



Global Environment Facility

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May 15, 2001

Dear Council Member:

The UNEP, as the Implementing Agency for the project, *Global: Assessments of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC)* has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNEP procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by the Council in November 2000 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the UNEP satisfactorily details how Council's comments and those of the STAP reviewer have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at www.gefweb.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

cc: Alternates, Implementing Agencies, STAP



United Nations Environment Programme

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PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE

ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

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TELEFAX TRANSMISSION

To: Mr. Mohammed El-ASHry
CEO
GEF Secretariat

Date: 26 March 2001

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Attn: GEF Programme Coordination
RAMON c. Mesa
Program Coordinator

From: Ahmed Djoghlaif
Executive Coordinator
GEF Coordination Office

Subject: Submission of "Assessments of Impacts and Adaptation to Climate Change In Multiple Regions and Sectors"

Page 1 of 3

In accordance with established procedures, please find attached for final CEO endorsement, the revised project document on "Assessments of Impacts and Adaptation to Climate Change in Multiple Regions and Sectors", approved at the November 2000 GEF Council meeting. The project has been revised based on comments received from the Council members at the November 2000 Council Meeting.

The project document is complete in all respects and Terms of Reference (TOR) has been attached for the two executing agencies following their agreement on the activities. The budget included in the document takes into consideration the comments of the GEF Council members and has also been agreed with the two executing agencies. Terms of reference have also been attached for the two staff members to be hired under this project.

France

1. The implementation of Kyoto Protocol has yet to be finalised. However, even the full implementation of the Protocol will not prevent some changes in climate in the near future making adaptation a necessity and not a choice anymore. This project is the first major funding by GEF to build scientific and technical capacity of developing countries in making better assessment of the threats from climate change and how to deal with it. Recognising that developing countries do not even have the benefit of climate scenarios specific to their regions and countries makes it impossible for them to make any assessment with reasonable accuracy to predict the impact of

climate change. This project will promote a few pilot activities in this respect catalysing work in this sector in the developing world.

2. The second comment of France to take note of the different levels of knowledge among different continents is quite valid and the revised document has taken into consideration by amending the budget allocation. The budget for African region has been considerably increased in proportion to other regions. The average costs of research activities in Africa region has been increased compared to other regions, while climate scenario activities are now focussed only in Africa and small island states.

Please note para 37(d) includes a focus on Africa in the Selection Criteria; para 45 on the expected results on the climate change scenarios limits it to Africa and small island states; para 50 on the results of assessment of impacts and evaluation of adaptation strategies stresses a special focus on Africa; and para 54 on training provides 4 workshops in Africa compared to 2 each in other regions.

Canada

The budget size for research activity included in the budget represents an average cost. However, each research activity will be funded based on the complexity of the proposal. A multi-sector and multi-country proposal is likely to be valued significantly higher than a single sector and single country proposal. In addition to this flexibility the number of research activities in the revised project document have also been reduced to take this comment into account. This is now reflected in reducing the research activities 19 in the budget item 2 on page 20.

1. The attached (Annex F) project's selection criteria maintains sufficient flexibility to invite a range of proposals, from the ones using single methodology and dealing with one sector to multi-country and multi-sector proposals. Involvement of IPCC scientists and allocating sufficient funding for technical assistance and training will help reduce the risk of failure of weak proposals or weak teams.

2. Sustainability of effort is now well recognised in the project document and is mentioned as one of the criteria for selecting the research activities. Please note that para 37(e) highlights the need for sustainability of project activities by the host institution and researchers as a criteria for selecting the research activities.

Germany

The success criteria of this project will include a resulting increase in developing country scientists in the field of impact assessment and adaptation which can provide technical assistance to developing countries in their stage II adaptation work in the context of national communications; the project should lead to an increase in nominations of lead authors and co-ordinating lead authors in working group II of the IPCC; the project will lead to identification and refinement of methodologies in key sectors of the economy for adaptation assessment; and it will identify the usefulness of cost-effective methods of climate scenario development. Please refer to Para 37(f) that includes a link to the national communications as one of the selection criteria for research activities funded by this project.

The project will benefit from the research work and the experts involved in UNEP's work on vulnerability index. Para 41 highlights it be stating that the project will coordinate activities with the UNEP initiative on developing vulnerability indices by ensuring a common task manager for the projects.

The project does not plan to develop a global assessment of climate change impact and adaptation, but aims to increase the capacity of developing countries and help refine some of the tools and methodologies to achieve the larger aim that is bound to be an evolving exercise in the near future. The project implementation will be flexible enough to continuously receive guidance from the steering and technical committee to benefit from the latest knowledge and information. Please refer to Annex G.

All the above comments have been taken into full consideration while revising the attached project document. Please also note that since the proposal submission was advanced by some months, it was agreed to continue the pending activities of the PDF-B until the national level activities are launched, including consultation with the IPCC scientists, requesting country endorsements etc.

Please note that the implementing fee for the project will be US\$ 382,000.

Regards.

PROJECT DOCUMENT

1. IDENTIFIERS

PROJECT NUMBER:

PROJECT TITLE:

Assessments of Impacts of and Adaptation to
Climate Change in Multiple Regions and Sectors
(AIACC)

GEF IMPLEMENTING AGENCY:

United Nations Environment Programme (UNEP)

EXECUTING AGENCIES:

Global Change System for Analysis Research and
Training (START),
Third World Academy of Sciences,
in collaboration with the
Inter-governmental Panel on Climate Change

COUNTRY OR REGION:

Global

ELIGIBILITY:

Only countries as eligible under paragraph 9(b) of the
GEF Instrument.

GEF FOCAL AREAS:

Climate Change

GEF PROGRAMMING FRAMEWORK: Enabling Activities

2. SUMMARY:

Assessment of climate change impacts and adaptation options for the most vulnerable regions and sectors in developing countries, especially in Africa, will be targeted through an open process based on scientific merit. Twenty to thirty individual research activities are planned. The targeted regions and sectors represent gaps in the current assessments. This project will develop capacity to address these gaps through training, technology transfer, and interaction with international assessment teams.

3. COSTS AND FINANCING (MILLION US \$)

GEF:	Project	: 7.500
	PDF	: .350
	Subtotal GEF	: 7.850
Co-financing:	Other sources by Agency	
	WMO/UNEP:	2.113
	IPCC(PDF):	0.300
	Bilateral:	1.320
	Research Agencies	0.702
	START/ TWAS	0.175
	Total Project Cost	: 12.460

4. ASSOCIATED FINANCING (MILLION US \$)

5. OPERATIONAL FOCAL POINT ENDORSEMENT(S)

National endorsements will be required at the time of considering individual research activity proposals.

6. IA CONTACT:

Ahmed Djoghlaif, Executive Co-ordinator, UNEP/GEF Co-ordination Office, UNEP, Nairobi, Tel: 254 2 624153; Fax: 254 2 520825; Email: ahmed.djoghlaif@unep.org

ACRONYMS

UNEP	United Nations Environment Programme
IPCC	Inter-governmental Panel on Climate Change
ICSU	International Council of Scientific Unions
WMO	World Meteorological Organisation
PDF/B	Project Development Facility B-size Grant
UNFCCC	United Nations Framework Convention on Climate Change
GEF	Global Environment Facility
TWAS	Third World Academy of Sciences
IGBP	International Geosphere Biosphere Program
START	Global Change System for Analysis Research and Training
SBSTA	Subsidiary Body for Scientific and Technical Advice
TAR	Third Assessment Report (IPCC)
RCM	Regional Climate Model
STAP	Scientific and Technical Advisory Panel
UNDP	United Nations Development Programme
GCM	General Circulation Model or Global Climate Model

BACKGROUND

1. The Earth's climate is changing: the Earth is becoming warmer, with the last decade being the warmest in more than 600 years, and precipitation patterns are changing, with an apparent increase in the incidence of floods in recent decades. Observed climate changes cannot be explained by natural phenomena alone, and the weight of scientific evidence suggests that there is now a discernible human influence on climate. The question is not whether the Earth's climate will change in the future, but rather by how much, when, and where, i.e., magnitude, timing and regional patterns.

2. The projected changes in climate are predicted to have adverse consequences for many developing regions of the world, particularly for their water resources, agricultural productivity, natural marine and terrestrial ecological systems, coastal zones, human settlements, and human health. Developing countries, particularly the poor within them, are the most vulnerable, primarily because they lack the technical, financial, and institutional capacity to evaluate the impact of climate change and the ability to develop and implement cost-effective response and adaptation measures.

3. Recognizing concerns about global climate change, and the need to develop an international consensus on the state of understanding, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. The IPCC's role is to assess scientific, technical, and socio-economic information relevant to understanding the risk of human-induced climate change, based on published, peer-reviewed literature.

4. IPCC assessments have evaluated the potential changes in climate and the impacts of climate change on socio-economic sectors and ecological systems on a regional scale. There is a clear recognition of the relative dearth of detailed information for many developing countries concerning the impact of climate change on water resources, agricultural productivity, forestry, fisheries, human health, human settlements, and natural ecological systems. In addition, it is well recognised that many developing countries lack the observational and modelling capabilities to study these issues. Hence, there is an urgent need to enhance the scientific and technical capacities in many developing countries to assess the impacts of climate change, and to design cost-effective adaptation response measures, which are needed to formulate national policy options and prepare national communications.

5. In this proposal, we first review the state of knowledge drawn from the IPCC and Stage I national communications (Reference Documents 1 and 2) to identify research priorities for the project (Reference Document 3) and assess which methods will be used in the studies (see Reference Document 4 and 5). We then address how the program will be implemented, including the criteria that will be used to select countries and a management plan.

6. A list of selected UNFCCC decisions relating to Adaptation and capacity building are attached as an Annex. Climate Change Enabling Activities call for the assessment of adaptation to climate change. National activities to cope with current climate variations and national scientific effort towards sustainable development and ordinary donor support forms associated baseline activity but global assessment and science capacity development is incremental to this effort.

STATE OF KNOWLEDGE ON VULNERABILITY OF DEVELOPING COUNTRIES TO CLIMATE CHANGE

7. This brief summary of the state of knowledge on the vulnerability¹ of developing countries to climate change is based on the Draft Third Assessment Report of the IPCC.

8. Developing countries appear to be more vulnerable to climate change than developed countries. *This is because impacts on food production, water resources, and human health are potentially more adverse in the low latitudes than elsewhere, which is where many developing countries are located. Also, adaptive capacity is lower in developing countries than in developed countries as a consequence of fewer financial resources, poorer infrastructure, lower levels of education, and lesser access to technology. For example, adapting to the threat of sea level rise will be more challenging in developing countries. In addition, populations in developing countries face substantial and multiple stresses, including rapidly growing demands for food and water, large populations at risk to hunger and infectious diseases, degradation of land and water quality, and other sources that may amplify stresses from climate change, or be amplified themselves by climate change.*

9. *Africa* is generally considered to be highly vulnerable to climate change because it has a high exposure and sensitivity to climate change, a quite limited adaptive capacity (in its current state of development), and large portions of its population subject to other stresses that could interact with climate change to further detract from their well-being.

10. *Asia* spans low to high latitudes and quite different socioeconomic conditions, therefore, the relative vulnerability of countries in this continent to climate change varies considerably. The relatively high exposure of some of its countries and high population densities could leave many regions highly vulnerable.

11. *Latin America* is characterized by a high sensitivity to climate extremes such as the El Niño Southern Oscillation, and an increasing environmental deterioration resulting from the misuse of land. It also has widely disparate economic conditions across countries and within countries. Its high exposure and limited adaptive capacity make many regions and peoples vulnerable to climate change.

12. *Small island states* are highly vulnerable to climate change because of their small size (and low elevation in many cases), relative isolation, high population growth rates, and amounts of poverty, which limit their ability to adapt.

13. Considering the number of regions and sectors, 45 assessment activities are needed to create a critical mass for sustainability. It is noted that this number is very small compared to the experts from Annex I countries that are active in adaptation assessment. Reference Document 1 provides a more detailed discussion of the state of knowledge on vulnerability of developing countries to climate change

1. The IPCC defines vulnerability as, “the extent to which climate change may damage or harm a system; it depends not only on a system’s sensitivity, but also on its ability to adapt to new climatic conditions” (Watson et al., 1996).

and Reference Document 2 lists climate change impact sectors addressed in those national communications that have been submitted.

RATIONALE AND OBJECTIVES

14. The project supports enabling activities by developing science capacity and assessment techniques and information targeted at the most vulnerable regions and sectors where capacity is needed. This proposed global project would fund a number of studies assessing the impacts of climate change on a range of socio-economic sectors and ecological systems at the regional and national scale and the development of a range of adaptation response options. Science capacity building is a primary aspect of the project.

15. This project will enhance the comprehensiveness of impact and adaptation assessments using a consistent methodological approach (Carter et al., 1994) by supporting regionally focussed research to be undertaken by developing country experts, often in partnership with developed country experts. This will enhance regional scientific capacity and provide expertise available to governments, the private sector, and other entities that are developing national and subnational, sectoral and multisectoral policies and adaptation plans. The results will include expanded socioeconomic and other data, training and methodologies adapted to developing country regions. These results will then serve as reference impact scenarios and model adaptation strategies in the United Nations Framework Convention on Climate Change (UNFCCC) national communications. Countries can further expand or differentiate nationally focussed impact and adaptation effort using these reference cases and the methodologies developed in further regional/national Stage II adaptation studies.

16. This proposed effort will also contribute to global assessment activities in collaboration with IPCC by enabling selected developing countries, chosen on the basis of several criteria discussed in Section 7, Selection Criteria, to develop technical capacity and apply it to the assessment of climate change impacts and options for adaptation.

RESEARCH NEEDS TO BE TARGETED

17. The proposed multi-sectoral/multi-stress/multi-country research will cover a number of research priorities concerning vulnerability of key sectors affecting human development. It will also address key policy relevant questions, including:

- Where and to what extent are water resources at risk?
- How vulnerable is food security in developing countries?
- How much of a risk to human health does climate change pose in developing countries?
- How vulnerable are societies on small island states?
- What coastal areas are at substantial risk from sea level rise?
- How vulnerable are natural ecosystems?

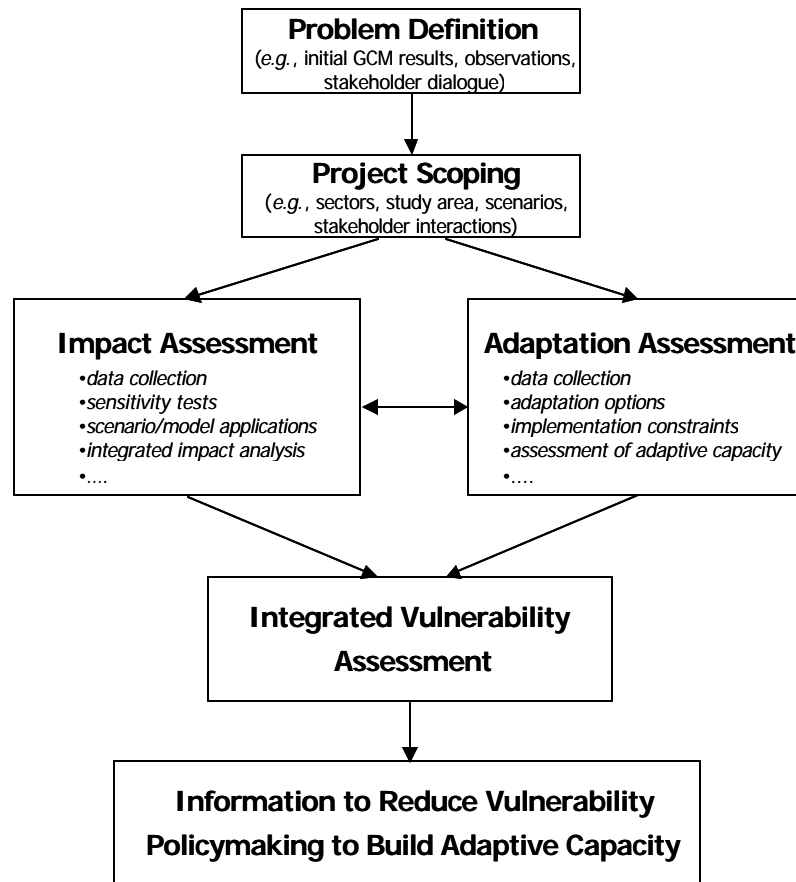
18. The research will also address a number of cross-cutting factors that are important for assessing vulnerability, including:

- a) *Changes in baseline socioeconomic conditions.* Changes in socioeconomic conditions, such as population, income, institutions, and technology can substantially affect vulnerability and need to be assessed.
- b) *Integration of related impacts.* Studies need to integrate related sectors, such as water supplies and irrigated agriculture, where a change in one sector can substantially affect the related sector. In addition, studies need to be integrated across borders, e.g., international river basin studies should include all nations in the basin.
- c) *Adaptive capacity.* Studies need to consider the potential for adaptation to offset adverse effects of climate change and take advantage of positive effects of climate change. Only when adaptive capacity is considered can vulnerability be determined.
- d) *Assessment of effectiveness, feasibility, and costs of proactive adaptation.* Adaptations that address vulnerabilities to climate change through proactive (anticipatory) measures need to be assessed, and the capacity of developing countries to assess vulnerability needs to be enhanced. Capacity building should include providing training to enable country experts to undertake the assessment (e.g., data collection, climate modeling, impacts modeling) themselves. A key consideration is to provide training to those who will be in a position to continue research and participate in future assessments. (See Reference Document 3 for a more detailed discussion.)

ASSESSMENT METHODOLOGY

19. The emphasis will be on research approaches that result in building adaptation capacity to climate change impacts. Methods will build on the IPCC Technical Guidelines for Assessing Climate Impacts and Adaptations (Carter et al., 1994), which have been tested in a number of case studies; e.g., the US Country Studies Programme (Benioff et al., 1996) and the UNEP country studies (UNEP, 1998). They have been expanded on a sector-by-sector basis in the UNEP Handbook on Methods for Assessing Climate Change Impacts and Adaptations Strategies (Feenstra et al., 1998). Methods for developing and applying climate change scenarios are reported in the IPCC Task Group on Climate Impact Assessments (TG CIA) Guidelines on the Use of Scenario Data for Climate Impact and Adaptation Assessment (<http://ipcc-ddc.cru.uea.ac.uk/>). Methods of adaptation assessment are discussed in detail in Chapter 18 (currently in draft) of the IPCC Third Assessment Report. (See Reference Document 4 and 5 for a more detailed discussion.)

20. Where feasible, outputs of various regional-scale climate model projections will be used to develop scenarios for impact and adaptation analyses. Where possible, a comparison of model simulations of past and present climate with meteorological data will be used to assess the ability of the models to simulate regional changes in climate. An array of scenarios, simulation tools, and methods will be identified for the project as a whole; these will help to encourage comparability, communication, and cohesion across the entire project. It should be emphasized, however, that specific methods will vary according to the countries and regions that will be targeted in the project. One of the first tasks will be to identify from the array of methods those that will be appropriate for each individual study. A Technical Committee made up primarily of project researchers and other climate change impacts and adaptation experts will provide advice on methods and training activities. Two or three preferred climate models may be recommended to develop more consistency in scenarios.



21. A general framework for conducting climate impact and adaptation assessments consists of seven main steps of analysis:

- a) define problem (including the study area, its sectors, etc.);
- b) select method of assessment most appropriate to the problems;
- c) test methods and conduct sensitivity analyses;
- d) select and apply baseline and climate change scenarios;
- e) assess biophysical and socioeconomic impacts;
- f) assess autonomous adjustments; and
- g) evaluate adaptation strategies.

22. The field of climate change vulnerability and adaptation assessment is now evolving to realize that these steps may need to be addressed simultaneously, rather than sequentially. It is especially useful to assess the potential impacts of climate change and the relevant adaptation capacity in parallel throughout the project. Another emphasis will be on the integrative aspects across sectors, countries, and regions. A key element will be the involvement of all key stakeholders at the initiation of and throughout all stages of each study. Our proposed general research project framework is shown in the figure.

23. Expected results are:

- a) Guidance on methodologies
- b) Review and modification of methods as appropriate for each region/sector
- c) Consistent methodologies for use in the activities
- d) A more comprehensive global assessment of climate change impact and adaptation

SELECTION CRITERIA

24. Assessment activity awards will be determined under an objective process that evaluates each proposal against a set of criteria that contains both required and recommended elements. The proposed criteria are described below.

REQUIRED ELEMENTS:

25. *Consistency with IPCC TAR needs and scientific merit.* Proposals need to identify the linkages to the research needs identified in the TAR, either on a region or sector basis, and have sufficient scientific merit for consideration.

26. *Focus and orientation of each study should be clear and well defined.* Proposals must clearly describe the scope and objectives of the research and identify the key elements and issues for scientific investigation.

27. *Integrated and comprehensive analyses.* Proposers should ensure that the analyses consider key relevant linkages both across regions, sectors, and disciplines. For example, an assessment of agriculture might be incomplete without proper consideration and integration of changes in water supply and use. Studies should examine, where appropriate, changes in baseline socioeconomic conditions and the effect of autonomous adaptation.

28. *Country endorsement.* To receive awards, proposers must provide documentation that the study is approved and endorsed by the relevant national governments. *This is not, however, a requirement for proposal submission, and can be addressed following study initiation.*

29. *Publications.* Proposals must include efforts to publish and disseminate findings in peer-reviewed literature. Contributions to the peer-reviewed literature should be a stated objective of the research.

30. *Capacity building.* Strengthening the technical capacity within countries is a key element of this project. There are many ways to support capacity building, for example, training and education, creating shared databases and models, outreach and grassroots communication, and information and expertise exchange. Each proposal should identify how it contributes to capacity building and, if appropriate, describe how that capacity might be maintained over time.

31. *Climate change and reference scenario development.* Proposals should describe the approach used to develop and define relevant climate change and reference (baseline socioeconomic) scenarios. As relevant climate change data are readily available through the IPCC Data Distribution Centre, studies should aim to develop scenarios based on at least three of the available GCMs. In developing both reference and climate change scenarios, studies should consider using at a minimum, the A2 and B2 storylines from the IPCC's Special Report on Emissions Scenarios (SRES) report.

RECOMMENDED ELEMENTS:

32. *Co-funding potential.* Proposals should identify if additional funding from other sources has been or could likely be obtained for the study.

33. *Interdisciplinary and/or multi-country collaboration.* Interdisciplinary and multi-country teams from developed and developing countries are encouraged. This lays the foundation for increasing the breadth and integration of the research and the exchange of technical information.

34. *Stakeholder benefits and policy relevance.* Proposers are encouraged to clearly identify stakeholder benefits which should lead to policy-relevant results, particularly where there is potential to identify and assess potential adaptation strategies and policies.

35. *Contribute to national communications and future IPCC reports.* Proposers are encouraged to identify linkages that can materially contribute to the national communications of one (or more) countries and to the Fourth Assessment Report of the IPCC.

36. *Adaptation strategies and coping mechanisms.* Proposers are urged to consider appropriate adaptations and coping mechanisms in their analyses.

OTHER FACTORS

37. Other factors that may be considered in deciding on study awards include:

- a) the assessed likelihood of the study's success and quality of the research,
- b) distribution of awards across targeted regions
- c) how the studies complement one another and build scientific understanding either regionally or sectorally,
- d) focus on Africa
- e) sustainability of project activities by the host institution and researchers, and
- f) link to the national communications.

LINK TO ONGOING GEF, IPCC, AND OTHER ACTIVITIES

38. Links to other GEF funded projects will be accomplished through the steering committee. Regional and national studies will build on the science capacity and findings developed in this project to accomplish more comprehensive regional studies leading to national policy and planning for adaptation. This project proposal has been developed in close coordination with the UNDP project "Stage II Adaptation to Climate Change," and the China project entitled "Targeted Research Related to Climate Change." To ensure that regional GEF adaptation projects and national communications support are complementary, close communication will be maintained throughout project implementation so that course modifications can be made, if needed. To facilitate communication, the UNDP representative on the Steering Committee will review proposals submitted to this project so that duplication can be avoided and vice versa.

39. The success of the IPCC is dependent on the full participation of experts, and the availability of scientific, technical, and economic data, from all regions of the world. Due to lack of research support, the literature and knowledge base on climate change impacts in developing country regions is relatively rudimentary and the use of regionally specific climate models is still uncommon. This project will enhance

the comprehensiveness of impact and adaptation assessments using a consistent methodological approach by supporting regionally focussed research to be undertaken by developing country experts.

40. All efforts will be made to publish the studies in the peer-reviewed literature. This will expand the peer-reviewed literature on climate impacts and adaptations assessment, particularly in areas where key uncertainties have been identified in the IPCC TAR. Researchers involved in the project will contribute to future IPCC assessment as lead authors, contributors, or reviewers and so improve the level of participation of developing country experts in IPCC assessments of climate change. They will also attend expert meetings and plenary meetings of the IPCC, as required. A comparable number of additional developing country experts, funded through this proposal, will also participate in the IPCC assessment process to further enhance capacity in developing countries.

41. The project will coordinate its activities with the UNEP initiative on developing vulnerability indices. A common task manager for both the projects at UNEP has been established to ensure close collaboration between the activities

PROJECT ACTIVITIES AND EXPECTED RESULTS:

ACTIVITY 1. DEVELOPMENT AND APPLICATION OF CLIMATE CHANGE SCENARIOS

42. Vulnerability assessments should be based on the best available climate change scenarios. Guidance on this will be based on consultations with the IPCC TG CIA (IPCC, 1999). The IPCC Data Distribution Centre (<http://ipcc-ddc.cru.uea.ac.uk/>) provides up-to-date sets of climate base line and climate change data. The work on this project will follow steps recommended by the IPCC-TG CIA: specifying the baseline, developing climate scenarios, and applying the scenarios in impact and adaptation assessments. As much as possible, a range of scenarios should be used to reflect the uncertainties resulting from future emissions, climate models, and natural variability.

43. Important advances have recently been made in downscaling regional information from general circulation models (GCMs), through the use of regional climate models and statistical downscaling techniques. All climate change scenarios should be based on downscaling of GCM results to at least 1/2 degree latitude x longitude or 50km x 50km. Scientists should use statistical downscaling techniques (if the necessary observational data record is available) or regional/nested climate models, but should try to avoid using direct interpolation between GCM grid points. The project will strongly encourage the use of climate change scenarios based on downscaling of GCM results to at least 1/2 degree latitude x longitude or 50km x 50km. In addition, sensitivity analyses can provide useful information on non-linear responses and thresholds. Climate modeling groups are encouraged to save and disseminate the appropriate data at 6-hour to daily resolution, for use in downscaling.

44. Emphasis on this activity is much lower than the sectoral adaptation component Available scenarios will be used and vulnerability examined independently as variations of parameters like rainfall, sea level rise, and temperature and examination of thresholds beyond which natural successful adaptation is at risk.

45. Expected Result: An Appropriate Range of Climate Change Scenarios will be developed with a focus on Africa and small island states.

Activity 2. Assessment of Impacts and Evaluation of Adaptation Strategies

46. Sectors commonly covered in impact assessments include agriculture, water resources, forests, grasslands/livestock, coastal resources, fisheries, wildlife, and health. A new focus is the study of potential of climate change impacts on urban areas. This full range of sectoral assessment *will not* be followed in each study, rather emphasis will be given perhaps only to two or three key sectors, especially those that are interdependent. Furthermore, there will be emphasis on integration between sectors and/or regions. Chapter 2 on Methods and Tools of the IPCC Third Assessment Report (TAR) (currently in draft), will be a good resource for guiding the assessment research. A range of analytical methods will be deployed, depending on the study, for example, simulation techniques, empirical analogue and indicator studies, economic analyses, and expert judgement. The study of impacts of and responses to current climate variability is useful in so far as it helps to build adaptation capacity to climate change.

47. Many of the impact assessments will be based on the results from validated process-based simulation models. Extensive use of models of this kind has been part of the US and UNEP country study programmes. Examples of such models include dynamic process crop growth models (e.g., the IBSNAT-ICASA models; Rosenzweig and Iglesias, 1998), watershed models (e.g., WATBAL; Yates, 1996), and grassland/livestock models (e.g., SPUR2; Hanson et al., 1992). Process-level models are available for many sectors; models that will be used need to be validated and should be published in the peer-reviewed literature. Tools for integration include geographical information systems (GIS) and matrix techniques. The analysis of remote sensing data will also be encouraged.

48. A framework for evaluating adaptation options will be part of this project. The IPCC Technical Guidelines suggest seven broad stages in this process:

- a) define the objectives;
- b) specify the climate impact importance;
- c) identify the adaptation options;
- d) examine the constraints;
- e) quantify the measures and formulate the alternative strategies;
- f) weight the objective and evaluate trade-offs; and
- g) recommend adaptation measures.

49. The adaptation assessments need to be carried out simultaneously and interactively with the impact assessment.

50. Expected Result: Sectoral/ regional impact assessments are conducted and the effectiveness of adaptation strategies in reducing vulnerability are analyzed with special focus in Africa.

ACTIVITY 3. TRAINING AND TECHNOLOGY TRANSFER

51. Initiating workshops will be held after the studies have been selected to exchange technical expertise and obtain guidance on conduct of the climate change vulnerability assessment. Key topics will be climate change and socioeconomic scenarios for use in the study and evaluation and dissemination of tools and methods. This will comprise either one workshop, which will bring researchers from all regions together or four regional workshops. The workshop(s) will address issues of climate change vulnerability in a global perspective; encourage comparability, communication, and cohesion throughout the entire project; and reinforce the major project goal, the enhancement of adaptive capacity and the provision of new results for the IPCC Fourth Assessment and national communications. It will also include detailed training on regional climate and socioeconomic scenarios and assessment tools and methods appropriate to the specific regions and studies (dynamic process simulation models, socioeconomic analyses, and GIS).

52. The workshop(s) will provide an excellent opportunity for feedback between climate modelers and impacts scientists, methods developers and methods users, and for furthering understanding of climate, impacts, and their interactions at the process level. Beyond the initiating workshops, training activities will be encouraged throughout the project, both in the countries and regions, and in institutions where impact assessment tools, models, and methods are under development.

53. The Technical Committee, comprised of project researchers and other experts in climate change scenario development and impact assessment will guide the training activities. The Technical Committee will provide guidance on the organization of the initiating workshops and suggest training activities throughout the project, in coordination with groups already engaged in similar outreach, including, among others, the IPCC TGCI; the International Centre for Theoretical Physics of UNESCO/IAEA in Trieste, Italy; and the United Nations Development Programme (UNDP) national communications training.

54. The training needs for Sectoral Impacts and Adaptation Strategy development have been estimated to be Africa (4 workshops) Asia (2 workshops) Latin America and (2 workshops) Small Island States (2 workshops). For Climate Change Scenario development a global workshop will be organised back-to-back with a training workshop, particularly for African participants.

55. Expected Result: Activity initiation is assisted and consistency and common understanding improved.

ARRANGE COUNTRY PAIRING

56. The process of involving internationally renowned scientists from the IPCC (climate modelers and vulnerability experts) to ensure collaboration among scientists (from and among developed and developing countries) and scientific relevance and excellence is an important element of this proposal.

57. This activity will enhance research collaboration and will actively encourage the formation of multi-sectoral and multi-country teams. This includes south-south as well as south-north collaboration. Teams comprised of scientists from both developed and from developing countries are encouraged, but financing the developed country scientists will have to come from their national or institutional budgets.

58. In the course of the selection process for studies, an important criterion will be excellence in science. However, to build capacity in the respective region, the aim is to include multi-country teams that have at least one team member or member institution from a least developed country that has limited experience and capacity to assess climate change impacts. In multi-sectoral studies, this can be achieved by adding a team member or institution that does not yet have an established reputation but wants to build capacity in the respective area. The establishment of regional teams may build on and enhance existing regional networks or associations, for example, South Asian Association for Regional Commerce or Association of Southeast Asian Nations.

59. Selected researchers will primarily work at their home institutions, but all researchers working on a specific topic or region will convene at least once yearly at a single location to compare data and model results to integrate their national/sub-regional findings into a regional perspective. This will enhance the transfer and exchange of expertise and information within a study team and between in-country and in-region scientists.

60. Expected Result: Capacity is established in the targeted regions to perform the assessments that will relate well to international assessments and demonstrate sustainable capability

ACTIVITY 4. PROJECT MANAGEMENT

61. The following describes the process for independently seeking regional research studies/researchers and associated selection criteria, peer-reviewing proposals, and ensuring the integrity of the selection process. Global Change System for Analysis Research and Training (START) program office and the Third World Academy of Sciences (TWAS) will manage the project.

a) Activity 4.1 Develop Guidelines Document The Executing Agencies (EA: START and TWAS) will develop a document for wide dissemination that includes guidelines for preparing research study proposals and submitting them to the EA for consideration.

b) Activity 4.2 Call for Proposals As soon as the overall project is approved by the GEF Council, the EA will widely advertise the project and announce the opportunity to submit proposals. For this purpose, the EA will use contacts from their respective regional networks, the IPCC community, and other affiliated organizations. The EA will then issue a specific call for proposals and provide guidelines for preparing and submitting proposals for consideration. Specific timelines and target dates will be set for submission, peer review, and processing of the incoming proposals. As needed, in those regions from where response to the announcement of opportunity to prepare and submit proposals does not draw sufficient response, the EA will actively support development of proposals and provide appropriate guidance and help develop partnerships to generate and strengthen proposals.

c) Activity 4.3 Expert Peer Review -The EA will compile a list of potential independent reviewers for the incoming proposals. These expert peer reviewers will be drawn from the IPCC community, regional research networks of START, TWAS, and other relevant programs. Each proposal will be peer reviewed by at least three expert reviewers. The EA will design a standard set of questions that the reviewers would address in their reviews. Such questions will be based on the selection criteria defined above. As appropriate, feedback and guidance based on peer reviews will be provided to the principal investigators of the proposals.

d) Activity 4.4 Selecting the Assessment Activities -The EA will compile the reviewers' comments and recommendations into a coherent document for further consideration by the Project Steering Committee. Acting on the decisions of this committee, the EA will then proceed with providing funding support for the recommended studies. For this purpose, the EA will conclude specific agreements with the principal investigators and institutions of the successful proposals. Such agreements will specify the effort to be undertaken, responsibilities of the investigators and their institutions, expected deliverables, and relevant timelines.

e) Activity 4.5 Organise Training - The Executing Agencies will organize the training workshop or training workshops coordinating closely with the Technical Committee.

f) Activity 4.6 Arrange for Expert Interaction As appropriate, during the execution of each study, the EA will arrange for interaction with experts from the IPCC community to ensure good progress on the research effort and delivery of results in the form of peer-reviewed publications.

62. A steering committee composed of representatives from the UNFCCC Secretariat, SBSTA, SBI, GEF Secretariat, STAP, UNEP, UNDP, World Bank, IPCC Chair, IPCC Secretariat; and co-chairs from IPCC Working Groups I and II, TWAS, and START will be assembled to provide advice. Unless otherwise convenient as part of other planned travel and meetings, the Steering Committee will communicate by e-mail and teleconferencing. The Steering Committee will oversee the management of the project, including decisions on selection of studies, training, and review of study reports.

63. Expected Results: Broadly accessible research activity support and focussed effort on targeted regions and sectors.

RISKS AND SUSTAINABILITY

64. The project has the following components to ensure smooth operation; provision of strategic technical assistance and training as an insurance against the risk of any project getting stalled, guidelines for proposals, and monitoring of activity and reports through both the executing agencies. Participation in the IPCC working groups will provide additional support through sharing of ideas and maintaining familiarity with current techniques.

65. The Executing Agencies have ongoing programs in the area of research funding and scholarships. By using scientific merit as a primary criterion for activity selection, the project will attract university professors and graduate students and researchers in existing institutions where capacity can be best maintained. The project will work with the researchers. In some cases capacity building in Climate Change has been hampered by politically driven projects that are prone to less sustainability than the enhancement of existing science capacity in universities and research institutes.

66. The international and national political context and controversy within which climate change impact and adaptation is situated may cause difficulties in achieving consensus. This project is designed to avoid political issues and focus on the technical aspects.

67. Preparedness for climate change adaptation is a highly cost effective measure. Despite the uncertainties in projecting climate change and natural adaptation, planning and adopting "win-win"

measures will result in reduced vulnerability. Win-win opportunities may include no or low cost alternatives in infrastructure design or diversified agriculture for instance.

68. The study and assessment of vulnerability and adaptation to climate change will most likely have more beneficial than damaging effects on the related focal areas of concern to the GEF. For instance in the case of biodiversity, climate change vulnerability and adaptation studies may lessen the loss of biodiversity, since forestry and agriculture impacts studies may recommend adaptation measures that may limit species and crop extinction. Similarly, land degradation through deforestation and desertification may be slowed by appropriate remedial policies emanating from the impacts studies. As for international waters, climate change vulnerability and impacts studies may allow for adaptation measures that may alleviate problems in the fishing and marine transport sectors.

STAKEHOLDER PARTICIPATION AND IMPLEMENTATION ARRANGEMENTS

69. The project was announced at the scheduled plenary of meeting of the 12th UNFCCC Subsidiary Body of Implementation meeting by the chairman of IPCC and received support from the SBI members present at the meeting.

70. The project has been designed to integrate the best available scientific expertise on the subject of climate impact assessment and adaptation internationally, by linking the IPCC Lead Authors from Working Group I and II to the non-Annex I country researchers.

71. The project will further invite endorsements from GEF National Focal Points of countries, in which research activities are selected. The implementation of the project will take place through a network of institutions and individuals, led by regional and multi-sectoral co-ordinators responsible for the various project components, operating according to a common timetable and work plan. It is critical that the assessment of adaptation be done in a policy relevant manner. An important component of adaptation assessment is involvement of stakeholders. Stakeholders should participate in the design of impacts of studies, particularly the choice of topics. They should also be closely involved in the selection of adaptation options that will be analyzed, selection and application of analytic methods, interpretation of results, and writing of recommendations and conclusions.

72. Primary stakeholders in this project are the research community related to the IPCC Working Group I and II, Ministries of Environment, Agriculture, Health, Water Resources, environmental community involved with the management natural resource management, climate change and development planning. The project will involve the national policy makers from the start to the end to ensure that the research results are incorporated in development planning process. A project oversight committee including researchers and policy makers will guide all the activities. Regional project meetings will be held to accomplish this linkage.

73. The project will be implemented by UNEP, which co-sponsors the IPCC along with the World Meteorological Organisation. UNEP has been co-ordinating and catalysing international activities on impacts of climate change and response strategies within the international programme framework - the World Climate Programme and the Climate Agenda. In 1993, climate-related programmes of seven international organisations were integrated to create the Climate Agenda. UNEP is responsible for

Thrust 3 of the Agenda, called "Studies of Climate Impact Assessments and Response Strategies to reduce Vulnerability."

74. UNEP has extensive experience in developing and testing methodologies. Since early 1980s several regional and country studies have been undertaken by UNEP to review methodologies related to climate impact assessment and response strategies. Recent work has focussed on supporting the IPCC's efforts and on helping countries to implement the UNFCCC. A task manager based at UNEP's Division for Policy Development and Law (DPDL), which is the focal point for its climate change activities, will implement this project.

75. The project will have two executing agencies dividing work according to their comparative advantage. These agencies were chosen as cost-effective opportunities to expand existing research funding infrastructures. START Secretariat will be the executing agency that will host the office of the Project manager.

76. The Global Change System for Analysis, Research and Training (START) is an international non-governmental organisation. Its aim is to promote regional networks of collaborating scientists and institutions to assess the causes and impacts of regional global change. One of START's focuses has been on integrating research products into applications and approaches, which will assist developing countries in adaptation to climate change. START initiated the Climate Prediction and Agriculture (CLIMAG) through three demonstration projects for Southeast Asia, Africa and Latin America.

77. The Third World Academy of Sciences (TWAS) is an autonomous international organisation founded in Trieste, Italy in 1983. TWAS membership consists of Fellows and Associate Fellows, who are drawn from the most distinguished scientists. Fellows are elected from the developing countries while Associate Fellows are elected from citizens of the North. Since 1986 TWAS has been supporting research work of scientific merit in 100 developing countries through a variety of programmes and has 546 members. TWAS has intensive experience in capacity building for research. TWAS will specifically execute the project in the North and West Africa and Asian region due to its proximity and contacts.

78. The project manager will be based at the START secretariat and will be responsible for co-ordinating both executing agencies. The project manager will report to the Steering Committee of the project and will be assisted by an assistant project manager based at TWAS. For the purpose of project management, an operational committee representing TWAS, START and UNEP will be formed to coordinate day-to-day issues. This committee will meet every quarter through teleconference.

79. The research activity coordinators will be the principle managers for conducting the research work and will be responsible for co-ordination of their work with relevant policy makers, including convening necessary meetings. The Co-ordinators should receive some infrastructure and logistic support from their supporting institutions.

80. The Technical Committee will be composed of approximately 7 members, chosen by the STAP, and chaired by a STAP member, in addition to the Project Coordinator based at START, Secretariat. Members will be drawn from regional activity participants in government, academia, public interest NGOs or industry.

81. The Technical Committee will consider project proposals after having received endorsements from the countries directly involved in the project.

MONITORING AND EVALUATION

82. The GEF funding is primarily to support activities in those regions and sectors that are characterized as particularly vulnerable to climate change as per Article 4.8 of the UNFCCC. The scientific and technical work done by Annex I experts to provide support to the non-Annex I project coordinators will be through the additional support of donors through co-financing to the IPCC technical support units. The Implementing Agency, UNEP, will provide in-kind support to the Project Manager, for World Wide Web dissemination of results, and for monitoring and evaluation.

83. Monitoring of progress in execution of the project will be undertaken through UNEP and GEF requirements of quarterly and half-yearly reports on substantive and financial matters.

84. A mid-term internal evaluation will be undertaken with the guidance of STAP and under the supervision of the UNEP/GEF Co-ordination Office to diagnose problems and suggest necessary corrections. It will evaluate the efficiency of project management, including delivery of outputs and activities in terms of quality, quantity and timeliness. The Steering Committee will receive the outcome of the evaluation and discuss any required remedial action, if necessary. Final desk evaluation of the project will be undertaken by UNEP Task Manager according to UNEP approved Monitoring and Evaluation procedures. Evaluation of the overall performance of the project will be undertaken within the framework of the Monitoring and Evaluation Programme of the GEF Secretariat.

Incremental Costs and Project Financing

85. The project addresses gaps in global assessment and capacity needs for climate change. Developing countries are attempting to cope with short-term climate variations and sustainable development. Ordinary donor assistance has not been considered in this project although synergies exist between development and relief programs and preparedness for climate change. The global activities of the IPCC are considered a baseline for this work and national/ regional research agencies are expected to support the project through use of facilities and existing infrastructure.

86. The main budget allocation is directed to the highest priority, most sustainable and cost effective opportunity for GEF intervention, the assessment of climate impact and adaptation section (Activity 1 and 2) of the project. This recognises that countries require three critical elements for preparing comprehensive stage II adaptation strategies: activity data, agreed and tested methodological tools and training. Following discussion at the project development meeting and the IPCC Working Group II on the critical mass required to provide the above mentioned three elements for countries to prepare stage II adaptation strategies. 12 major sectors for adaptation and 9 sub-regions of the developing world are identified. Each multi-sectoral research activity would likely consist of 2 to 3 interdependent sectors and assessment specialists in these fields in each of the identified sub- regions. The project would thus require 3 multi-sectoral adaptation research activities per sub-region as a minimum to cover all the major adaptation sectors thus ensuring enough activity data and help define methodologies for individual nations

to prepare stage II adaptation strategies. This means an average of 2 activities in each of the sub-region to cover all the sectors, totaling to about 19 activities on adaptation. A set of 19 research activities in adaptation will be initiated through this project.

a) Adaptation Sectors (12)	b) Sub-regions (9)	Activities
Forests		
Rangelands and livestock	East and Southern Africa	3
Mountain ecosystem	West Africa	3
Wetlands	Central Africa	1
Coastal Zones	North Africa	2
Hydrology and Freshwater Ecology	South Asia	2
Industry, Transportation and Energy	South East Asia	1
Human Settlements	Central America	1
Agriculture	South America	2
Fisheries	Small Island states	3
Human Health		

87. The development of Climate Change Scenarios, while a topic of interest and a significant gap in developing country capacity has not been seen as important as the adaptation strategies. Science capacity in this area is necessary to understand the uncertainties with which climate projections are made and to improve the relevance of projected changes. Africa was targeted as having the greatest need for modeling especially for those areas where meteorological records are poor.

88. Recognising that sustainability of the built capacity needs to overcome the risk of some scientists leaving their countries, the project aims to directly or indirectly help strengthen the initial capacity of more than 60 scientists in this process. This may still not even approach the capacity of Annex I countries in this field, but would significantly address gaps in the existing capacity to sustain the work on climate impact and adaptation in developing countries.

89. Recognising the multidisciplinary nature of adaptation, and to establish a link between the project and policy planning, the project has carefully included broad stakeholder participation, as recommended by the STAP expert review. Additional regional travel and national/regional meetings are budgeted for in the cost of individual projects.

Global Environmental Benefits	Baseline	Alternative	Increment
1. Development and Application of Climate Change Scenarios	0.980	1.780	0.800
2. Assessment of Impacts and Evaluation of Adaptation Strategies	1.613	6.497	4.884
3. Training and Tech Transfer	0.840	1.876	1.036
4. Project Management	0.300 (PDF cofin)	1.605 (incl. PDF)	1.305

All Activities	3.733	11.758	8.025
Domestic Environmental Benefits	Baseline	Alternative	Increment
1. Development and Application of Climate Change Scenarios	0.130	0.130	0
2. Assessment of Impacts and Evaluation of Adaptation Strategies	0.572	0.572	0
3. Training and Tech Transfer	0.0	0.0	0
4. Project Management	0.0	0.0	0
All Activities	0.702	0.702	0

	GEF	Co-finance	Total
1. Development & Application of Climate Change Scenarios			
Africa (2 activities)	450,000		
Small Island States (1 project)	200,000		
Sub-Total (3 projects)	650,000	1,110,000	1,910,000
2. Climate Change Impact Assessment and Adaptation			
Africa (8 activities)	2,000,000		
Asia (4 activities)	1,000,000		
Latin America (4 activities)	1,000,000		
Small Island States (3 activities)	884,000		
Sub-Total (19 projects)	4,884,000	2,185,000	7,069,000
3. Training and Technical Assistance			
<i>a) Climate Change Scenarios</i>			
Global Workshop	125,000		
Training workshop for Africa	50,000		
Project set-up technical assistance	75,000		
<i>b) Climate Change Impact Assessment & Adaptation (regional, multi-sectoral training @ 75,000/workshop)</i>			
Africa (4 sectoral workshops)	250,000		
Asia (2 sectoral workshops)	150,000		
Latin America (2 sectoral workshops)	150,000		
Small Island States (2 sectoral workshops)	125,000		
Technical assistance	261,000		
Sub-Total	1,036,000	840,000	1,876,000
4. Project Management	GEF	Co-finance	Total
Project Coordination	380,000	112,000	480,000
Project Assistance	175,000	63,000	270,000
Travel	100,000		115,000

Communication	60,000		56,000
Outreach (Publication and dissemination of guidelines)	25,000		58,000
Technical Committee Meetings (conference calls)	20,000		45,000
Steering Committee Meetings (conference calls)	20,000		45,000
Sub-Total	780,000	175,000	955,000
PDF/B	350,000	300,000	650,000
TOTAL	7,850,000	4,610,000	12,460,000

MONITORING, EVALUATION & DISSEMINATION

86. The technical and steering committees will review all proposals and select the projects. Thereafter, the technical assistance will provide contact and support through the project initiation and initial refinement phase. Subsequently, periodic reporting will be required of the researchers and collated by the executing agencies and consolidated into a progress report by the Project Manager for presentation/ distribution to the technical and steering committees. Changes to project technical content will be reviewed and recommended by the technical committee, changes impacting financial matters will be reviewed and recommended by the steering committee.
87. The sustainability of the science capacity will be monitored and the potential for centres to develop out of these activities considered.
88. The Steering Committee will meet regularly to review project implementation and provide scientific, technical, policy and strategic guidance. The minutes of these meetings will be shared with all participating institutions. The Implementation Committee will guide the project coordinator on reports and make recommendation to the executing agencies, which, in turn, will provide quarterly progress reports and quarterly financial reports to UNEP based on UNEP's standard format.
89. UNEP will provide its established monitoring and evaluation guidelines and assessment procedures, which will be applied to evaluate the progress of the project during mid-term and after its completion.

Cash advance requirements

90. The total funds provided by this project document is US\$ 7.5 million. The total project funds allocated to the executing agencies, START and TWAS for the implementation of this project is US\$ 7.5 million. Upon signature of this project agreement by both UNEP, START and TWAS, UNEP will transfer an advance of US\$250,000 for project activities. Subsequent cash advances are to be made quarterly, subject to:

i) confirmation by START, at least two weeks before the payment is required, that the expected rate of expenditure and the actual cash position necessitate the payment, including a reasonable amount to cover "lead time" for the next remittance is needed (see format of request in Annex I).

ii) The presentation of:

iii) A satisfactory financial report showing expenditures incurred for the past quarter (see format in Annex II).

iv) Timely and satisfactory progress reports on project implementation.

Follow-up

91. START and TWAS will ensure that the research reports developed under this project is submitted to UNEP and IPCC.

Institutional Arrangement

92. The Project Coordinator of this project will be responsible for the overall coordination of the various components of the project.

93. A programme officer in the UNEP Division for Policy Development and Law, working under the supervision of the policy unit chief, in collaboration with the GEF Unit, will serve as the task manager for this project.

94. Funds will be transferred directly to START and TWAS Secretariat by UNEP. To facilitate this process and for the duration of the project, START and TWAS will establish a bank account in the name of the project in a commercial bank.

95. All correspondence regarding substantive and technical matters should be addressed to:

Mr. Hassan Virji
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The International START Secretariat
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Tel: (254 2) 62 4215
Fax: (254 2) 62 4324
E-mail: ravi.sharma@unep.org

With a copy to:
Chief, Budget and Funds Management Service, UNON; and
Executive Coordinator, UNEP/GEF Coordination Office, UNEP

All correspondence related to financial administrative and financial matters related to this sub-project should be addressed to:

Chief
Budget and Funds Management Service
United Nations Office at Nairobi (UNON)
P.O. Box 67578, Nairobi, Kenya

With a copy to:
Executive Coordinator, UNEP/GEF Coordination Office, UNEP

Evaluation

96. The UNEP task manager at the end of the sub-project will undertake a desk evaluation. At the completion of this project, the UNEP task manager will complete, in cooperation with START and TWAS, a UNEP self-evaluation fact sheet that will be countersigned by START and TWAS and distributed to GEF, to the Steering Committee and to the appropriate units within UNEP.
97. The project will also be evaluated at the end of the project through an external evaluation based on terms of reference to be prepared at a later stage based on standard UNEP and GEF formats.

Reporting

98. Both the cover and title page of the final substantive report will carry the approved UNEP logo and the title "United Nations Environment Programme", together with that of the supporting

organizations publishing the report. START and TWAS will also identify the final reports of research activities funded by this project as a GEF sponsored activity and acknowledge the Global Environment Facility (GEF) as the source of funds for the project.

99. UNEP will receive 5 free copies of the published reports in English for its own distribution. The actual distribution costs will be paid for by UNEP.

Management reports

100. Within 30 days of the reporting period, START and TWAS will submit quarterly progress reports to the Chief, Budget and Funds Management Service, UNON as of 30 September, 31 December, 31 March and 30 June following the format provided in Annex III of this project document.

Terminal reports

101. Within 60 days of the completion of the project, START and TWAS will submit a terminal report to the Chief, Budget and Funds Management Service, UNON using the format given in Annex IV.

Project Expenditure of Accounts

102. START and TWAS will present quarterly expenditure statements to UNEP in line with the budget codes cited in the budget for this project. All expenditure accounts will be sent to UNEP within 30 days of the end of each calendar quarter to which they refer and be certified by a duly authorized official.

103. Within 60 days of the completion of the activities described in this project document, START and TWAS will provide UNEP with a detailed financial statement showing the actual costs incurred by the START and TWAS for the above mentioned activities. Furthermore, UNEP requires that the expenditure statement should be reported in the opinion of an auditor.

In particular, the auditor will be asked to report, in their opinion whether

-Proper books of account and records have been maintained.

-Vouchers and adequate documentation support all expenditures.

-Expenditures have been incurred in accordance with the objectives outlined in the sub-project document.

104. If requested, START and TWAS will facilitate an audit (by the UN Board of Auditors and/or the UN Audit Service) of the accounts of the project.

105. Any portion of the cash advances remaining unspent or uncommitted by START and TWAS will be returned to UNEP within one month of the presentation of the final expenditure statement. In the

event that there is any delay in such disbursement, START and TWAS will be financially responsible for any adverse movement in exchange rates.

Responsibility for cost overruns

106. Any cost overrun (expenditure in excess of the amount budgeted in each subline) shall be met by START and TWAS, unless written agreement has been received by letter, cable, or fax, in advance from UNEP. In cases where UNEP has indicated its agreement to a cost overrun in a budget subline, either to transfer funds from one subline to another, or to increase the total cost to UNEP, a revision to the project document amending the budget will be issued by UNEP.

Non-expendable Equipment

107. START and TWAS will maintain records of non-expendable equipment (items over US\$1,500 or more or with a serviceable lifetime of 5 years or more) as well as items of attraction such as pocket calculators, cameras, etc. costing more than US\$500) purchased with GEF funds administered by UNEP and will submit an inventory of all such equipment attached to the terminal report, indicating description, date of purchase, country of manufacture, cost, and present condition. Non-expendable equipment purchased with funds administered by UNEP will remain the property of UNEP until its disposal is authorized by UNEP, in consultation with START and TWAS. START and TWAS will be responsible for any loss or damage to equipment purchased with UNEP funds. The proceeds from the sale of the equipment (duly authorized) shall be credited to the accounts of UNEP (see Annex V format for inventory of non-expendable equipment).

Claims by Third Parties

108. START and TWAS shall be responsible for dealing with any claims which may be brought by third parties against UNEP and its staff, and shall hold UNEP and its staff non-liaible in case of claims or liabilities resulting from operations carried out by START and TWAS under this project document, except where it is agreed by START and TWAS and UNEP that such claims or liabilities arose from gross negligence or willful misconduct by the staff of UNEP.

The following timeline is proposed. Deliverables are described in the Logical Framework.

Sequence of Activities for Assessments of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (IACC)

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Activity																									
Establishment of the project	x	x	x																						
Develop guideline document				x	x																				
Call for proposals						x	x	x	x	x	x	x	x	x	x	x	x	x							
Expert peer review							x			x		x			x			x				X		x	
Selecting the proposals								x			x					x				x			x		
Development & Application of Climate Change Scenarios										x	x	x	x	x	x	x	x	x	x	x	x	X	x	x	x
Climate Impact Assessment & Adaptation										x	x	x	x	x	x	x	x	x	x	x	x	X	x	x	x
Training and Technical Assistance																									
-CC Scenario Tech Assistance									x			x		x			x				x			x	
-CC Scenario Training Workshops										x		x		x		x		x			x			x	
-Impact & Adapt. Workshops									x		x		x		x		x		x		X			x	
-I & A Tech Assistance										x				x			x				x			x	
Newsletter Publication						x		x		x		x		x		x		x			x			x	
Monitoring & Evaluation				x			x			x			x			x				x			x		
Mid-term project review																							x	x	x
Final project report																									

Sequence of Activities for Assessments of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (IACC)

Month	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
Activity																									
Establishment of the project																									
Develop guideline document																									
Call for proposals	x	x																							
Expert peer review		x					x			x		x			x			x			x			x	
Selecting the proposals		x			x																				
Development & Application of Climate Change Scenarios	x	x	x	x	x	x	x	x	x	x	x	x													
Climate Impact Assessment & Adaptation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	X	x				
Training and Technical Assistance																									
-CC Scenario Tech Assistance	x				x				x					x			x								
-CC Scenario Training Workshops		x		x																					
-Impact & Adapt. Workshops			x		x																				
-I & A Tech Assistance				x		x				x				x			x								
Newsletter Publication		x		x		x		x		x		x		x		x		x		X		x		x	
Monitoring & Evaluation	x			x			x		x			x			x			x				x			
Mid-term project review																									
Final project report																						x	x	x	x

Annex A Incremental Cost

Activities		Baseline	Alternative	Increment
1. Development and Application of Climate Change Scenarios	Global Environment Benefits	Low Resolution, potentially misleading CC scenarios	Appropriate resolution scenarios support Global Assessments	Same as increment
	Domestic Benefits	None	Support to Domestic Planning for Short Term	Same
	Costs	IPCC support: WMO/UNEP 0.740 DDC Bilateral 0.240 Researchers: 0.130 Total: 1.110 M\$	GEF 0.800 Researchers 0.130 WMO/UNEP: 0.740 DDC 0.240 Total 1.910 M\$	GEF 0.800
2. Assessment of Impacts and Evaluation of Adaptation Strategies Africa Asia Small Island States Latin America	Global Environment Benefits	Gaps in global assessments in most vulnerable regions/sectors	Assessment Gaps are addressed, adaptation better quantified Support to Informed Policy decision making	Same
	Domestic Benefits	Priority Focus on Immediate Climate Fluctuations	Better response to short term climate fluctuations	
	Costs	IPCC support: WMO/UNEP 1.373 DDC Bilateral 0.240 Research Agencies 0.572 Total 2.185 M\$	GEF 4.884 Research Agencies 0.572 WMO/UNEP 1.373 DDC Bilateral 0.240 Total 7.069	GEF 4.884

3. Training and Tech Transfer	Global Environment Benefits	Capacity Building Needs for National Communications and Global Assessment	Better Distribution of CC V&A Scientific Capacity	
	Domestic Benefits	Weak capacity	Scientific Capacity to address climate related issues	
	Costs	IPCC: TG CIA Bilateral 0.840	GEF : 1.036 TG CIA 0.840 Total: 1.876	GEF: 1.036
4. Project Management (and PDF)	Global Environment Benefits	None	Gaps in Global Assessment Targeted	
	Domestic Benefits	Poor Participation in Climate Change Adaptation Assessments	Access to Capacity Building	
	Costs	IPCC(PDF): 0.300	GEF (PDF) 0.350 GEF 0.780 IPCC (PDF) 0.300 START/TWAS 0.175 Total 1.605	GEF: 1.130 START/TWAS (in kind) 0.175

Total Project		Baseline	Alternative	Increment
Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors	Global Environment Benefits		Focussed Least Cost Efforts in Adaptation	
	Domestic Benefits	Priority Focus on Immediate Climate Fluctuations	Improved ability to respond to climate	Improvement
	Costs M\$	Total Baseline: 4.435 WMO/UNEP: 2.113 IPCC (PDF): 0.300 Bilateral IPCC: 0.840 Bilateral DDC: 0.480 Research Agencies .702	Total ProjectCost:12.460 GEF(wPDF 0.35): 7.850 WMO/UNEP: 2.113 IPCC(PDF): 0.300 Bilateral: 1.320 Research Agencies 0.702 START/ TWAS 0.175	Total Increment 8.025 GEF: 7.850 START/ TWAS 0.175

Annex B Logical Framework/Project Planning Matrix

Project Strategy	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>Enabling Activities in Adaptation</u> Enabling Activities, Structured Approach to Climate Change Adaptation</p>	<p>International Scientific/ Political Recognition for the Assessment results</p>	<p>UNFCCC references</p>	<p>Political will and broad recognition of adaptation needs</p>
<p><u>Project Purpose</u> Internationally Recognised Methods and Assessment Results of Preparedness and Planning to Reduce the Adverse Effects of Climate Change</p>	<p>Recognition from SBSTA, and STAP Broader Scientific Community Recognition</p>	<p>Proceedings of meetings, references Publications and References in International Journals</p>	
<p><u>Outputs</u></p> <ul style="list-style-type: none"> • Appropriate Range of Climate Change Scenarios including regional high resolution scenarios • Comprehensive Sectoral/ regional impact assessments and adaptation strategies • Appropriate Targeting of Assessments and Researchers • Science Capacity in Climate Change Improved • Broadly Accessible research project support and facilitation of targeting adjustment to research needs and effective management 	<p>Change in the number and comprehensiveness of Regional CC Scenarios Reference in National Communications and Assessment Reports Scientific Community Acceptance and Recognition Inclusion of individual project results in the Fourth Assessment Report</p>	<p>Reports and references References and methodology adoption in National Communications and regional studies Number of Lead Authors in the Assessment Reports Assessment needs in FAR</p>	<p>Computing power improves for mesoscale modeling. National Political Issues</p>

	Research Priorities have been addressed		
Activities 1. Development and Application of Climate Change Scenarios 2. Assessment of Impacts and Evaluation of Adaptation Strategies 3. Training and Tech Transfer 4. Selecting Assessment Projects 5. Monitoring and Project Management	1. Reports 2. Reports 3. Workshops held, Twinning Arrangements, Tech Support 4. Guidelines and Criteria produced, Process reporting 5. Meeting Minutes, Reporting	<u>Assumptions & Prerequisites</u> Continued support of IPCC processes and the Fourth Assessment Report Continued National interest in scientific research into climate change	

ANNEX C STAP ROSTER REVIEW

Recommendation

Project Title : *Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (IACC)*

The above research and training project proposal has very strong scientific and technical merit. It also has very compelling application potential in relation to capacity building in the participating developing area countries in the area of vulnerability and adaptation to climate change in key sectors.

The fact that the project objectives are congruent with the goals and priorities of the GEF in one of the key focal areas of concern, namely climate change, further enhances its merits.

However, the project proposal in its present form has several shortcomings that are discussed in the enclosed review.

Nonetheless, the project is awarded a very strong endorsement for GEF funding.

Bhawan Singh

Professor/Climatologist

University of Montreal

*Assessments of Impacts of and Adaptation to Climate Change in
Multiple Regions and Sectors in Coordination with the IPCC.*

STAP Technical Review of Project Proposal

Undertaken by

Bhawan Singh Ph.D

Professor/Climatologist

University of Montreal

August 31, 2000

Background

The project in question is a GEF project focussed on Climate Change Enabling Activities. A number of research priorities concerning the conduct of future Assessments of Vulnerability and Adaptation to Climate Change in developing countries are identified.

The assessments of climate change impacts and adaptations will target most vulnerable regions and sectors, especially those with significant gaps in knowledge. Forty-five to fifty individual research projects are planned at a Total Project Cost of \$15,211,000.

This review focuses on the technical, institutional and financial issues pertaining to the project proposal.

1. Institutional Framework

The GEF Implementing Agency is to be the United Nations Environment Programme (UNEP) and the Executing Agencies are to be the Global Change System for Analysis Research and Training (START) and the Third World Academy of Sciences (TWAS) in collaboration with the Inter-Governmental Panel on Climate Change (IPCC).

The project is global in scope and seeks to link developed countries scientists and institutions, including institutions of higher learning and the IPCC with developing country counterparts to assess climate change impacts and adaptations in a number of regions including Africa, Asia, Latin America and Small Island States.

A discrepancy here : are the Caribbean Islands to be considered as part of Latin America or in the Small Island States grouping. Similarly, what grouping does the South Pacific Islands belong to?

Based on the literature and personal experience, it is evident that the need for a project as described here is highly necessary and essential.

Because of the specialized and highly technical nature of climate change impacts and adaptation studies, that very frequently call for the availability and use of advanced computer facilities, it is very conceivable that the research projects that will be solicited will come from Universities and Advanced Research Centres.

However, if sustained capacity building is one of the key project criteria, as it should be, then this will call for the training of graduate students, post-doctoral fellows and in some cases, for Universities without Departments of Meteorology or Climatology, of faculty.

However, budget allocations for Development and Application of Climate Change Scenarios (\$1,350,000 for 9 activities over 4 years) and for Climate Change Impact Assessment (\$ 6,800,000 for 36-43 activities over 4 years) would seem to be grossly

inadequate when compared to the amounts allotted to project management.

The adequacy of the financing mechanism and the introduced financial incentives may therefore have to be improved upon.

The project proposal, in its present form, also calls for research and training collaboration between scientists from both developed and developing countries. But financing of developed country scientists will have to come from their national or institutional budgets.

The national involvement of developed countries therefore has to be clearly defined and agreed upon. Also, most institutions, in developed as well as lesser-developed countries, are strapped for cash and may not be in a position to finance faculty in the research and training activities. What can be proposed however, is that developed country scientists, who are gainfully employed, may not claim additional salaries for research and training involvement in the project.

Furthermore, in order to effectively develop capacity and maintain it over time in the developing regions of the world targeted, **the project would have to put greater emphasis and even shift the focus to the establishment of Chairs or even Climate Change Centres at the host institutions.**

An evaluation of the follow-up to support the project activities, which is highly recommended, may therefore choose to examine these options in their deliberations.

2. Scientific and Technical Soundness of Project

The project, relying on state of the art knowledge and methodologies relating to climate change impacts and adaptation in key sectors, has substantial scientific and technical merit.

However, one of the major objectives of the project is to develop and sustain scientific capacity in climate change impacts and adaptations in the developing countries. However, in order to successfully and effectively instil this capacity will require the commitment and co-operation of the host institutions and scientists. A major problem in developing countries is the indifference and scepticism of the major stakeholders, namely scientists, governments and by extension the public, to climate change, claiming, amongst other things, that the problem is one that belongs in the developed world, that they do not have the resources to cope and adapt to climate change and that the global changes brought about by climate change are acts of nature and even of God and are out of their control.

Also, it is often claimed that there are more urgent and pressing problems of environmental degradation, such as water pollution, that overshadow climate change vulnerability issues that is very often perceived as some loosely defined effect that is supposed to occur in the future.

Sensitivity to and awareness of climate change vulnerability and adaptation issues in developing countries is therefore a major barrier to effective capacity building. The project should therefore include this issue

as a major component. Furthermore, this would greatly encourage and enhance the adoption of purposeful and proactive adaptation measures aimed at reducing vulnerability to climate change.

Another major oversight of the project relates to the availability and quality of baseline data in the developing countries, which is critical in the training and research components on vulnerabilities and adaptation to climate change.

Some adjustments to the project have to be made to accommodate methods for obtaining or extracting acceptable quality data to undertake the research and training activities anticipated.

Insofar as the assessment methodology is concerned, the project proposes the use of an array of scenarios, including AOGCM simulations, to undertake research and training in climate change impacts and adaptation in developing countries. It is well known, even amongst the well informed, that AOGCM simulations vary in form, structure, spatial resolution, time integration and policy options, to the extent that their diagnostics are also very different. Also, the AOGCM control runs better simulate observed data for certain regions rather than others. However, certain models such as the British (HadCM2), American (GFDL and GISS) and Canadian (CGCM1) seem to have global recognition and usage.

Because of the number of AOGCM's in use, it is sometimes difficult to compare impacts studies results.

It would therefore be appropriate to identify 2 to 3 AOGCM's that all participating countries may use. An optional list of other AOGCM's may also be provided.

As for co-funding potential, in addition to identifying and leveraging additional funding sources, **participating countries, both in the developed and under-developed world may make in-kind contributions, including time of faculty, secretarial, laboratory and computing facilities and housing and travel for visiting scientists.**

With respect to adaptation strategies and coping mechanisms, **proposers should also be asked to prioritize and attempt costing and affordability of adaptation options, considering socio-economic ramifications, in the short, medium and long term, on a sector- by- sector basis.**

In regards to project activities and expected results, the application of downscaling techniques, including weather generators and regional models is a compulsory requisite for small island states of the Caribbean and the South Pacific. **The spatial resolution of the down-scaling should also take into account, the average size of the islands as well as the spatial resolution of such phenomena as typhoons and hurricanes, whose impacts, though uncertain for the moment, may be most severe under a changed climate scenario.**

Under assessment of impacts and evaluation of adaptation strategies, another sector of importance, especially for small island states, is tourism. **This sector would also be a good example of integrated impacts, since the impacts would involve sea level rise and coastal erosion/inundation, water resources, agriculture and human infrastructure.**

As for training and technology transfer, given the highly technical nature of the subject, **it is imperative that trainees in the developing countries, especially those without Meteorology or Climatology departments, be chosen with the utmost diligence and that some leeway be given for some amount of pre-requisite training. A system of scholarships or bursaries may also be considered so as to attract top quality students at the masters, doctoral or post-doctoral levels. This condition will contribute significantly to the sustainability of the project.**

The design of the demonstration project, which focuses on capacity building and technology transfer through research and training workshops, is very adequate. **However, the project-monitoring component, while in competent and dependable hands, may benefit greatly by adding greater involvement and responsibility to developing country individuals, agencies or institutions to the Technical Committee.**

3. Identification of Global Environmental Benefits

For the project in question, the Global Environment Facility (GEF) in keeping with its mandate, is providing new, and additional, grant and concessional funding to meet the agreed incremental costs for country-driven initiatives in one of its key focal areas namely climate change, in accordance with the policy directives of the United Nations Framework Convention on Climate Change (UNFCCC) and in conformity with the guidance provided by the Conference of the Parties (COP). The focus of the project is on capacity building in relation to vulnerability and adaptation to climate change for a number of key sectors in several targeted developing regions of the world.

GEF activities aim at maximizing agreed global environmental benefits in, amongst others, the area of climate change. This project, which focuses on the assessments of the impacts of and adaptation to climate change in various developing countries and in different key sectors, will provide the following environmental benefits;

- Capacity building, involving human resource development and skills and technology transfer in a number of developing countries in Africa, Asia, Latin America and the Caribbean and Small Island States in the area of research and training in the assessment of vulnerability and adaptation to climate change.
- Provision of financial and technical incentives, including institutional arrangements, for development paths that are clean and sustainable and that enhance the protection and preservation of the environment.
- Communications and outreach through training and research in climate change impacts and adaptation issues that would enhance and promote better public understanding of and concern for the global environment.

4. Project within the Context of GEF Goals

The project overall would seem to conform to the goals of the GEF in relation climate change

in the following areas:

- The project provides a mechanism for international cooperation amongst developed and developing countries through new, additional and grant and concessional funding for the purposes of providing targeted research and technical assistance and developing capacity in the host developing countries in relation to the assessment of vulnerability and adaptation to climate change and subsequently in enabling activities related to the preparation of national communications in accordance with country obligations to the UNFCCC.
- It provides a conceptual and planning framework for the design, implementation and coordination of a set of projects , involving research and training workshops aimed at capacity building in several developing countries in climate scenario preparation and climate change impacts and adaptation assessments.
- The project is to be driven by collaborative efforts between developing and developed country scientists and institutions and is to be systematically coordinated through collaboration between the implementing (UNEP), executing (START and TWAS) and requesting and beneficiary (Africa, Asia, Latin America and Small Island States) countries.
- The project does allow for periodic and systematic monitoring and evaluation by the Research Coordinators and the Technical Committee under the guidance and supervision of the Implementing Agency (UNEP-STAP).
- Though not rigorous at this stage, the project does allow for some measure of sustainability and replicability in regards to capacity building and technology transfer in the area of assessment of vulnerability and adaptation to climate change in a number of developing countries.

5. Regional Context

The project does consider, though summarily, the regional differences in vulnerability to climate change. Appendix A provides a STATE OF KNOWLEDGE ON VULNERABILITY OF DEVELOPING COUNTRY REGIONS TO CLIMATE CHANGE on a regional and sectoral basis, while Appendix B lists climate change impact sectors addressed for countries that have already submitted their national communications.

It must be emphasized however, that even within regions, depending on physical characteristics and land use, amongst other factors, that the vulnerability to climate change may vary. For instance, in the Caribbean, countries to the south such as Guyana and Trinidad and Tobago are less susceptible to Hurricane damages than their neighbours to the north such as the Bahamas. The priorities and measures for adaptation may therefore vary.

6. Replicability of Project

Although the project provides a general framework (Appendix D: THE RESEARCH METHOD OF THE PROJECT) and established methodologies, such as the IPCC Technical Guidelines for

Assessing Climate Impacts and Adaptations, and is linked to other similar ongoing GEF and UNEP/IPCC projects such as the China project, **there is very little discussion of the replicability of the methods or results of the project in other regions.** Brief reference is made to the fact that the Technical and Training Workshops will address issues of climate change vulnerability in a global perspective and encourage comparability and communication.

7. Sustainability of Project

The project proposal does not discuss, in sufficient detail, follow-up measures and sustainability of the project beyond its completion. The project does also not discuss the issue of removing lack of scientific capacity as a barrier to the assessment of vulnerability to climate change and the implementation of appropriate adaptation measures.

Under Selection Criteria/Required Elements, there is mention that strengthening the technical capacity within countries is a key element of the project and that capacity building is to be supported through training and education, the creation and sharing of data bases and models, outreach and grassroots communications and information and expertise exchange.

Also, each sub-project proposal is supposed to identify how it contributes to capacity building and, if appropriate describe how that capacity might be maintained over time.

However, there is little or no mention or discussion of an analysis of an appropriate cost recovery in relation to the resources that have gone into the execution of the project. Nor has the project taken an approach that addresses the question of continuity in relation to institutional logistics development.

8. Secondary Issues

The project does not explicitly recognise and elaborate upon the linkages to other focal areas of interest to the GEF, although it is well established that climate change is intricately linked to ozone layer depletion (stratospheric radiation balance), biological diversity (impacts on forest species and agricultural crops) international waters (oceanic circulation and sea level rise) and land degradation issues (deforestation and desertification : carbon sinks) .

The project recognises a number of crosscutting factors that are important for assessing vulnerability to climate change, but not the key focal areas of concern to the GEF.

In compliance with the measures that are consistent with the operational strategies of the GEF, the project design should, where feasible and cost effective, therefore strive to address the linkages of climate change to these related focal areas, and to the cross-sectoral area of land degradation, so as to avoid negative impacts, and to contribute to global environmental benefits, in targeted focal areas, other than climate change.

9. Linkages to Other Programmes and Action Plans

Although GEF activities are supposed to be co-ordinated with past, ongoing and prospective work of the implementing (UNEP) and other (World Bank) agencies at the regional and sub-regional levels, the project does not specifically address these issues, except for brief references concerning complementarity, to the UNDP Stage 11 Adaptation to Climate Change and the Targeted Research Related to Climate Change in China.

The project should address these regional linkages, as for instance in relation to climate change vulnerability and adaptation in Small Island States, the Caribbean Planning for Adaptation to Climate Change (CPACC) and the South Pacific Regional Environmental Program (SPREP) projects.

Furthermore, the project does not elaborate upon how GEF intervention and activities will build upon ongoing or future bilateral and technical assistance and investment initiatives, except for a passing reference to Country Endorsements following initiation of the study.

10. Other Beneficial or Damaging Environmental Effects

The project focuses on the Assessments of Impacts of and Adaptation to Climate Change for a variety of climate-sensitive sectors in several developing countries.

However, it does not elaborate upon the other beneficial or damaging environmental effects to the other focal areas of biodiversity, international waters and land degradation. This has to be rectified.

The study and assessment of vulnerability and adaptation to climate change will most likely have more beneficial than damaging effects on the related focal areas of concern to the GEF. For instance in the case of biodiversity, climate change vulnerability and adaptation studies may lessen the loss of biodiversity, since forestry and agriculture impacts studies may recommend adaptation measures that may limit species and crop extinction. Similarly, land degradation through deforestation and desertification may be slowed by appropriate remedial policies emanating from the impact studies. As for international waters, climate change vulnerability and impacts studies may allow for adaptation measures that may alleviate problems in the fishing and marine transport sectors.

11. Involvement of Stakeholders

The degree of involvement of stakeholders in the project is reasonably high.

In the proposal, an entire section, devoted to Stakeholder Participation and Implementation Arrangements, addresses such issues endorsements from GEF Focal Points of participating countries, involvement of participating countries in the monitoring and management of the project and the incorporation of the project results in the development planning process of participating member countries.

However, the degree of commitment of stakeholders involved in the project is difficult to gauge at this stage.

Nonetheless, in the project document proposers are encouraged to clearly identify stakeholder benefits which should lead policy-relevant results, particularly where there is potential to identify and assess potential adaptation strategies and policies in response to the vulnerability to climate change.

12.Capacity Building Aspects

The project is geared at building capacity in the identified developing country regions in the area of vulnerability and adaptation to climate change in a number of key sectors including water resources, human health, agriculture and food security, coastal resources and sea level rise and human settlements.

Through the series of project activities, including development and application of climate change scenarios, climate change impacts and adaptation assessments and training and technical assistance in climate change vulnerability and adaptation assessment, the project will most likely contribute substantially to capacity in climate change studies.

13. Innovativeness of Project

The project, though not unduly original, incorporates several components that are highly novel and innovative in regards to capacity building in vulnerability and adaptation to climate change in key sectors in developing region countries.

Examples of such innovativeness would include the development and application of state of the art climate change scenarios, the assessment of climate change impacts and the evaluation of adaptation strategies using tried and tested and up-to-date methodologies, training and transfer of technology in climate change impacts and adaptation studies involving qualified and reputable scientists in the field, global perspective and the forging of new partnerships in collaborative research and training in climate change issues.

ANNEX C1
RESPONSE TO STAP ROSTER REVIEW

The strong endorsement of the technical reviewer is accepted and the proposal has been revised and improved to address the concerns raised. Since logistical support to the research agencies that will carry out the research activities was of concern, the budget allocations were revised in order to address data needs, increased technical assistance and stakeholder involvement at the activity level (regional/national). The more specific technical points are addressed individually below.

A discrepancy here: are the Caribbean Islands to be considered as part of Latin America or in the Small Island States grouping.

Small Island States will be targeted as a separate category equivalent to a region. All Small Island states will be in this category. This will not prevent an island state from being considered as part of a regional study. The references to “Latin America and the Caribbean” have been changed to Latin America.

However, budget allocations for Development and Application of Climate Change Scenarios (\$1,350,000 for 9 activities over 4 years) and for Climate Change Impact Assessment (\$ 6,800,000 for 36-43 activities over 4 years) would seem to be grossly inadequate when compared to the amounts allotted to project management.

Co-financing has been secured from the executing agencies START and TWAS. Co-ordination and management are critical elements of such projects. Devoting 10% of total funding to such activities is considered reasonable. The budget is now shown as revised.

The national involvement of developed countries therefore has to be clearly defined and agreed upon. Also, most institutions, in developed as well as lesser-developed countries, are strapped for cash and may not be in a position to finance faculty in the research and training activities. What can be proposed however, is that developed country scientists, who are gainfully employed, may not claim additional salaries for research and training involvement in the project.

Funding has been increased for support for technical assistance. Pairing of institutions is expected to capture already supported researchers in developed countries and “in kind” co-financing. The additional technical assistance can be dynamically allocated where needed.

...shift the focus to the establishment of Chairs or even Climate Change Centres at the host institutions

The sustainability of the science will be monitored and the potential for centres to develop out of these activities considered.

Sensitivity to and awareness of climate change vulnerability and adaptation issue in developing countries is therefore a major barrier to effective capacity building. The project should therefore include this issue as a major component. Furthermore, this would greatly encourage and enhance the adoption of purposeful and proactive adaptation measures aimed at reducing vulnerability to climate change.

The comment is well taken. Awareness through regional meetings will be part of all research activities. Adaptation needs to consider what is appropriate to cope with current problems such as current climate

variation as well as future climate change. Many adaptations are “win-win”, that is they make sense under current climate and even more sense under climate change. The proposal notes that rather than look at adaptation at the end of each research project, adaptation needs to be an important consideration throughout the project. The domestic benefits are identified in keeping with this concept and will be reinforced in the guidelines developed at the beginning of the project.

Some adjustments to the project have to be made to accommodate methods for obtaining or extracting acceptable quality data to undertake the research and training activities anticipated.

The basis for the estimate was revised to accommodate purchase of some data. This will be reviewed on a case by case basis.

It would therefore be appropriate to identify 2 to 3 AOGCM’s that all participating countries may use.

The Technical committee will address this issue. There are two competing interests here. One is to have a common set of climate change scenarios. The other is that each research activity should select at least 3 GCMs depending on which best simulates the relevant regional climate. The latter consideration can result in selection of different GCMs for different regions. Even where the same GCMs are used, the regional results differ. This makes it hard to directly compare results. I suggest using common sensitivity analyses (e.g., incremental scenarios which are easy to apply and easy to compare).

Tourism as a sector for adaptation analysis:

Tourism will be considered a cross-sectoral focus and is not precluded from the study topics.

...system of scholarships or bursaries may also be considered

The basis for the estimate is that activities would involve a researcher and an assistant or graduate student.

developing country individuals, agencies or institutions should be added to the Technical Committee.

Agreed, since meetings are to be by conference call, the budget is considered sufficient.

... within regions, vulnerability to climate change may vary...

We acknowledge this issue and it will be examined by the technical committee so as to provide appropriate guidelines for proposal submission. The individual assessments need not have applicability to the region as a whole to be significant. Also, proposals could address differences in vulnerability across regions.

...there is very little discussion of the replicability of the methods or results of the project in other regions.

Methods will be applied (and in some cases developed) and these methods can be used in other studies. These studies will add to the body of literature on impacts and they will also add experience to the growing body of “country studies.” Replicability is therefore addressed through dissemination.

The project proposal does not discuss, in sufficient detail, follow-up measures and sustainability of the project beyond its completion.

See Risks and Sustainability section.

...the question of continuity in relation to institutional logistics development.

There is a risk that many of the agencies will not sustain further research and assessment activities and that they will not transfer the capacity to others in future. The executing agencies were selected because TWAS and START have existing programs dealing with universities and research agencies that have a measure of success. The basis of the estimate or costs is intended to reflect actual salaries and expenses in developing countries. This is now mentioned in the project brief under Risks and Sustainability.

...the project does not elaborate upon how GEF intervention and activities will build upon ongoing or future bilateral and technical assistance

The concept of pairing of institutions is a mechanism that should link activities with bilateral assistance. In addition the brief calls for proposals to individually seek co-financing. The steering committee is also intended to link other GEF projects in this area.

...it does not elaborate upon the other beneficial or damaging environmental effects to the other focal areas of biodiversity, international waters and land degradation. This has to be rectified.

Discussion was included at para 67 Risks and Sustainability.

Annex D - Related UNFCCC Decisions

The extent to which this activity is country driven of this type effort is evidenced through national support of decisions of the UNFCCC Conference of Parties. This project would respond to article 4.4, 4.8, 4.9 of the UNFCCC addressing adaptation to adverse effects of climate change and the following COP decisions;

7/CP.5 First compilation and synthesis of initial communications from Parties not included in the Annex I to the Convention, 4. ... namely difficulties relating to the quality and availability of data, emission factors and methodologies for the integrated assessment of the effects of climate change and impacts of response measures, there is a need for maintaining and enhancing national capacity in non Annex I Parties for the preparation of national communications;

8/CP.5 Other matters related to non-Annex I Party communications

Reaffirming that the Global Environmental Facility should provide funding for developing country Parties which are particularly vulnerable to the effects of climate change, for activities related to the effects of climate change, for activities related to the assessment of vulnerability and adaptation options, in accordance with decisions 10/CP.2 and 2/CP.4,

Drawing attention to paragraph 1(d) of decision 11/CP.2 which provides guidance to the Global Environmental Facility that the preparation of national communications is a continuing process,

Invites the Global Environmental Facility to include in the report on its activities to the Conference of the Parties at its sixth session, specific references to the implementation of decisions 2/CP.4 and 10/CP.2.

10/CP.5 Capacity Building in developing Countries

Recognising also that developing countries, in particular the least developed countries and small island states amongst them, because of their vulnerability to the adverse effects of climate change, require special capacity-building initiatives.

Decides:

(a) That financial and technical support for capacity building activities in developing countries, in particular the least developed countries and small island developing states amongst them, for implementing the Convention should be provided through the financial mechanism and through bilateral and multilateral agencies, as appropriate:

Invites Parties not included in Annex I to elaborate their specific needs and priorities for capacity-building activities...

ANNEX E - AVAILABLE REFERENCE DOCUMENTS

1. STATE OF KNOWLEDGE ON VULNERABILITY OF DEVELOPING COUNTRY REGIONS TO CLIMATE CHANGE
2. VULNERABILITY ASSESSMENT IN NON ANNEX I COMMUNICATIONS
3. RESEARCH PRIORITIES
4. THE RESEARCH METHOD OF THE PROJECT
5. REGIONAL CLIMATE CHANGE SCENARIOS FOR IMPACTS, VULNERABILITY AND ADAPTATION ASSESSMENTS
6. LIST OF PARTICIPANTS IN THE LISBON PROJECT DEVELOPMENT MEETING

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Annex - F

Call for Letters/Expressions of Intent or pre-proposals for Regional or National Assessment Projects

Introduction

START and TWAS are inviting pre-proposals from qualified persons from developing countries in Africa, Asia, Central/South America and Small Island States for potential research projects on "Assessments of Impacts of and Adaptations to Climate Change in multiple Regions and Sectors". This document describes the overall project funded by GEF through the United Nations Environment Programme (UNEP) and provides guidelines for preparing and submitting pre-proposals. Under this overall effort, sub-projects will be awarded within four regions; Africa, Asia, Latin America, and Small Island States and are open only to countries eligible under paragraph 9(b) of the GEF Instrument. Projects will typically range from \$20,000-\$75,000 USD per year and extend up to 3 years. The overall GEF Project Document that describes this effort can be accessed via Internet at <http://www.start.org> (under the heading "Cross-Cutting Projects").

There is growing recognition in the UNFCCC negotiations, the Intergovernmental Panel on Climate Change (IPCC), and other related forums that adaptation to climate change now needs attention. This is because there is stronger scientific evidence that the climate is changing, in part as a result of human activities, and because some climate change impacts are now becoming evident. In addition, even the realization of the most optimistic forecasts of future emissions limitation would not be sufficient to prevent additional change.

This effort is designed to address this need by enhancing the scientific and technical capacities in many countries to assess the impacts of climate change, and to design cost-effective adaptation response measures, which are needed to formulate national policy options and prepare national communications. The effort will fund a number of studies assessing the impacts of climate change on a range of socio-economic sectors and ecological systems at the regional and national scale and the development of a range of adaptation response options. Science capacity building is a primary aspect of this project.

Research Needs to be Targeted

The research projects to be funded by AIACC will be targeted research proposals focussing on regional/national climate scenarios and assessing vulnerability to climate change in key socio-economic and environmental sectors, including:

- water resources
- food
- human health
- coastal areas
- infrastructure

In addition, research will also address a number of cross-cutting factors that are important for assessing vulnerability, including:

- changes in baseline socioeconomic conditions
- adaptive capacity
- assessment of effectiveness, feasibility, and costs of pro-active adaptation.

Proposals submitted under this call must build upon previous work as reported in recent IPCC documents, various country studies, initial communications under the UNFCCC, etc. The proposed projects must state the current level of understanding, deficiencies in previous studies, needs for further work and define a strategy for a research project that will significantly advance the state of knowledge.

Assessment Methodology

There already is a significant body of background resource material that may be referenced as a background to proposed projects, such as the IPCC Third Assessment Report, the US, Dutch, and UNEP Country Studies reports, and work supported by other bi-lateral donors. Prospective proposers are encouraged to consult such and other relevant documents in order to identify needs for further work and to identify strategies for building upon these previous analyses or justify need for innovative new approaches. However, direct emulation of previous work using standardized guidelines in such handbooks for other regions/sectors or repetition of previous analyses to new regions/sectors is discouraged.

The following schematic diagram defines the overall recommended process for assessments of impacts and potential adaptation strategies as well as assessment of overall vulnerability for a given region. The IPCC Technical Guidelines for Assessing Climate Impacts and Adaptations is another good source for such information.

This GEF-funded effort has an overall Technical Committee which will identify an array of scenarios, simulation tools and methods while recognizing that specific methods for any individual sub-project will vary according to the countries and regions selected. The project Technical Committee will provide advice on methods and training activities.

Selection Criteria

The two project executing agencies are now accepting expressions of interest/pre-proposals from prospective investigators. Such expressions/pre-proposals should describe the nature of the project (to be expounded in a later proposal), emphasizing relevance in the context of elements below.

Pre-Proposal Criteria

Pre-proposals will be evaluated by an expert committee and will be evaluated against criteria that include both required and desired elements. A larger set of requirements will be used to evaluate full proposals. These will be transmitted to project leaders if the project is selected in this pre-proposal process for further development.

Required Elements

(i) Consistency with IPCC Third Assessment Report (TAR) needs

Pre-proposals need to identify the linkages to the research needs identified in the TAR, either on a region or sector basis.

(ii) Scientific merit

Pre-proposals demonstrate high scientific quality, with a clear and well defined focus. Pre-proposals should address adaptation strategies and coping mechanisms in addition to impact assessment. Contributions to the peer-reviewed literature should be a stated objective of the research.

(iii) Integrated and comprehensive analyses

Proposers should ensure that the analyses consider key relevant linkages both across regions, sectors, and disciplines. For example, an assessment of agriculture might be incomplete without proper consideration and integration of changes in water supply and use. Studies should examine where appropriate, changes in baseline socioeconomic conditions and the effect of autonomous adaptation.

(iv) Capacity building

Strengthening the technical capacity within countries is a key element of this project. There are many ways to support capacity building, for example, training and education, creating shared databases and models, outreach and grassroots communication, and information and expertise exchange. Each pre-proposal should identify how it contributes to building human capacity and, as appropriate, describe how that capacity might be maintained over time.

Desired Elements:

(i) Co-funding potential

Pre-proposals should attempt to identify current or additional funding from other sources that would add value to the project.

(ii) Interdisciplinary and/or multi-country collaboration

Interdisciplinary and multi-country teams from developed and developing countries are encouraged. This lays the foundation for increasing the breadth and integration of the research and the exchange of technical information.

(iii) Interdisciplinary and/or multi-country collaboration

Interdisciplinary and multi-country teams from different regions and continents, including industrialized countries will be encouraged. However, GEF funding will be limited to activities in the developing countries only.

Submission of Expressions of Interest/Pre-proposals

Expressions of Interest/Pre-proposals should include the following:

1. One page summary of the proposed project highlighting the following elements:
 - a) Outputs from this project
 - b) Past activities
 - c) Information on the collaborating institutions and/or researchers and the team leader
 - d) Countries and sectors covered
 - e) Estimated budget and length of project
2. Four page project brief
3. Brief curriculum vitae of principal investigators
4. Overall workplan and budget summary

We encourage electronic submission of all materials wherever feasible.

Sources of Background Resource Material

To assist proposers, we have compiled a list of websites that contain additional background resource material appropriate to the development of pre-proposals under this project. All projects must target an identified need of the IPCC TAR. In addition, numerous other assessment studies can provide additional background on the specific needs of a particular region/nation. This is not intended to be an exhaustive list of resources, rather a starting point.

IPCC Third Assessment Report Websites:

IPCC Secretariat (<http://www.ipcc.ch>)

IPCC Working Group One-The Science of Climate Change
(http://www.meto.gov.uk/sec5/CR_div/ipcc/wg1/)

IPCC Working Group Two-Climate Change Impacts, Adaptation & Vulnerability
(<http://www.usgcrp.gov/ipcc/>)

IPCC Working Group Three-Mitigation of Climate Change
(<http://www.rivm.nl/env/int/ipcc/>)

UNEP (<http://www.unep.org>)

UNFCCC (<http://www.unfccc.de>)

United States Country Studies Program (<http://www.gcrio.org/CSP/>)

Global Environmental Facility (<http://www.gefweb.org>)

The Netherlands Climate Change Studies Assistance Program

(http://www.vu.nl/english/o_o/instituten/IVM/research/climatechange/index.html)

ANNEX G – TERMS OF REFERENCES (TOR)

TOR - CONSULTANCY FOR TECHNICAL ASSISTANCE

1. The Consultant will be working under the supervision of the Project Co-ordinator based at the START Secretariat and in overall guidance of the UNEP Task Manager.
2. The Consultancy will assist the project research activities to define their workplans including selection of topic, research methods, and provide relevant, resource materials.
3. The Consultancy will require expertise in the relevant subjects such as climate scenarios, socio-economic scenarios modelling, or adaptation to climate change in a specific region or sector.
4. Under the supervision of the Project Co-ordinator the consultant may perform the following tasks:
 - a) Propose a detailed workplan for the research activities including list of specific outputs.
 - b) Identify the researchers to be involved in the activities and their terms of reference and contracts.
 - c) Provide the necessary software required and help in setting it up for the country or region.
 - d) Provide a review of the outputs.
 - e) Respond to queries through e-mail or telephone 2-3 times following the field version
 - f) Help edit written outputs, including publications accrued, for the regional sub-projects.
5. The consultancy will be managed by the Project Coordinator in Washington D.C. It is envisaged that the Consultancy will extend over the duration of the specific suite of activities. Time committed will vary from 1-5 days/ month.

TOR - CONSULTANCY OF RESOURCE PERSONNEL FOR TECHNICAL TRAINING WORKSHOP

1. The Consultant will organize technical training workshops under the supervision of the Project Co-ordinator, and under the overall guidance of the UNEP Task Manager.. Project Deputy Director will provide assistance to the consultant in handling logistical matters for training workshops.
2. The Consultancy would include consideration of development of regional climate scenarios, socio economic scenarios, and assessment tools and methodologies as appropriate to the specific regions and sectors .
3. The Consultancy will require expertise in climate scenarios, socio-economic scenarios; and/or impacts and adaptation assessments in relevant sectors and regions as appropriate for the particular technical training workshop.
4. Under the supervision of the Project Co-ordinator and in consultation with the UNEP Task Manger, the Consultant will perform the following tasks:
 - a) Prepare an agenda for the training workshops, identify and secure participation of workshop trainers and assist in identifying regional/sectoral participants from the regional sub-projects
 - b) Prepare the required documentation on climate change vulnerability from a global or regional perspective; tools for comparability; and methodologies for regional climate and socio economic scenarios and assessment tools.
 - c) Respond to queries from the participants for additional sources of material on the topic
 - d) Identify requirements for further technical assistance in specific regions or research activities
 - e) Provide a written report of tasks accomplished during the consultancy.

5. The consultancy will be managed by the Project Coordinator in Washington D.C. The maximum term of the consultancy is 3-4 months on a part-time basis extending both before the technical training workshop (to prepare materials) and beyond the workshop (to assist participants and prepare workshop report). Travel will be required.

TOR - STEERING COMMITTEE

1. The Steering Committee will provide overall project direction, including strategic guidance on the priority area of research and regions and countries.
2. The Steering Committee will annually review progress and endorse the next year's work plan.
3. The Steering Committee will include:
 - Nominated representatives from the GEF Secretariat, UNFCCC Secretariat, STAP, World Bank, UNDP and IPCC Secretariat;
 - Chairman of IPCC, SBSTA and SBI;
 - Co-chairs of IPCC Working Groups I and II.
 - UNEP Task Manager
 - START and TWAS as the secretary of the committee
4. Unless otherwise convenient as part of other planned travel and meetings, the Steering Committee will communicate by e-mail and teleconferencing.
5. The steering committee will provide strategic advice including identification of needs of countries, selection of studies, training and review of study reports.
6. The steering committee will exist for the duration of the project and will meet at least 3 times each year in the first two years and then twice a year.
7. The meeting will be chaired by the IPCC chairman and will be called by him in consultation with START, TWAS and UNEP.

TOR - TECHNICAL COMMITTEE

1. A technical committee coordinated by the project coordinator and working under the overall guidance of the UNEP task manager will be formed for advice and/or approval of research activities, technical assistance and training workshops.
2. Technical Committee members will have expertise in climate change scenario development, socio-economic scenarios development, impact assessment or adaptation assessment. UNEP Task Manager will participate as an observer.
3. The technical committee members will perform the following activities:
 - a) Participate in teleconferences at the request of the project coordinator who will facilitate the meetings;
 - b) Provide detailed comments and suggestions on submitted research proposals to the project coordinator in a timely manner;
 - c) Participate in approving the research activities for funding, ensuring that the proposal fulfills the required project criteria and responds to comments/queries from the technical committee;
 - d) Recommend experts, ideas or organisations that can improve the productivity and sustainability of research activities;
 - e) Occasionally serve as a technical expert/trainer to the project.

4. Communication with technical committee members will mainly be through teleconferences and e-mail, except on rare occasions when a face-to-face meeting can be held.
5. Terms of the technical committee members will be extended for the project duration, except in cases where the member fails to participate in the research activity selection process on more than two occasions.
6. Technical committee members will not participate in the selection of any research activity that includes his/her involvement
7. As appropriate, some technical committee members may become more active in guiding some regional activities as technical consultants to the specific project.

TOR - IMPLEMENTING COMMITTEE

1. The project will form an implementing committee, which will contribute to overall planning and implementation plans for regional/global activities, under the AIACC project, including monitoring and evaluation.
2. It will be responsible to periodically review project progress and to make critical technical and administrative inputs into the activities of the project.
3. The committee will build links and working relationships with other climate change adaptation and enabling activity projects and contribute actively to the overall team effort.
4. The Implementing Committee will include representatives of the Executing Agencies (START, TWAS) and the implementing agency (UNEP).
5. This committee will meet at least 4 times each year, mainly through teleconferencing.
6. The duration of the implementing committee will extend to the closure of the project, including external evaluation.

TOR – PROJECT STAFF

Project Coordinator/Science Director

The Project Coordinator/Science Director will be the team leader responsible for goal setting, programme development, personnel management, inter-organisational coordination and forward planning. The staff will be based at the START Secretariat in Washington DC, USA and will be responsible for the overall management of the project. Specifically the director will be responsible for:

- Providing scientific and managerial leadership and budget allocation for projects
- Co-chairing the technical committee
- Finalizing the project design in conjunction with the technical and steering committees
- Reviewing and selecting projects in conjunction with the technical and steering committees
- Designing and facilitating workshops and training programs
- Overseeing the mid-term project review process
- Liaison with all relevant research programs and international assessments, including the IPCC, Millennium Ecosystem Assessment and UNEP
- Providing substantive and financial reports to UNEP periodically

The selection criteria include:

- Substantial professional experience beyond a relevant Ph.D

- Demonstrated ability to provide scientific leadership
- Demonstrated ability to work within a multicultural and multisectoral team
- IPCC assessment experience
- Demonstrated ability to motivate professionals from developing countries
- Demonstrated ability to organize/manage training and/or technical assistance programs
- Ability to work within a fast-paced international environment
- Developing country experience
- Experience in climate change, both natural science and social science aspects, in particular with respect to impacts and adaptation
- Proficiency in a language in addition to English (desirable)

Project Assistant

The Project Assistant will be based at the TWAS office in Trieste, Italy and will be responsible for assisting the Science Director with management of the program. Specifically the project assistant will be responsible for a specific component of the work programme, such as training workshops etc.

The selection criteria include:

- A relevant post-graduate degree
- Experience in project management
- Experience with climate change issues, preferably with familiarity in developing country issues, in particular impact and adaptation
- Field experience in developing country (desirable)
- Experience in training (desirable)
- Previous involvement in the IPCC process (desirable)
- Proficiency in a language in addition to English (desirable)

TOR - START

1. START is the main executing agency of the project with the main responsibility for programme management and coordination. The Project Coordinator will be based at the International START Secretariat, Washington, D.C.
2. START specifically will be responsible for the following activities in collaboration with TWAS and in consultation with the UNEP task manager:
 - a) Undertake procurement duties, including contracting consultant services, purchasing office and communication equipment, computers, software.
 - b) Maintain and report adequate project records, and maintain financial records, facilitate audits and manage special project account and disbursements.
 - c) Prepare and submit to UNEP quarterly reports including detailed work plans in collaboration with TWAS.

TOR - TWAS

1. TWAS is co-executing agency of the project with main responsibility of programme and financial management with the Projects Co-ordinator based at START.
2. TWAS specifically will be responsible for the following activities in collaboration with START and in consultation with the UNEP task manager.
 - a) Based on the recommendation of the Project staff the Selection Committee comprising of START, TWAS, UNEP and the Steering Committee Chair, hire the projects assistant at TWAS in Trieste, Italy.

- b) To provide administrative support including communication facilities, computers etc to the Projects Assistant.
- c) Provide day to day tracking of the projects including peer-review process, monitoring the budget, organising meetings and teleconferences of the technical and steering committees.
- d) Maintaining records and minutes of all the meetings.
- e) Provide necessary progress and financial report to UNEP in collaboration with the START Secretariat.