developing countries. The role and status of the National Climate Change Committee is not clear. A more pragmatic linkage among the focal points of the three major conventions, namely, the Convention on Biological Diversity, the Convention to Combat Desertification and the Convention on Climate Change along the lines suggested above is also desirable.

G. Organizational structure and financial systems

60. The organizational structure of the project was well designed. The strength of the implementation of the project derived from the competence of the National Coordinator and the Project Manager. Both are extremely motivated, enthusiastic and pleasant officials who know the subject well and who, having been associated with similar projects in the past, have developed appropriate skills to deal with more complex projects. There appeared to be an organic relationship within the National Agency for Hydrology, Meteorology and Environment Monitoring. The former Director-General of the agency, during whose tenure most of the project was implemented, was a well respected and knowledgeable person and his contribution to the project's implementation was significant. The Government recognizes the critical nature of these issues and the ministry therefore appreciates the relevance of the exercise. It, however, needs to build a comprehensive approach to all international agreements. The Government definitely lacks the financial resources to undertake potential activities which may evolve from this project. It will therefore have to rely heavily on international funding.

61. Throughout the present evaluation report, reference has been made to many ideas which need to be translated into projects. The financial management of the project appears to have been efficient. The institutional arrangement for releasing funds directly to the National Project Coordinator facilitated the availability of funds. Mongolia is a country with unique bio-geographical features and the involvement of UNEP in the project provided it with a good opportunity for furthering its scientific work on climate change issues. UNEP, through its Task Manager, lent a helping hand to the project team. The National Project Coordinator acknowledged that the Task Manager's visit to Mongolia on two occasions and interactions with him by telephone were very fruitful and helped the project staff to deal with many unfamiliar issues.

H. Technical and operational constraints

62. The few constraints observed in the implementation need to be mentioned. Firstly, lack of subject matter specialists in the country was the biggest constraint. Secondly, the small number of institutions within the country that were initiated into the focal issues necessitated orientation and training of personnel in identified institutions before the main activities could start. Initial problems in project management and a three-month delay in getting the technical review were among the reasons for the extension of the project. Most of these constraints could not have been dealt with through alternative methods as capacity constraints are bound to arise in the initial exposure. In a developing country, a project of this kind must take into account systemic deficiencies and capacity constraints at the planning stage.

I. Integration into the national policy

63. The project did not start up in a vacuum as some projects had already been implemented and the Dutch Project is still continuing. The results of these earlier projects have already started feeding into policy-making. Most importantly, emphasis should be put on the mainstreaming of the concerns which have emerged from this project. There is a visible sensitization of decision makers. The sensitization, however, must be extended to other ministries and the political decision-making apparatus. A reasonable legal framework for dealing with sustainable development issues has been developed in the country over the last few years. Legislation for dealing with air and water pollution is in place. There is an environment action plan besides the National Strategy for Sustainable Development. The results of the project must now be incorporated into these documents. Similarly, there are action plans for biodiversity conservation and combating desertification. These action programmes must also integrate the results of the project so that a comprehensive natural resource conservation strategy is developed.

64. Energy production, copper mining and livestock development are the major contributors of greenhouse gases in Mongolia. Consequently, unless the results of this project adequately influence the sectoral policies, the objectives of the project will not be achieved. Public awareness and the involvement of stakeholders are of critical importance for the sustainability of the project. A proper programme start-up under the awareness-creation project has been slightly delayed. The Government must find resources for building up a long-term awareness-creation programme. Intergovernmental institutions must help Mongolia to take up the projects identified for building a country-specific database and to establish relationships between various environmental, economic and social factors. A dedicated web site and a newsletter could not be produced but are in the process of being started under the GEF project in Eastern Europe including Mongolia.

J. Gender

65. With regard to the involvement of women in the project, the Project Manager was of course one of the most prominent women participants in the project. There did not appear to be any conscious effort to involve women scientists or academicians in the project. This, however, cannot be blamed on the project implementation team given that women in developing countries are still struggling to find their rightful place in the scientific professions. Women in Mongolia are largely involved in the health education and service sectors of the economy. The project did not make any special efforts to study the impacts of climate change on these subsectors with a view to studying the position of women in them.

66. It can be noted from the above assessment that the project has significantly helped Mongolia to fulfill its international commitment and to create scientific and technical capacities in Mongolia. The project's results will definitely contribute to the global efforts to deal with climate change issues. Though Mongolia, being a non-Annex I country, has no commitments, it offers opportunities for research and study of unique ecosystems. It may be noted that Mongolia contributes more greenhouse gases per capita than the world average. The project has created a basis for a long-term programme for scientific work and policy-making in Mongolia. It is now up to the Government of Mongolia and intergovernmental bodies to start up projects which address the specific issues identified in the project.

VIII. RATING OF PROJECT PERFORMANCE

67. On the basis of above assessments and evaluation, the ratings are given below.

A. Timeliness

68. The project was supposed to be completed within two years of its start-up. It was signed on 12 November 1998. It should have been completed by 12 November 2000. It was, however, completed in November 2001 with a one-year delay. Some of the delay can be explained by the late start-up due to constraints related to initial capacities and institutional development. Some delay has been attributed to the three months taken by UNEP to provide a detailed technical review of the draft national communications. Nonetheless, the project's completion was delayed and it has been rated 2 on the provided scale, taking into account that one of the main conclusions of the overall GEF review of the Climate Change Enabling Activities is that developing countries have on average taken three years to complete their Initial National Communication. Recognizing that the earlier expectation to complete these projects in two years was misplaced, the GEF review recommended that in future, all enabling activities related to the preparation of the national communications have a three-year project duration.

B. Achievement of results

69. The evaluation made above gives a fairly adequate description of the quality of the outputs. It may be concluded that most of the planned outputs, except those mentioned in earlier sections, have been achieved. The project could be rated 2 for the attainment of outputs. All activities were completed as planned and the project could be rated 1 for the completion of activities. The project had been allocated \$239,500. No additional funds were either requested or allotted. Some of the outputs such as field investigations for the development of local emission factors and vulnerability indices could not be fully achieved. This indicates shortage of funds and an error in the original estimate. Since the project has been completed within the assigned budget, it could be rated 1.

70. The project has had a reasonable impact on the scientific community and some of the industrial subsectors. It needs to have a greater impact on stakeholders who can play a significant role in climate change adaptation and mitigation. This activity could be rated 2. With regard to sustainability, the project has identified institutions in and outside the Government and has been able to sensitize the scientific community on climate change issues. It has also helped to further consolidate the legal framework and policy development in the country. It has, however, not yet created enough awareness of the salient features. These factors should ensure the sustainability of the project's objectives. It can be rated 2 for sustainability considerations. The success of the implementation of the project has been summarized in the table below.

Table: Performance rating

Rating factor	Score
Attainment of outputs	2
Completion of activities	1
Project executed within the budget	1
Cost-effectiveness of the project	2

Impact of the project	2
Sustainability	2
Timeliness	2
Overall rating	2

71. It can be observed that except the low rating on timeliness, all other parameters have been given a rating of between excellent and very good. In the evaluator's view, the project could be given an overall rating of 2, i.e., very good.

IX. LESSONS LEARNED

72. The evaluation exercise has examined the implementation of the project in detail and the lessons learned for future implementation are summarized as follows:

(a) The project did not establish vulnerability and impact indices despite the fact that these parameters can indicate the relative vulnerability of the various components of Mongolia's natural resource base. One of the reasons for failing to do so could be the heavy reliance of the country on a single economic activity - livestock-breeding and therefore the perception that any further work on developing vulnerability indices would be futile;

(b) The gender dimension of the impacts also seems to have been overlooked. Mongolia does not appear to manifest any acute gender discrimination as witnessed in other developing countries. There are, however, gender-specific occupations and the likely impact of climate change on these occupations is important;

(c) Sensitization of the concerned ministries is desirable. The linkages between the three major conventions, the Convention on Climate Change, the Convention on Biological Diversity and the Convention to Combat Desertification need to be understood better. An inter-ministerial institutional mechanism needs to be developed, which would facilitate better understanding of the three conventions and elicit points of actions required to bring about synergies and effective domestic action. The integration of environmental issues into the planning process and into the fiscal policy is difficult and the first requirement is to incorporate economic considerations into environmental matters and then logically move towards the adoption of economic instruments for mitigation efforts.

X. RECOMMENDATIONS

73. The following recommendations are made:

(a) The awareness and information component of the project appeared relatively weak as the present constitution of the project management team and the technical evaluation team is heavily biased towards the scientific community. Non-governmental organizations and academics from disciplines other than the concerned scientific sectors need to be involved to give broader legitimacy to the outputs of the project. Some participation of industry, particularly the mining and coal industries could also be encouraged;

(b) The crucial requirement of developing local emission factors in important areas such as pastoral animal husbandry, coal, enteric fermentation, steppe fire, etc., has not been met. It was reported that this would have required funds for investigation. Such funds had not been provided for in the budget. As this is an important objective of the project, additional resources need to be raised to achieve this objective;

(c) The project considered only two options - the rehabilitation and refurbishment of existing central heating plants and the automation of internal heating. The focus in this exercise has been restricted to central heating plants and their limited environment. A more comprehensive approach would be the inclusion of analysis of issues related to construction, urban development and settlement;

(d) It is recommended that a vulnerability study on possible alternatives in economic activities could help in developing alternative scenarios. More detailed work on the exposure of the industrial sector to possible impacts could also have been relevant. Processing of livestock produce is an important contributor to the country's economy and information on the impacts of climate change on this subsector would be very useful. A more elaborate study on the vulnerability of forests also appears desirable and could be a topic for future study;

(e) A significant issue that the project appears to have overlooked is the impact of climate change on human and animal health. Little empirical study appears to have been undertaken by the project to build on the existing knowledge base of the impacts on human health. This issue needs to be addressed;

(f) An important activity of this project was the involvement of university students in the implementation of the project, thereby creating capacities for the future and making the students carriers of information for their immediate environment. It is, however, equally important that other stakeholders such as the pastoralists, non-governmental organizations, decision makers, academicians and scientists from other disciplines are made aware and conscious of their environment and the likely impact of climate change on it. It is apparent that after the completion of the project these activities can be sustained only when financial inflows for them are assured through the government budget or other financial mechanisms;

(g) The most important areas identified during the evaluation for further investigation and research are the customization of emission factors, development of vulnerability and impact indices, impact studies on surface water and groundwater, impact studies on human and animal health, etc. Systematic observations, particularly in the case of point source emissions and air quality monitoring, are desirable. There is also a strong need to involve more institutions in future climate change programmes.

XI. CONCLUSION

74. The Mongolia project has been able to create a solid foundation for further work on scientific and policy issues. It has been able to clearly define the issues which are relevant within the national context and has identified potential areas for further research. It has created a framework for subsequent mainstreaming of climate change issues in the national policy and legal framework. It has enhanced capacities in the scientific and research community of Mongolia to appreciate climate change issues and further work on them in the context of its results. The project has further highlighted the need for a stronger effort of creating awareness among the stakeholders and decision makers. The sustainability of the project will entirely depend upon the Government's concern for following up the results of the project, its efforts to ensure lateral percolation of the results of the project into all arms of the Government for decision-making. It will also depend on the Government's ability to develop follow-up projects for further support from intergovernmental institutions and their willingness to help a developing country to achieve self-sufficiency in dealing with the potential impacts of climate change.

75. It is also important to establish better working arrangements between the National Climate Change Committee and the GEF focal point, the latter being located outside the sphere of climate change activities in the country. This led to some confusion on the follow-up of this project where strategic recommendations forwarded by the National Climate Change Committee was overlooked by the GEF focal point.

TERMS OF REFERENCE OF THE EVALUATION

1. THE SCOPE OF THE EVALUATION

The scope of the evaluation is as follows:

- (a) To compare the planned outputs of the project with the actual outputs and assess the steps taken to follow up in the country in view of maintaining the capacity built;
- (b) To highlight the lessons learned from this project in meeting the longer-term objectives of UNEP, GEF and the United Nations Framework Convention on Climate Change.

2. TERMS OF REFERENCE OF THE EVALUATION

- (a) Analyze the quality and usefulness of the planned and current project outputs and determine how these contribute to the attainment of the results and overall objectives identified in the approved project proposal for Mongolia to meet its commitments under the Convention on Climate Change. It should determine whether the project has been able to meet the identified needs and problems in Mongolia;
- (b) Establish whether the 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;
- (c) Measure the impact of the planned and current results of the first activity of preparing the initial national communication to the Convention on Climate Change and determine the usefulness of the results to the GEF-funded “Enabling Activities to Prepare National Communications to the United Nations Framework Convention on Climate Change” projects;
- (d) Assess the quality of the consultants and experts used in the implementation of the various project components, identify the lessons learned and provide recommendations on how such involvement could be improved;
- (e) Assess the role and the impact the project had in building the capacity of the participating national institutions in the area of reporting to the Convention on Climate Change on climate change and assess the long-term sustainability of the benefits of this capacity-building;
- (f) Determine the future assistance required from UNEP. Identify the lessons learned and provide recommendations that might improve the delivery of similar assistance in similar projects;
- (g) Review the adequacy of the monitoring and evaluation system developed to supervise and implement the project and, on the basis of the lessons learned, provide recommendations that could improve current monitoring and evaluation procedures;
- (h) Review the effectiveness of the organizational structure and of the management and financial systems which affected the implementation of the project. This will be complemented by a review of the staffing and administrative arrangements and operational mechanisms with emphasis on their coordination within and outside of UNEP. The evaluator will solicit the views of relevant UNEP and GEF staff members on the usefulness of the project in enhancing the work of UNEP and GEF in the area of climate change;
- (i) Identify any technical and operational constraints encountered during the implementation of the project, 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;

(j) Identify and assess any measures that national institutions have initiated to integrate the results and recommendations of the initial national communication into national policy development and planning. The evaluator should also make specific recommendations regarding follow-up measures that would enable longer-term benefits and sustainability of project activities;

(k) Determine the potential contribution of the project to the furthering of the objectives of the relevant global, regional and national environmental assessments, policy frameworks and action plans and to strengthen the Convention on Climate Change;

(l) Determine the extent to which gender considerations were incorporated into the various technical and operational aspects of the project;

(m) Propose concrete suggestions or recommendations to the national executing agency and UNEP and assist them in undertaking them as appropriate.

The success of the project should be rated on a scale from 1 to 5 for the following seven aspects of project performance:

- (a) Timeliness;
- (b) Achievement of objectives and results and attainment of outputs;
- (c) Completion of activities;
- (d) Project execution within the budget;
- (e) Cost-effectiveness of the project;
- (f) Impact created by the project;
- (g) Sustainability of the activities undertaken under the project.

Annex II

LIST OF INTERVIEWEES

1. Dr. D. Dagvadorj Project Coordinator
2. Dr. P. Batima Project Manager
3. Mr. Ekhtushin Director-General, National Agency for Hydrology, Meteorology and Environment
4. Dr. L.Natsagdorj Institute of Meteorology and Hydrology
5. Dr. J. Dorjpurev
6. Dr. Adyasuren Ministry of Nature and Environment
7. Dr B. Khuldorj National Programme Coordinator, Sustainable Development of 21st Century Mongolia
8. Mr.G.Damdinsuren Deputy Director, Energy Department, Ministry of Infrastructure Development

Annex III

LIST OF PROJECT MEETINGS

1. National workshop on the enabling activities of the initial national communication related to the United Nations Framework Convention on Climate Change (UNFCCC) in Mongolia, 19-10 January 1999, Ulaan Baatar, Mongolia.
2. Meeting for the members of the project management team and the national technical experts, 20 January 1999, Ulaan Baatar, Mongolia.
3. National workshop on preparation of greenhouse gas inventories: Methodology and database (Project activity #3), 26 August 1999, Ulaan Baatar, Mongolia.
4. National workshop on programmes to address climate change and its adverse impacts, including abatement and sink enhancement (Project activity #3), 30 September–01 October 1999, Ulaan Baatar, Mongolia.
5. National workshop on programmes related to sustainable development, research and public awareness, etc. (Project activity #7), 13 October 1999, Ulaan Baatar, Mongolia.
6. National workshop on building capacity to integrate climate change concerns into planning (Project activity #6), 16 November 1999, Ulaan Baatar, Mongolia.
7. National workshops: (1) on policy options for monitoring systems and response strategies for impacts: impact assessment results and perspectives; (2) on policy options for monitoring systems and response strategies for impacts: adaptation needs (Project activity #4), 22-23 December 1999, Ulaan Baatar, Mongolia.
8. National workshop on the policy framework for adaptation measures and its implementation strategies, (Project activity #5), 3 May 2000, Ulaan Baatar, Mongolia.
9. National workshop on policy framework for greenhouse gas mitigation measures and its implementation strategies (Project activity #3), 16 June 2000, Ulaan Baatar, Mongolia.
10. Local workshop on public awareness of climate change concerns (Project activity #7), 14-16 August 2000, Altai, Gobi Altai, Mongolia. Participating provinces: Uvs, Khovd, Zavkhan, Bayankhongor, Uburkhangai, Gobi Ajtai.
11. National seminar on provision of related information (Project activity #8), 18 September 2000, Ulaan Baatar, Mongolia.
12. National workshop on the draft initial national communication, 12 December 2000, Ulaan Baatar, Mongolia.
13. Final national workshop on the initial national communication, 25 March 2001, Ulaan Baatar, Mongolia.
