

EVALUATION REPORT OF PROJECT GEF/2200-96-15  
ECONOMICS OF GREENHOUSE GAS LIMITATIONS - PHASE I:  
ESTABLISHMENT OF A METHODOLOGICAL FRAMEWORK  
FOR CLIMATE CHANGE MITIGATION ASSESSMENT

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## LIST OF ACRONYMS

AsDB	-	Asian Development Bank
AIJ	-	Activities Implemented Jointly
ALGAS	-	Asia Least-cost GHG Abatement Strategy
CDM	-	Clean Development Mechanism
DANIDA	-	Danish International Development Agency
FCCC	-	Framework Convention on Climate Change
FPMB	-	Fund Programme Management Branch (now the Budget and Funds Management Service)
GEF	-	Global Environment Facility
GHG	-	Greenhouse gases
IDEE	-	Instituto de Economia, Energetica
IPCC	-	Intergovernmental Panel on Climate Change
LBNL	-	Lawrence Berkeley National Laboratory
PDF	-	Project and Preparation Development Facility
SADC	-	Southern Africa Development Cooperation
SBSTA	-	Subsidiary Body for Scientific and Technological Advice (UNFCCC)
UCCEE	-	UNEP Collaborating Centre on Energy and Environment
UNDP	-	United Nations Development Programme
UNEP	-	United Nations Environment Programme
UNEP IE	-	United Nations Environment Programme Industry and Environment (now the Division of Technology, Industry and Economics)
UNFCCC	-	United Nations Framework Convention on Climate Change

## SUMMARY

1. The project Economics of Greenhouse Gas Limitations - Phase I : Establishment of a Methodological Framework for Climate Change Mitigation Assessment has been executed by the United Nations Environment Programme (UNEP) through the UNEP Collaborating Centre on Energy and Environment (UCCEE), Riso National Laboratory, Denmark, with financial support from the Global Environment Facility (GEF). Project implementation started in 1996 and was scheduled for completion at the end of 1999.
2. The project aims to assist countries with economic analysis of climate change mitigation strategies by establishing, applying and testing a consistent methodological framework.
3. Project activities have included :
  - (a) Establishment of a common methodological framework for calculating the cost of climate change mitigation activities at national level;
  - (b) Testing and applying this framework in eight national studies through assessments of their mitigation costs as an input to their national mitigation strategies and national communications under the United Nations Framework Convention on Climate Change (UNFCCC);
  - (c) Establishment of an initial framework for assessment of mitigation options and strategies at the regional level through the implementation of studies for Southern Africa Development Community (SADC) and the Andean Pact;
  - (d) Establishment and/or enhancing the national capacity in the participating countries to comply with the requirements of the UNFCCC, specifically the capabilities of relevant institutions to fully participate in the project activities and be able to undertake future mitigation assessments.
4. The following countries participated in the project: Argentina, Ecuador, Estonia, Hungary, Indonesia, Mauritius, Senegal, Viet Nam. The final reports of the national studies were published for all the participating countries apart from Mauritius and Senegal. The report on methodological guidelines and the two regional studies were also published. Closing national workshops were organized in all the countries with the exception of Ecuador, Mauritius and Senegal.
5. Development of methodological guidelines for climate change mitigation analysis and supporting handbook material was the first planned output of the project. The final version of a handbook containing methodological guidelines for climate change mitigation analysis <sup>1/</sup> was published in early 1999 as the final output of a process which involved the preparation of a preliminary version, its successive improvement through its application in the national studies and the discussion of the interim results in the project workshops. Project reports also include a summary of the guidelines and a report with technical handbook material.

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<sup>1/</sup> Halsnaes, K.; Callaway, J.M., Meyer, H.J., Economics of Greenhouse Gas Limitations, Methodological Guidelines, Main Reports, UNEP/RISO/UCCEE 1999

6. An additional volume providing methodological guidance on estimating the indirect costs and benefits of greenhouse gas limitations has also been prepared <sup>2/</sup> and tested. A report on its application in the case study of Mauritius was also published <sup>3/</sup> .

7. Implementation of eight national mitigation analysis studies in Argentina, Ecuador, Estonia, Hungary, Indonesia, Mauritius, Senegal, Viet Nam" was the second planned output of the project. Six national mitigation studies were completed in Argentina, Ecuador, Estonia, Hungary, Indonesia and Viet Nam. The corresponding reports have been published in English (see complete list of references in Annex III). The national studies in Mauritius and Senegal were implemented with some delay and their reports are still being reviewed by UCCEE for imminent publication. The final national workshops for the presentation and discussion of the final versions of the national studies are still to be held in Mauritius, Senegal and Ecuador.

8. Implementation of two research studies on options for joint action on regional level for mitigation activities with case studies for the SADC and the Andean Pact regions was the third planned output of the project. The two regional mitigation studies for the SADC and the Andean Pact regions have been completed and their final reports published <sup>4/</sup>.

9. Providing a methodological framework for national climate change mitigation analysis and strategy development was the first short-term planned result of the project. This methodological framework was established in the guidelines report that was published in early 1999. To date, UCCEE has distributed more than 1000 copies of this report to national enabling activities project teams, national Framework Convention on Climate Change delegations and to a broad range of experts worldwide. A specific distribution channel has been through the UNDP and UNEP National Communications Support Programme.

10. A report on methodological guidelines for the financial evaluation of ancillary costs and benefits of mitigation options has also been published and distributed. Its application was illustrated in two national case studies.

11. Contributing to the common methodological basis for national communications, as required by UNFCCC was the second short-term planned result of the project. Some key project outputs have been submitted to SBSTA, the subsidiary body of the FCCC in charge of establishing this common methodological basis. The report on Guidelines was presented to SBSTA during the tenth session of the SBSTA in June 1999. UNFCCC secretariat distributed copies to all the delegations and arranged a side event to present the guidelines and the national experiences to a broader audience.

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<sup>2/</sup> Markandya, A., Economics of Greenhouse Gas Limitations - The Indirect Costs and Benefits of Greenhouse Gas Limitations, Handbook Reports, UNEP/RISO/UCCEE, 1998

<sup>3/</sup> Markandya, A., Boyd, R., Economics of Greenhouse Gas Limitations - The Indirect Costs and Benefits of Greenhouse Gas Limitation: Mauritius Case Study, Handbook Reports, UNEP/RISO/UCCEE 1999

<sup>4/</sup> IDEE/FB, Economics of Greenhouse Gas Limitations, Andean Region, Regional Studies, UNEP/RISO/UCCEE, 1999 and Rowlands, I.H.(ed.), Climate Change Cooperation in Southern Africa, Earthscan/UCCEE, 1998

12. Identifying cost-effective national and regional options for climate change mitigation was the third short-term planned result of the project. Six national studies and two regional studies have been published. Two national reports are still being revised and prepared for publication. All teams have examined the future potential of mitigation options for emission reduction and limitation compared with the expected baseline emissions. In some countries, for example in Estonia and Hungary, selected measures identified in the studies such as energy tax and energy conservation options, are being seriously considered for implementation within the framework of national energy policies.

13. Enhancing institutional capacity in the participating countries and in the participating regional centres of excellence was the fourth short-term planned result of the project. The capabilities of national teams and participating regional centres of excellence, such as Instituto De Economia, Energetica (IDEE)/Bariloche Foundation, were improved as shown in the published reports and in the proceedings of the project and regional workshops held in April and May 1998. This development is the result of different activities which include training workshops, technical assistance, extended research stays at UCCEE or the Lawrence Berkeley National Laboratory (LBNL) as well as working on project activities and interacting with other teams involved in the same process. Besides the guidelines and the guidance document on indirect cost assessment, other publications were prepared and also contributed to enhancing the capacity of national teams.

14. The project has planned that the longer term results of the project will contribute to climate change mitigation by providing input to the process of integrating environmental and specifically climate change concerns with national and development priorities. The national and regional studies have contributed towards the achievement of this long term result by providing a substantive basis for identifying "win-win" options which meet simultaneously the goals of climate change mitigation as well as broader social, economic and environmental development objectives.

15. The extent of this contribution is, however, limited by a number of factors. In the first place, it must be recognized that climate change concerns are secondary to short-term development priorities in most developing countries and economies in transition. Thus, external driving forces such as FCCC requirements are crucial to the speeding up of this process. The project outputs will be more effective in helping to achieve its envisaged long term results if and when countries are required to make use of common guidelines in areas other than inventory analysis in the preparation of their future national communications to FCCC. So far, the requirements to report on mitigation options in the national communications from developing countries are still being negotiated in the UNFCCC process. The progress towards an agreement on common guidelines has been slow due to the divergence of views on this issue. Secondly, domestic institutional framework constraints may also limit progress towards the achievement of this objective in different ways. Four countries, namely Indonesia; Mauritius; Senegal and Viet Nam chose to use ministerial teams to implement the project. As few countries have resources to maintain dedicated climate change offices, staff may periodically be directed to work on other issues. Four countries, Argentina; Ecuador; Estonia and Hungary, chose to use research institutions and non-governmental organizations to implement the project and in these cases staff will probably continue to work on similar types of projects. In some countries, however,

these institutions are disconnected from decision-making on development priorities which is restricted to governmental bodies.

16. The short term objectives of the project have become more relevant than at the project outset. In particular, after the establishment of the Kyoto Protocol, the situation changed in the direction of increased attention on the need for all countries to enter into some level of mitigation analysis. Accordingly, there is growing acknowledgment of the need for consistent methodological frameworks in all the analytical areas of national climate change analysis. The area of baselines is particularly relevant with the establishment of the Clean Development Mechanism (CDM) as one of the flexibility mechanisms of the Kyoto Protocol.

17. The long delay in the project approval, however, meant that start-up occurred almost one year later than expected. This delay reduced its potential of contributing to the preparation of national communications in the participating countries. The main problem caused by the delay was the fact that the GEF methodological development phase was already over when the project finally started. By then, the GEF Operational Strategy had just been launched <sup>5/</sup> and commenced implementation. It is true that much remains to be done in the improvement of the methodological approach of mitigation costs, particularly in the areas of baseline design, energy use in the transportation sector and land-use change. The focus of GEF action has, nevertheless, been shifted towards the implementation of mitigation options, policies and measures. Priority areas have been shifted accordingly from the calculation of mitigation costs towards the identification of barriers to implementation and appropriate policies and measures of market transformation to overcome them. Thus, the initial focus on the identification of mitigation options with lower short-term direct incremental costs has been extended to consider how to minimize long-term macro-economic total costs including transaction costs and non-economic barriers.

18. The project has contributed, to some extent, towards the identification of cost-effective mitigation options at the national level. In some countries such as Estonia and Hungary, selected policies and measures, for example: energy tax and energy conservation options, were identified in the studies and taken into account in the formulation of national energy policies. In Argentina, the methodological framework established through the project assisted in the choice and establishment of means to meet a mitigation target. In most countries, however, the project efforts must be continued in order to achieve the level of detail correspondent to the identification of a portfolio of mitigation projects, of barriers to their implementation and of policies and measures to overcome them.

19. It should be recognized that GEF continues to play a crucial role in building the general capacity needed to address climate change issues in developing countries, and particularly for preparation of their second national communication to FCCC. The project contribution towards this end must be acknowledged.

20. From the analysis presented throughout the report, the judgment of the rate of successfulness of the project according to the consultant's view is summarized in the following table :

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<sup>5/</sup> GEF, Global Environment Facility; Operational Strategy, February 1996



Rate of successfulness of the project

Item	Rate of successfulness
(a) Timeliness	3= Good (60-74 %)
(b) Achievement of results and objectives	2= Very good (75-89 %)
(c) Attainment of outputs	2= Very good (75-89 %)
(d) Completion of activities	2= Very good (75-89 %)
(e) Project executed within budget	1= Excellent (90-100 %)
(f) Impact created by the project	2= Very good (75-89 %)
(g) Sustainability	2= Very good (75-89 %)

## INTRODUCTION

21. The project Economics of Greenhouse Gas Limitations - Phase I : Establishment of a Methodological Framework for Climate Change Mitigation Assessment has been executed by the United Nations Environment Programme (UNEP) through the UNEP Collaborating Centre on Energy and Environment (UCCEE), Riso National Laboratory, Denmark, with financial support from the Global Environment Facility (GEF). Project implementation started in 1996 and was scheduled for completion at the end of 1999.

22. The project aims to assist countries with economic analysis of climate change mitigation strategies by establishing, applying and testing a consistent methodological framework.

23. Project activities have included :

(a) Establishment of a common methodological framework for calculating the cost of climate change mitigation activities at national level;

(b) Testing and applying this framework in eight national studies through assessments of their mitigation costs as an input to their national mitigation strategies and national communications under the United Nations Framework Convention on Climate Change (UNFCCC);

(c) Establishment of an initial framework for assessment of mitigation options and strategies at the regional level through the implementation of studies for Southern Africa Development Community (SADC) and the Andean Pact;

(d) Establishment and/or enhancing the national capacity in the participating countries to comply with the requirements of UNFCCC, specifically the capabilities of relevant institutions to fully participate in the project activities and be able to undertake future mitigation assessments.

24. The following countries participated in the project: Argentina, Ecuador, Estonia, Hungary, Indonesia, Mauritius, Senegal and Viet Nam. The final reports of the national studies were published for all the participating countries apart from Mauritius and Senegal. The report on methodological guidelines and the two regional studies were also published. Closing national workshops were organized in all the countries with the exception of Ecuador, Mauritius and Senegal.

25. The participation of UCCEE in bilateral climate change capacity-building projects funded by DANIDA in Botswana, Tanzania, Zambia and Peru as well as in United Nations Development Programme GEF Enabling Activities in Egypt, Jordan and Lebanon has allowed for the increase from eight to 15 in the number of national teams participating in the process of application and testing of methodological guidelines.

8. On the basis of the available project outputs such as national and regional studies, methodological guidelines and workshop reports, project results have been evaluated using the terms of reference (see annex I). Lists of experts contacted and documents reviewed during the evaluation are given in annexes II and III, respectively. The evaluation report is set up in line with questions and issues set out in the terms of reference.

I. EVALUATION OF OUTPUTS : COMPARISON OF THE PLANNED OUTPUTS TO THE ACTUAL OUTPUTS

A. Development of methodological guidelines for climate change mitigation analysis and supporting handbook material

27. The final version of a handbook containing methodological guidelines for climate change mitigation analysis was published in early 1999<sup>6/</sup> as the final output of a process which involved the preparation of a preliminary version, its successive improvement through its application in the national studies and the discussion of the interim results in the project workshops. Project reports also include a summary of the guidelines and a report with technical handbook material.

28. An additional volume providing methodological guidance on estimating the indirect costs and benefits of greenhouse gas limitations has also been prepared <sup>7/</sup> and tested. A report on its application in the case study of Mauritius was also published <sup>8/</sup>.

B. Implementation of eight national mitigation analysis studies in Argentina, Ecuador, Estonia, Hungary, Indonesia, Mauritius, Senegal, Viet Nam

29. Six national mitigation studies were completed in Argentina, Ecuador, Estonia, Hungary, Indonesia and Viet Nam. The corresponding reports have been published in English (see complete list of references in annex III). The national studies in Mauritius and Senegal were implemented with some delay and their reports are still being reviewed by UCCEE for imminent publication. The final national workshops for the presentation and discussion of the final versions of the national studies are still to be held in Mauritius, Senegal and Ecuador.

C. Implementation of two research studies on options for joint action on regional level for mitigation activities with case studies for the SADC and the Andean Pact regions

30. The two regional mitigation studies for the SADC and the Andean Pact regions have been completed and their final reports published <sup>9/</sup> .

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<sup>6/</sup> Halsnaes, K.; Callaway, J.M., Meyer, H.J., Economics of Greenhouse Gas Limitations, Methodological Guidelines, Main Reports, UNEP/RISO/UCCEE 1999

<sup>7/</sup> Markandya, A., Economics of Greenhouse Gas Limitations - The Indirect Costs and Benefits of Greenhouse Gas Limitations, Handbook Reports, UNEP/RISO/UCCEE, 1998

<sup>8/</sup> Markandya, A., Boyd, R., Economics of Greenhouse Gas Limitations - The Indirect Costs and Benefits of Greenhouse Gas Limitation: Mauritius Case Study, Handbook Reports, UNEP/RISO/UCCEE 1999

<sup>9/</sup> IDEE/FB, Economics of Greenhouse Gas Limitations, Andean Region, Regional Studies, UNEP/RISO/UCCEE, 1999 and Rowlands, I.H.(ed.), Climate Change Cooperation in Southern Africa, Earthscan/UCCEE, 1998

## II. ASSESSMENT OF RESULTS

### A. Short-term results

(a) Providing a methodological framework for national climate change mitigation analysis and strategy development. This methodological framework was established in the guidelines report that was published in early 1999. To date, UCCEE has distributed more than 1,000 copies of this report to national enabling activities project teams, national FCCC delegations and to a broad range of experts worldwide. A specific distribution channel has been through the UNDP and UNEP National Communications Support Programme. A report on methodological guidelines for the financial evaluation of ancillary costs and benefits of mitigation options has also been published and distributed. Its application was illustrated in two national case studies.

(b) Contributing to the common methodological basis for national communications, as required by UNFCCC. Some key project outputs have been submitted to SBSTA, the subsidiary body of the FCCC in charge of establishing this common methodological basis. The report on guidelines was presented to the SBSTA during the tenth session in June 1999. FCCC secretariat distributed copies to all the delegations and arranged a side event to present the guidelines and the national experiences to a broader audience.

(c) Identifying cost-effective national and regional options for climate change mitigation. Six national studies and two regional studies have been published. Two national reports are still being revised and prepared for publication. All teams have examined the future potential of mitigation options for emission reduction and limitation compared with the expected baseline emissions. In some countries, for example in Estonia and Hungary, selected measures identified in the studies such as energy tax and energy conservation options, are being seriously considered for implementation within the framework of national energy policies.

(d) Enhancing institutional capacity in the participating countries and in the participating regional centres of excellence. The capabilities of national teams and participating regional centres of excellence, such as IDEE/Bariloche Foundation, were improved as shown in the published reports and in the proceedings of the project and regional workshops held in April and May 1998. This development is the result of different activities which include training workshops, technical assistance, extended research stays at UCCEE or the Lawrence Berkeley National Laboratory (LBNL) as well as working on project activities and interacting with other teams involved in the same process. Besides the guidelines and the guidance document on indirect cost assessment, other publications were prepared and also contributed to enhancing the capacity of national teams.

### B. Long term results

31. The longer-term results of the project will contribute to climate change mitigation by providing input to the process of integrating environmental and specifically climate change concerns with national and development priorities.

32. The national and regional studies have contributed towards the achievement of this long-term result by providing a substantive basis for

identifying "win-win" options which meet simultaneously the goals of climate change mitigation as well as broader social, economic and environmental development objectives.

33. The extent of this contribution is, however, limited by a number of factors. In the first place, it must be recognized that climate change concerns are secondary to short-term development priorities in most developing countries and economies in transition. Thus, external driving forces such as the FCCC requirements are crucial to the speeding up of this process. The project outputs will be more effective in helping to achieve its envisaged long term results if and when countries are required to make use of common guidelines in areas other than inventory analysis in the preparation of their future national communications to FCCC. So far, the requirements to report on mitigation options in the national communications from developing countries are still being negotiated in FCCC process. The progress towards an agreement on common guidelines has been slow due to the divergence of views on this issue. Secondly, domestic institutional framework constraints may also limit progress towards the achievement of this objective in different ways. Four countries, namely Indonesia, Mauritius, Senegal, and Viet Nam chose to use ministerial teams to implement the project. As few countries have the resources to maintain dedicated climate change offices, staff may periodically be directed to work on other issues. Four countries, Argentina, Ecuador, Estonia and Hungary, chose to use research institutions and non-governmental organizations to implement the project and in these cases staff will probably continue to work on similar types of projects. In some countries, however, these institutions are disconnected from decision-making on development priorities which is restricted to governmental bodies.

### III. DETERMINATION OF THE IMPACT OF THE PROJECT

#### A. Methodological framework

34. The report on the guidelines has built upon previous efforts to establish a common methodological framework for mitigation cost analyses <sup>10/</sup>. A substantial effort was directed towards extending the coverage of greenhouse gases (GHG) and sectors beyond CO<sub>2</sub> energy-related emission reductions. The final result provides a useful consolidation of the methodological guidelines for mitigation cost analyses presented in a didactic way. The application of the guidelines in the national studies has, however, been limited by a variety of constraints including lack of data availability, time, human and financial resources. As a result, most of the studies were primarily focused on CO<sub>2</sub> energy-related emission reductions. Some of the national teams, for example, Argentina, have chosen to limit the scope of their study to the energy sector.

35. An additional contribution of the project was the report on indirect cost assessment aimed at presenting some techniques for financial evaluation of ancillary impacts of mitigation options. In this case, given the incipient development stage of these techniques, constraints faced in their application have prevented their application in most national and regional studies. It should be noted, however, that this additional activity, not planned at the

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<sup>10/</sup> UCCEE, UNEP Greenhouse Gas Abatement Costing Strategies: Main Report, Country Summaries and Guidelines, 1994; Sathaye, J., Meyers, S., Greenhouse Gas Mitigation Assessment: a Guidebook, Kluwer Academic Publishers, 1995

beginning of the project, has significantly enhanced the methodological work performed within the original project budget.

36. A major field for future work towards the strengthening of this methodological framework is the development of baselines through the construction of reference scenarios at the national, sectoral and project level, a crucial step towards the determination of mitigation costs. The adoption of the baseline concept in the Clean Development Mechanism makes it a high priority area deserving further methodological development in follow-up activities of this project.

#### B. National and regional studies

37. The four countries using research institutions and non-governmental organizations to implement the project (Argentina, Ecuador, Estonia and Hungary) have successfully completed their national studies. Two countries, Indonesia and Viet Nam, who used ministerial teams to implement the project have also completed their national studies while Mauritius and Senegal have delivered a preliminary version of their national reports presently under revision at UCCEE for publication shortly. There are obvious differences in the quality of the national studies reflecting the different levels of the national teams at the outset.

38. The national workshops held during the project to discuss findings of the national studies generally allowed for the involvement of different stakeholders at the national level. This contributed significantly to the impact of the project on national institutions beyond the project team. This successful experience recommends that the final national workshops be held as soon as possible in the three countries where the conclusion of the project is due, namely Ecuador, Mauritius, Senegal.

39. On the other hand, the impact of the national studies in the participating countries has been limited by the lack of involvement of key governmental institutions other than those within the core of the national teams. The limited time availability of some key decision makers to discuss the scenarios and mitigation options reflects the difficulties encountered by most national teams in the growing awareness of the climate change problem within their governments. Some remarkable exceptions include the cases of Argentina and Hungary.

40. In order to magnify the impact of the national studies in the participating countries it is strongly recommended that their final reports be translated into the national language, published in a sufficient number of copies and distributed to key stakeholders. Some national teams have already planned for this translation and asked for the corresponding financial resources to be allocated towards this end. Top priority should be assigned to this activity in all participating countries and it is recommended that it be included as standard procedure in future projects of this kind.

41. The regional studies have faced some difficulties inherent to their condition as pioneer experiments. The choice of regions has limited the impact of the studies. The study of the Andean Pact region has revealed little cooperation between the countries in the region with regard to the feasibility of joint mitigation options. In the case of SADC, the study has shown that the unbalance between the Republic of South Africa and other

countries in the region makes it particularly difficult to overcome the inherent difficulties of international cooperation in order to design and implement joint mitigation options.

### C. Capacity-building and outreach

42. The process of implementing the project through three joint meetings of the national teams has generally allowed for building significant understanding and capacity for undertaking mitigation analysis in the participating countries. Direct performance indicators on capacity-building are difficult to establish for national teams nominated by their governments. Beyond the differences in the levels of the national teams at the outset, all of them were able to make substantial progress during the process, being exposed to the project materials and workshops on mitigation analysis.

43. The involvement of local centres of excellence, such as IDEE/FB, in the project implementation has proved particularly successful, drawing their attention to climate change issues. Similarly, the use of research institutions and non-governmental organizations to implement the project has allowed for growing awareness of climate change issues in the scientific and non-governmental organization community. Many team members are expected to continue working in the area in order to take the general analysis of the project towards more specific policy or project analysis.

44. The four countries using ministerial teams may face different circumstances due to the lack of resources needed to maintain dedicated climate change offices. Even so, staff will probably continue to work in this field but may periodically be diverted to work on other similar issues such as global conventions.

45. The initial and final national project workshops have contributed towards the dissemination of the objectives and findings of the national studies to institutions beyond the national teams involved in the project implementation. The outreach of the project would be increased substantially through the publication and distribution of the final report of the national studies in the national languages.

## IV. ASSESSMENT OF THE RELATIVE COST-EFFECTIVENESS OF THE PROJECT

### A. Comparison with other similar activities

46. This project has continued and extended previous efforts by UNEP in this field, particularly through the pilot project executed by UCCEE in 1992-1994 <sup>11/</sup>. GEF funding of \$3 million coupled with the co-financing of UCCEE from DANIDA (\$270,000) and counterpart funding through in-kind contributions averaging \$50,000 per country has allowed for a significant increase of the budget compared to the pilot project.

47. The project budget remains, however, roughly three times less than the budget for a similar activity, the Asia Least-cost GHG Abatement Strategy (ALGAS), which was implemented through the Asian Development Bank (AsDB) in 1995-1998, and to which \$9.5 million was made available from GEF as well as

\$592,000 from AsDB. This allowed for the participation of 12 Asian countries: Bangladesh, China, Democratic People's Republic of Korea, India, Indonesia, Republic of Korea, Mongolia, Myanmar, Pakistan, Philippines, Thailand, and Viet Nam.

48. Project activities covered :

- (a) Inventory of GHG emissions in 1990;
- (b) Projections of GHG emissions to 2020;
- (c) Analysis of mitigation options;
- (d) Formulation of national GHG abatement strategies;
- (e) Preparation of a portfolio of GHG abatement projects; and
- (f) National Action Plans including recommendations of policies and measures in this field.

49. The ALGAS project involved in its execution national technical expert teams made up of ten research centres and companies and one national commission, 11 national counterpart agencies, ten international technical expert teams and five external peer reviewers. This project generally succeeded in building significant capacity for inventory and abatement of GHG emissions in the participating countries. The number and quality of materials published by the ALGAS project was compatible with its impressive budget.

50. Compared with the ALGAS project, the UNEP project has allowed the creation and enhancement of the capacity of participating countries to undertake GHG mitigation analysis at a much lower cost. It should be recognized, however, that the scope of the project was less comprehensive. In particular, the preparation of a portfolio of GHG abatement projects covered in the ALGAS project could be seen as a natural follow-up to this UNEP project, contributing towards meeting one of the GEF key objectives in this field, as discussed below. The number of participating countries was similar, taking into account the additional countries involved in the project workshops and application of the methodological guidelines: eight plus seven in the UNEP project compared to a total of 12 in the ALGAS project.

51. Overall, the cost-effectiveness of the project is comparable to similar successfully completed activities.

#### B. Potential impact beyond project participants

52. The main link of the project with the FCCC was ensured through the contribution of the report on guidelines to the SBSTA methodological programme. In addition, many of the staff in the national project teams were also involved in governmental efforts to prepare the national communications to FCCC. The project results, both in terms of capacity-building and methodological development, will be valuable to the new UNDP/UNEP National Communications Support Programme, another GEF project.

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<sup>11</sup>/ UCCEE, UNEP Greenhouse Gas Abatement Costing Strategies: Main Report, Country Summaries and Guidelines, 1994



53. Project links to the Intergovernmental Panel on Climate Change (IPCC) are equally worth mentioning. UCCEE jointly with Lawrence Berkeley National Laboratory (LBNL) convened a writing team on Mitigation and Adaptation Cost Concepts upon request from the Second Assessment Report, Working Group III (SAR WG III). A joint UCCEE, UNEP and IPCC workshop was held in 1997, sponsored largely by DANIDA, to discuss the report prepared by the team. There has subsequently been a full IPCC technical review of the report and it was published as a UNEP report in late 1998 and presented to SBSTA during the fourth session of the Conference of the Parties to FCCC as part of the methodological work programme 12/ .

#### V. LINKS WITH OTHER PROGRAMMES AND PROJECTS

##### A. How effective the project has been in creating links and synergies

54. The project was closely coordinated with other similar international activities. Close links were maintained with the main bilateral country study programmes (US, German and Dutch plus the Danish capacity building project implemented by UCCEE itself) and GEF funded projects like CC:TRAIN, ALGAS and many of the other regional and national enabling activities under implementation. This cooperation has allowed for the increase from eight to 15 in the number of national teams participating in the process of application and testing of the methodological guidelines. UCCEE works closely, in addition, with the climate change coordinators within both UNEP and UNDP. This collaboration has been extended through the new UNDP and UNEP GEF National Communications Support Programme.

##### B. How the project experience has benefited other similar work

55. UCCEE has been implementing a number of bilateral climate change capacity-building projects funded by DANIDA and has, in addition, provided support to three UNDP/GEF enabling activities in Egypt, Jordan and Lebanon. Both the bilateral teams and the UNDP/GEF teams have been involved in the project workshops, allowing for the participation of staff from Botswana, Peru, Tanzania, Zambia, as well as Egypt, Jordan and Lebanon. In this way, the number of national teams participating in the process of application and testing of the methodological guidelines has been increased from eight to 15. Teams from all 15 countries participated in the workshops including the final team workshop in April 1998.

#### VI. APPROPRIATENESS OF THE PROJECT IN RELATION TO THE PROGRAMME OBJECTIVES OF UNEP IN THE AREA OF CLIMATE CHANGE

56. The UNEP climate change strategy has been focusing on the following five main points 13/:

(a) Assisting vulnerable countries, in assessing impacts and designing adaptation strategies;

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12/ UCCEE, Mitigation and Adaptation Cost Assessment: Concepts, Methods and Appropriate Use, UNEP, 1998

13/ Toepfer, K., UNEP's convention priorities, Synergies, volume 1, number 1, p.1-2, October 1999; Sharma, personal communication

(b) Raising public awareness and promoting educational and training activities;

(c) Fostering methodological development of mitigation and adaptation analysis;

(d) Promoting the links between activities aimed at the implementation of different United Nations conventions (e.g. between the Montreal Protocol and FCCC activities); and

(e) Supporting capacity-building related work in developing countries.

57. The project clearly fits perfectly well into the framework of the UNEP strategy as its activities have contributed to points (b), (c) in mitigation analysis, and (e).

#### VII. RELEVANCE AND TIMELINESS OF THE PROJECT AND ITS OBJECTIVES, AND THE EXTENT TO WHICH THE OBJECTIVES HAVE BEEN MET

58. The short term objectives of the project have, in fact, become more relevant than they were at the outset. When the project was designed the

Convention process had not moved very far on the requirements for countries to report on mitigation analysis nor on the methodological needs. In the period following the establishment of the Kyoto Protocol, the situation changed in the direction of increased attention on the need for all countries to enter into some level of mitigation analysis. Accordingly, there was growing acknowledgment of the need for consistent methodological frameworks in all the analytical areas of national climate change analysis. The area of baselines is particularly relevant now that the Clean Development Mechanism has been established as one of the flexibility mechanisms of the Kyoto Protocol.

59. The long delay in the project approval, however, meant that its start-up occurred nearly one year later than initially expected. This delay has reduced its potential of contributing to the preparation of national communications in the participating countries. The positive aspect was that a preparation phase was initiated by UCCEE with its own resources, visiting all the participating countries to discuss the project scope and organization. The GEF Project and Preparation Development Facility (PDF) was still not available at that time. The main problem caused by the delay was the fact that the GEF methodological development phase was already over when the project finally started. The GEF operational strategy had just been launched <sup>14/</sup> and commenced implementation. It is true that much remains to be done in the improvement of the methodological approach of mitigation costs, particularly in the areas of baseline design, energy use in the transport sector and land-use change. Nevertheless the focus of GEF action has been shifted towards the implementation of mitigation options, policies and measures. Priority areas have been shifted accordingly from the calculation of mitigation costs towards the identification of barriers to implementation and the appropriate policies and measures of market transformation to overcome them. Thus, the initial focus on the identification of mitigation options

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<sup>14/</sup> GEF, Global Environment Facility; Operational Strategy, February 1996

with lower short-term direct incremental costs has been extended to consider how to minimize long-term macro-economic total costs including transaction costs and non-economic barriers.

60. The project has contributed, to some extent, towards the identification of cost-effective mitigation options at the national level. In some countries such as Estonia and Hungary, selected policies and measures, for example, energy tax and energy conservation options, were identified in the studies and taken into account in the formulation of national energy policies. In Argentina, the methodological framework established through the project assisted in the choice and establishment of means to meet a mitigation target. In most countries, however, the project efforts need to be continued in order to achieve the level of detail correspondent to the identification of a portfolio of mitigation projects, of barriers to their implementation and of policies and measures to overcome them.

#### VIII. SCOPE, QUALITY, SIGNIFICANCE AND IMPACT OF THE PROJECT

##### A. Comprehensiveness and quality of the methodological guidelines

61. It stems from the above discussion (see C and G), that the good quality of the methodological guidelines for mitigation cost analysis developed through the project could be further enhanced by extending the coverage of key priority areas :

- (a) Scenario methodology for development of baselines at the national, sectoral and project level;
- (b) Mitigation options in the transportation sector;
- (c) Mitigation options associated with land-use change;
- (d) Identification of a portfolio of mitigation projects;
- (e) Identification of barriers to the implementation of mitigation options;
- (f) Design of policies and measures to overcome the barriers to mitigation options with a focus on market transformation.

62. It is worth noting that many of the above areas are being worked on, but more could be done particularly if a second phase of the project could be supported.

##### B. Comprehensiveness and quality of the national and regional studies

63. The uneven quality and comprehensiveness of the national studies can be explained by the composition of the national teams. Not all the sectors were covered by team members familiar with their particularities. Beyond the different levels of the national teams at the outset, an important point is that national teams made up of staff from research institutions and non-governmental organizations generally obtained better results than those composed of ministerial staff. This reflects the difficulties of ensuring the appropriate time availability for staff from governmental bodies.

64. Most of the studies suffer from the lack of a single editor with the ability to ensure a minimum of uniformity required for the reports. The heterogeneity of chapters written by different members of the teams caused some problems in the readability of the studies. The responsibility of the project coordinator in this regard should be stressed in future projects of this kind, with the formal description of this editing among his tasks. The use of peer reviewers may also prove to be helpful.

65. Most of the studies would also have benefited from the inclusion of an executive summary and a more accurate English editorial review.

#### C. Appropriateness of the institutional arrangements

66. The project followed an approach in which the country studies were implemented through the national climate change focal point and the organization of the national teams was then decided by the national project coordinator in consultation with UCCEE. This led to solid national commitment to the projects and to the establishment of national teams whose structures reflect specific national circumstances. The organization was decided upon in the design phase and has been made operational in connection with the development of specific workplans and for all countries maintained throughout the project. Indonesia changed project coordinator mid-process due to internal promotions but the position remained in the same office in the ministry.

67. The allowance for national preference resulted in four of the countries implementing the studies through mainly governmental institutions. This created a need to ensure the involvement of the required institutions to provide the team with the necessary multidisciplinary (focal points are often meteorologists) and time availability of the members. In these cases, local research institutions and/or non-governmental organizations should be involved in providing technical assistance. In practice, the stakeholder involvement in the design and implementation of the studies was considered insufficient.

68. In the other four countries, a research institution or a non-governmental organization was made responsible for the project implementation while overall coordination remained with the government. This arrangement made it easier to ensure increased stakeholder involvement in the implementation of the studies. For example, in Argentina, a specific project workshop was held with industry, environmentalists and non-governmental organizations working in the energy sector invited to workshops where project findings were presented and discussed.

#### D. Relevance and impact of the project workshops

69. All the experts consulted were of the opinion that the project workshops were very productive due to their good preparation, appropriate settings and friendly atmosphere. The general approach of holding an initial coordinators' meeting followed by three technical workshops allowing for the participation of two to three team members from each country was very positive in making possible a continuous process of exchange of experiences and internal on-the-job training of team members.

E. Quality and timeliness of the technical assistance

70. According to most of the participants of the national teams consulted, the technical assistance provided through the project was very valuable. National teams had the opportunity to use different foreign consultants and to visit centres of excellence for short stays to better meet their needs.

71. A very positive aspect of the project was the flexibility in the management of financial resources assigned to technical assistance in the original budget. In countries where local expertise was available (e.g. Hungary), it has allowed for using national consultants to strengthen the interdisciplinarity of the national teams. This flexibility has also been important to support the work of centres of excellence in the participating countries (e.g. IDEE/FB in Argentina).

F. Impact on related activities outside of the project

72. The project contributed to the success of other similar initiatives such as the US country studies and the ALGAS project even without formal coordination with them. The involvement of LBNL in the provision of technical assistance to selected countries contributed to making informal coordination with a number of related initiatives much easier. Some members of the national teams were also able to participate in other projects of similar type and in the process of preparation of national communications.

73. Some activities implemented jointly (AIJ) and mitigation measures were formulated and discussed after being identified through the project as promising options. Local Agenda 21 initiatives also benefited from the growing awareness of global common concerns promoted by the project materials, meetings and workshops. In some cases the project was even able to play the role of catalyst in gathering different governmental bodies to discuss the adoption of new policies, such as energy efficiency strategies.

G. General contribution to enhancing scientific knowledge

74. As mentioned earlier, the main scientific contribution of the project was in being a catalyst for the publication of a handbook on Mitigation and Adaptation Cost Assessment by United Nations Environment Programme (UNEP) <sup>15/</sup>. This publication has consolidated previous work on mitigation analyses <sup>16/</sup>. The report underwent a full IPCC technical review and was presented to SBSTA during the fourth session of the Conference of the Parties as part of the methodological work programme.

75. A recommended alternative to enhance the contribution of the project to the scientific debate is the publication of its main findings in a scientific journal, allowing for its formal consideration by IPCC. A special issue of a journal covering the climate change area could be envisaged including a synthesis paper followed by executive summaries of the national and regional studies.

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<sup>15/</sup> UCCEE, Mitigation and Adaptation Cost Assessment: Concepts, Methods and Appropriate Use, UNEP, 1998

IX. APPROPRIATENESS AND EFFICIENCY OF THE PROJECT ORGANIZATION AND MANAGEMENT AT UCCEE

76. In terms of general administrative arrangements, the project was handled very efficiently at UCCEE. The existence of an institution such as UCCEE seems to be essential to the appropriate organization of this kind of project, allowing for the flexibility required by different national circumstances in participating countries.

77. An illustrative example of this point is that the handling of contracts directly with the executing institutions contributed towards speeding up the project implementation in those countries using research institutes or non-governmental organizations to undertake the national studies. Another positive outcome was the flexibility shown in the optimal use of the budget allocated to technical assistance to the national teams. The initial budget assignment was \$50,000 to each national team participating in the project including regional workshops and training and \$100,000 for technical assistance to each national study, including UCCEE participation in national meetings and the use of foreign consultants. During project implementation, it was judged more appropriate in some cases to use the technical assistance line item to fund more domestic consultants as well as regional centres of excellence for support to the national teams, with good results.

78. The technical follow-up of the studies has been ensured by staff members of UCCEE with each staff member assigned to specific countries and regions. In some cases, in addition to the LBNL experts, UCCEE staff also provided technical assistance to the national teams undertaking the studies. These arrangements allowed for appropriate organization of the technical project follow-up.

X. IDENTIFICATION OF TECHNICAL AND/OR OPERATIONAL CONSTRAINTS AND EXAMINATION OF THE ACTION TAKEN BY UCCEE TO OVERCOME THESE CONSTRAINTS

79. The project has so far exceeded the original deadline by 18 months. Apart from the initial delay of almost one year in the approval of the project, the main cause of the additional delay was the failure of the two national teams of Mauritius and Senegal to conclude their studies within the agreed time. The reasons for this are mostly related to internal institutional problems in these countries. In Ecuador, political problems related to Government instability and change delayed the organization of the final national workshop. The project duration at the outset was determined by the GEF maximum of 24 months and this did not reflect a realistic estimate of the time period required for the execution of such a project.

80. More generally, in many countries there were difficulties in ensuring the collaboration of national institutions in undertaking activities such as the supply of data or information required for the completion of the studies. Most often this problem occurred within governmental bodies rather than the

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<sup>16/</sup> UCCEE, UNEP Greenhouse Gas Abatement Costing Studies: Main Report, Country Summaries and Guidelines, 1994; Sathaye, J., Meyers, S., Greenhouse Gas Mitigation Assessment: a Guidebook, Kluwer Academic Publishers, 1995

climate change focal point and the national team. The involvement of governmental institutions in the project created a number of barriers which were generally related to their lack of human and financial resources for performance of the assigned tasks as well as the lower priority of the project compared to their more pressing daily concerns.

81. One way of avoiding this delay in the overall project execution would be to eliminate the reports of the delayed studies from the project results. The difficulty in making such a decision in a project of this kind must be recognized. The effort to keep all the studies aboard was important to maintain the coverage of the initial scope of the project. UCCEE staff were assigned to assist in finalizing the delayed studies and thus minimize the delay in project execution.

82. In order to avoid this kind of delay completely in future projects, alternative approaches could overcome time constraints. Strengthening of UCCEE staff allocated to the technical supervision of the studies through the use of additional domestic or foreign consultants could be useful to allow for a stricter monitoring of the national studies. The response time to national team requests for technical discussions, such as comments on earlier drafts of report chapters, could be shortened by similar means.

83. The need to anticipate possible time constraints must also be met on the management side through adequate arrangements to maximize the involvement of domestic institutions. In the design stage, a careful assessment of the reliability of governmental bodies as sources of data and general information must be undertaken to provide a realistic time frame for the project execution. Similarly, an appropriate institutional building for the undertaking of the national studies should follow from a pre-feasibility analysis in the planning stage.

84. In order to overcome operational constraints due to political or institutional problems, the responsibilities of the climate change national focal point and of the national study team leader should be made clear from the outset, through the provision of detailed terms of reference for the project. For example, on the technical side, the primary responsibility for the homogeneity of the report should be ensured by the national team leader. On the management side, a time schedule should be established for all the involved institutions to perform their assigned tasks. This should be jointly agreed with them at the very start of the project.

85. Throughout the project, close monitoring of the time schedule would enable early warning and corrective actions to overcome operational constraints and avoid execution delays. The flow of financial resources could be more tightly linked to the achievement of physical progress indicators, in order to enhance the incentive to local institutions meeting the deliverables schedule. The establishment of these rules at the project outset would make it easier to overcome political and/or institutional problems due to different national circumstances.

XI. CONTRIBUTION OF THE PROJECT TO BUILDING OR ENHANCING CAPACITY AT THE NATIONAL LEVEL TO UNDERTAKE CLIMATE CHANGE MITIGATION BEYOND THE SCOPE OF THE PROJECT

86. In most countries the project has contributed towards enhancing or achieving a minimum critical mass of skilled human resources capable of undertaking climate change mitigation analyses. Project workshops and the involvement of different national institutions in project activities have increased their exposure to the climate change problem and contributed to growing awareness of the issue amongst non-governmental organizations and the scientific, industrial and administrative communities. The project has also introduced new methodological approaches in some countries, such as the concept of mitigation cost curves.

87. The integration of the climate change mitigation dimension in national policy decision-making beyond the scope of the project will depend upon a variety of factors. For developing countries, the key issue remains the outcome of the UNFCCC negotiations on further commitments to the inclusion of mitigation analysis in their national communications. The willingness to participate in CDM proposals, however, may well foster their interest in developing and using the mitigation analysis capacity acquired through the project, when the Kyoto Protocol is ratified and its flexibility mechanisms enter into operation.

88. In some countries, such as Argentina, Estonia and Hungary, the capacity built through the project has already been used in the design of concrete policies and measures in direct or indirectly related fields, for example: mitigation targets, energy taxes, energy efficiency.

89. The capacity of participating countries to undertake climate change mitigation beyond the scope of the project will depend upon the follow-up activities as in most cases the sustainability of this analysis has not yet been reached.

XII. DISSEMINATION OF PROJECT RESULTS AND FOLLOW-UP ACTIVITIES

90. Key outputs of the project, such as the methodological guidelines, were submitted to SBSTA of FCCC and widely distributed through the UNDP and UNEP National Communications Support Programme and through other channels to different audiences such as national enabling activities project teams, national FCCC delegations and a broad range of experts worldwide. More than 1,000 copies of the guidelines have been distributed so far, and a total of 2,000 copies will be disseminated by the end of the project.

91. Fifty copies of each of the national and regional studies in English were also published and distributed. The main task to finalize the dissemination of the project results is their translation into the national languages and wide distribution within each participating country. After the completion of the Mauritius and Senegal studies, the elaboration and distribution of a CD-ROM gathering all the project publications is scheduled.

92. Finally, all the project reports published so far are available from UCCEE website and can be freely downloaded. The dissemination of the project results can thus be considered quite successful, reaching the most pertinent



audiences. It could be further recommended that the executive summaries of the national and regional studies be gathered in a synthetic comparative analysis for publication in a scientific journal.

93. Among the concrete project follow-up activities already initiated by UCCEE, the most important one is the technical background given to the UNDP and UNEP National Communications Support Programme. Also worth a mention is UCCEE participation in an effort to improve mitigation analyses in the transport sector, building upon a World Bank extensive assessment of air pollution control programmes, the Global Overlay in the Transportation Sector 17/.

94. Further follow-up activities to enhance the utilization of the project experience could be best framed through a new project which builds upon the results obtained so far and continues towards the identification of a portfolio of mitigation projects, of the barriers to their implementation and of the policies and measures to overcome the latter, with a focus on market transformation. After the establishment of the Kyoto Protocol and in view of the recent developments of UNFCCC, a natural follow-up to this project would be an effort directed towards fostering the capacity of developing countries to participate in CDM.

95. From the methodological viewpoint, the focus of follow-up activities should address the issue of baselines development at the national, sectoral and project level in depth. The design and application of sustainable development indicators for the appraisal of CDM proposals has also become of utmost priority and is well suited to a comparative analysis of national case studies. Thus, phase two of the project could well be conceived along these lines.

#### XIII. CONTRIBUTION OF THE PROJECT TO GEF STRATEGIES, POLICIES AND PROJECT IMPLEMENTATION

96. Due to the initial delay in project approval, the methodological development phase of GEF was already over when the project finally started. By then, the GEF Operational Strategy had just been launched 18/ and commenced implementation. The focus of GEF action has been shifted towards the implementation of mitigation options, policies and measures. Priority areas have been shifted accordingly from the calculation of mitigation costs towards the identification of barriers to implementation and the appropriate policies and measures of market transformation to overcome them<sup>19/</sup>.

97. Thus, the project contribution to GEF strategies, policies and project implementation has been limited to the consolidation of previous

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17/ Office of Climate Change, Environment Department, World Bank

18/ GEF, Global Environment Facility; Operational Strategy, February 1996

19/ GEF, Global Environment Facility; GEF Operational Programs, June 1997; GEF, Global Environment Facility; Project Performance Report, 1998; GEF, Global Environment Facility; Operational Report on GEF Programs, June 30 1999a; GEF, Global Environment Facility; Report on Incremental Costs, November 5, 1999b

methodological development efforts in the field of mitigation analysis <sup>20/</sup>. This also explains why the enabling activities proposals to GEF from the eight participating countries have not yet reflected the impact of the project execution.

98. This evaluation points to the interest of continuing project efforts in a second phase geared to the detailed identification of a portfolio of mitigation projects, of the barriers to their implementation and of the policies/measures to overcome the latter, with a focus on market transformation.

99. It should be recognized that GEF continues to play a crucial role in building the general capacity needed to address climate change issues in developing countries, particularly for the preparation of their second national communication to FCCC. The project contribution towards this end should be acknowledged.

#### XIV. RATE OF SUCCESSFULNESS OF THE PROJECT

100. In order to provide a concise overview of the success of the project, the following items will be considered for rating purposes:

- (a) Timeliness: how the project met the schedule and implementation timetable;
- (b) Achievement of results and objectives;
- (c) Attainment of outputs;
- (d) Completion of activities;
- (e) Project executed within budget;
- (f) Impact created by the project; and
- (g) Sustainability.

101. Each of the items will be rated separately. The following rating system will be applied, using a scale from 1 to 5, with 1 being the highest (most successful) rating and 5 being the lowest :

1=Excellent	(90-100% achievement)
2=Very good	(75-89%)
3=Good	(60-74%)
4=Satisfactory	(50-59%)
5=Unsatisfactory	(less than 59%)

102. From the analysis presented throughout the report, the judgment of the rate of successfulness for each of these items according to the consultant's view is summarized in the table below:

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<sup>20/</sup> UCCEE, UNEP Greenhouse Gas Abatement Costing Studies: Main Report, Country Summaries and Guidelines, 1994; Sathaye, J., Meyers, S., Greenhouse Gas Mitigation Assessment: a Guidebook, Kluwer Academic Publishers, 1995; the PRINCE project; UCCEE, 1998

Rate of successfulness of the project

Item	Rate of successfulness
(a) Timeliness	3= Good (60-74 %)
(b) Achievement of results and objectives	2= Very good (75-89 %)
(c) Attainment of outputs	2= Very good (75-89 %)
(d) Completion of activities	2= Very good (75-89 %)
(e) Project executed within budget	1= Excellent (90-100 %)
(f) Impact created by the project	2= Very good (75-89 %)
(g) Sustainability	2= Very good (75-89 %)

103. Two final remarks on the criteria applied in this judgment of the rate of successfulness of the project which are useful for clarification purposes :

(a) It must be recognized that while some parameters were under the control of the project, other external factors had an important influence in limiting the attainment of its planned outputs, results and impact. These include political and institutional problems in the participating countries and the ways in which the FCCC process and GEF strategies have developed. A clear distinction between such internal and external factors would require an evaluation beyond the scope of the terms of reference for this report;

(b) Accordingly, the judgment of the rate of successfulness was based upon the original planned performance according to the project document. It must be acknowledged that significant parallel activities have allowed for additional outputs not included in the original plan, such as the indirect cost activity, the SADC book and the sectoral studies in Argentina.

## ANNEX I

Terms Of Reference  
for  
Evaluation of GEF Project GF/2200-96-15  
Economics of GHG Limitations - Phase I

The GEF project on "Economics of GHG Limitations - Phase I" has been implemented for UNEP by the UNEP Collaborating Centre on Energy and Environment (UCCEE). The evaluator will under the guidance of the Chief of the Evaluation Unit and in close collaboration with the Head of UCCEE and relevant staff in both UNEP and at UCCEE undertake a detailed evaluation of the project. This evaluation will be conducted during September/November (6 weeks spread over 8 weeks).

1. Background

The project has been implemented by UCCEE with financial reporting to the Fund Programme Management Branch (FPMB) in UNEP, Nairobi and substantive reporting to UNEP IE, Paris and the UNEP GEF unit in Nairobi.

The original project proposal is described in the GEF document of January 1994 and the modified final project is presented in the approved project document signed in April 1996.

The project consisted basically of three major components:

(a) Development of methodological guidelines for climate change mitigation analysis and supporting handbook material;

(b) Implementation of eight national mitigation analysis studies in Argentina, Ecuador, Estonia, Hungary, Indonesia, Mauritius, Senegal and Viet Nam; and

(c) Implementation of two research studies on options for joint action on regional level for mitigation activities with case studies for the SADC and the Andean Pact regions.

The three components were closely interlinked with the ambition to develop, apply and test the methodological guidance in the national and regional studies with the national and regional teams providing feedback on application experience, need for modifications and enhancements, etc. A number of other countries also participated in this process through parallel projects financed by DANIDA (Botswana, Tanzania, Zambia and Peru) and teams from other UNDP and UNEP enabling projects also took part in various project team workshops.

2. Scope of the evaluation

The scope of the evaluation will cover the key activities undertaken within the project. The evaluator will compare the planned outputs of the project to the actual outputs and assess the actual results to determine the impact of the project. The comparison and assessment will cover the main components of the project:

- (a) Methodological framework;
- (b) National and regional studies;
- (c) Capacity-building and outreach.

The evaluation shall also assess the relative cost-effectiveness of the project compared with other similar activities and its potential impact beyond the project participants, by consulting for example relevant staff in UNDP, UNEP, FCCC Secretariat and from bilateral country studies programmes.

The links with other programmes and projects should also be examined to assess how effective the project has been in creating links and synergies and on a

qualitative basis discuss how the project experience has benefited other similar work.

### 3. Terms of reference for the evaluator (Consultant)

The evaluator (consultant) shall:

- (a) Assess the appropriateness of the project in relation to the programme objectives of UNEP in the area of climate change, by consulting relevant UNEP staff;
- (b) Assess the relevance and timeliness of the project and its objectives and the extent to which the objectives have been met;
- (c) Assess the scope, quality, significance and impact of the project, including:
  - (i) Comprehensiveness and quality of the developed guidelines and handbook material, by consulting national experts involved in the project and international experts in mitigation analysis;
  - (ii) Comprehensiveness and quality of the national and regional studies through desk reviews and comparison with similar studies under other programmes;
  - (iii) Appropriateness of the institutional arrangements in terms of both overall project implementation and organization of the studies at the national level, including level of stakeholder involvement in the design and implementation of the studies, by consulting UCCEE staff and selected national coordinators;
  - (iv) Relevance and impact of the project internal training and experience exchange workshops, consulting participants from national teams;
  - (v) Quality and timeliness of the technical assistance, consulting national teams;
  - (vi) Impact on related activities outside of the project like other similar national studies, through direct collaboration, involvement in meetings and workshops, distribution and utilization of project reports, etc., by assessing the links to other programmes and projects, direct involvement of other project teams, interview with relevant programme managers in UNEP, UNDP and bilateral country study programmes;

(vii) General contribution to enhancing the scientific knowledge in the relevant substance areas, including how the results have been assessed by the IPCC and integrated with the methodological work of SBSTA, by consulting relevant IPCC and SBSTA documents

(d) Determine the appropriateness and efficiency of the project organization and management at the UCCEE, including contracting arrangements for national and regional studies, provision of technical assistance and printing and distribution of publications;

(e) Identify technical and/or operational constraints encountered during the project implementation, including those that caused any delay in implementing the approved work plan. Examine the actions taken by UNEP/UCCEE to overcome these constraints and the lessons learned, by discussing with national teams and UCCEE staff;

(f) Assess the contribution the project has made to building or enhancing capacity at the national level to undertake climate change mitigation analysis beyond the scope of the project, through interview with the national coordinators;

(g) Assess how the project results have been disseminated and any concrete follow-up activities which have been initiated by UNEP/UCCEE or other institutions involved in the project, if relevant recommend further follow-up activities to enhance the utilization of the project reports and experiences;

(h) Determine the contribution the project has made to GEF strategies, policies and project implementation both in relation to the pilot phase and the present operational programmes, especially the one on enabling activities, by consulting staff in the GEF Secretariat and the UNEP GEF office.

#### 4. Evaluation reporting format

The evaluation report should include:

- (1) A concise summary (about 4 pages) covering item (a) to (g) below; and
- (2) detailed evaluation report (about 30 pages) addressing (a) to (g) below.

Rate of successfulness of the project on a scale from 1 to 5, with 1 being the highest (most successful) rating and 5 being the lowest.

The following items will be considered for rating purposes:

- (a) Timeliness: how the project met the schedule and implementation timetable cited in the project document and later revisions thereof;
- (b) Achievement of results/objectives;
- (c) Attainment of outputs;
- (d) Completion of activities;
- (e) Project executed within budget;
- (f) Impact created by the project;
- (g) Sustainability.

Each of the items should be rated separately. The following rating system shall be applied:

1=Excellent	(90-100% achievement)
2=Very good	(75-89%)
3=Good	(60-74%)
4=Satisfactory	(50-59%)
5=Unsatisfactory	(less than 59%)

#### 5. Schedule of the evaluation

The evaluation should start on 11th September 1999 and be completed by end of November 1999 (6 weeks spread over 8 weeks). As part of this evaluation, the evaluator (consultant) shall visit Ecuador, Argentina, Hungary, Estonia and the Riso National Laboratory in Denmark to access relevant documentation and to interview relevant staff members of the RISO National Laboratory. The evaluator (Consultant) should also visit or interview by telephone, or by other means, the coordinators in each participating country. In agreement with Riso, other partners may be interviewed as well.

The Consultant will brief staff at Riso of his findings and receive feedback and additional information involved with the project, before he goes to finalize his report in Rio. The Consultant will incorporate into the final evaluation report any additional information received at the meeting and present the final report to Evaluation and Oversight Unit in English by 22nd November 1999. The report shall be written in English and be presented in written form and on a diskette in MS Word format.

#### 6. Qualifications of the evaluator/consultant

The evaluator (consultant) must be on the Roster of Experts in UNEP, have an advanced university degree in relevant disciplines and should have demonstrated expertise in the area of Greenhouse gas Emissions Mitigation with reference to environmental issues. Previous experience in the evaluation of UN Programmes will be an advantage. The candidate should have at least 10 years of experience in the above-mentioned field or in related fields.

8<sup>th</sup> October 1999

## ANNEX II

List of experts interviewed

## a) Visit to Hungary - 18-20/10/99

Janusz Szlavik, Technical University of Budapest, national team leader

Miklós Fule, Technical University of Budapest

Diana Urge-Vorsatz, Central European University

Dr. Tamas Palvolgyi, Head, Department of Strategic Planning and Cooperation,  
Ministry for Environment

Dr. Zoltan Lontay - Head of Department, EGI (private company, energy projects)

Tajthy Tihamer, Energy & Environment Consulting

Maria Csutora, University of Economic Sciences

## b) Visit to UCCEE - 21-22/10/99

John Christensen, head

Kirsten Halnaes, senior economist

Arturo Villavicencio, senior energy scientist

Markko-Raul Esop, Stockholm Environment Institute Tallinn Centre, Estonia  
(phone)

## c) Visit to Bonn (COP5) - 25-28/10/99

R. Sharma, UNEP (Nairobi)

Ir. Gunardi, Office of the Minister for Environment, project coordinator,  
Indonesia

Ir. A. Ngaloken Ginting, Director, Forest Products Research Centre, Indonesia

Sok Appadu Soobaraj Nayroo, national team leader, Mauritius

## d) Visit to GEF (Washington DC, USA) - 18-19/11/99

Kenneth King, Assistant Chief Executive Officer

Juha I. Uitto, Monitoring & Evaluation Specialist

Dr. Viash, Enabling Activities

## e) Visit to Argentina - 22/11/99

Vicente Barros, Science and Technology Secretariat, national team director

Daniel Bouille, IDEE, Fondation Bariloche

Graziela Chichinilsky, IDEE, Fondation Bariloche

## e) Visit to Ecuador - 25-26/11/99

Carlos Quevedo, FEDEMA, national team director

Ines Mencias, FEDEMA

Alvaro Morales, FEDEMA

Byron Granda, FONDELEC



## ANNEX III

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