Terminal Evaluation of the UNEP GEF Project

Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC) GF/2010-01-07

Final Report

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Executive Summary

Introduction

1. This report provides the results and recommendations arising from an independent evaluation of the $9.75 million project "Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC)." The objectives of AIACC were to: (i) enhance scientific capacity in developing countries to assess climate change impacts, vulnerability, and adaptation; (ii) advance scientific understanding of these issues; and (iii) improve links between the climate change science and policy communities to enable adaptation planning and action. These objectives were realistic, but ambitious, given the operational baseline in terms of the capacities of the participating countries and institutions to undertake the proposed assessments.

2. The primary activity of the project was the execution of twenty-four regional and national assessments of climate change impacts, vulnerabilities, and adaptation in selected countries in Africa, Asia, Latin America, and some island countries in the Caribbean, Indian, and Pacific Oceans. Multi-institutional and multi-national sub-project teams of more than 350 scientists, stakeholders and students from 150 institutions in 50 developing countries conducted the assessments. In most instances the sub-project objectives and proposed work programmes were optimistic in terms of being able to deliver the outputs and outcomes by the completion date. One consequence was to extend the project from 48 to 61 months.

3. The project was funded by the Global Environment Facility (GEF) as an enabling activity in the climate change focal area, through a grant of US$7,500,000. Cash co-financing of US$475,000 was received from several development assistance agencies and a foundation. This cash co-financing allowed shortcomings in the project design and implementation plan to be addressed. Participating developing country institutions provided in-kind co-financing valued at around US$$4.5 million. A substantial amount of in-kind support was provided by the institutions that hosted the major components of the sub-project teams.

Strengths of the Project

4. AIACC strengthened the capacity of developing country governments, academic institutions, communities and other stakeholders to assess climate change impacts, adaptation measures and the residual vulnerabilities. Over 100 early career scientists and other professionals were trained. Seventy-five student theses using AIACC assessment results have been completed and approved. This new or strengthened capacity has been put to effective use in several international assessment efforts – the Fourth Assessment of the Intergovernmental Panel on Climate Change (IPCC) (twenty-seven members of AIACC sub-project teams were coordinating or lead authors), the Millennium Ecosystem Assessment, the Global Environment Outlook, and other similar assessments. Many AIACC team members now have leadership roles in international science initiatives such as IPCC, Climate Change Adaptation in Africa, Advancing Capacity to Support Climate Change Adaptation and the Global Change System for Analysis, Research, and Training. Thus the capacity built by AIACC is substantial and is being sustained through its use and additional strengthening in numerous follow-up activities, nationally, regionally and internationally.

5. The sub-project assessments helped fill large information gaps highlighted by the Third Assessment Report of the IPCC. There were in excess of 100 references to AIACC findings in the IPCC's Fourth Assessment Report. In addition, based substantially or entirely on AIACC findings, 108 peer-reviewed publications have appeared in many prestigious international journals; 14 books have been published and more than 200 other publications have been generated. AIACC findings have been used in the preparation of nine submitted National Communications, five National Adaptation Programmes of Action and in 29 National Communications currently under preparation. Through these publications and a wide variety of outreach activities, AIACC has raised the profile of climate change as a serious risk to economic development, to lives and livelihoods, and to environmental and ecosystem health. Technical information based on the sub-project findings have helped ensure that policy- and decision-makers and planners are now much more aware of the urgency to address these risks by appropriate adaptation interventions.

6. AIACC engaged with stakeholders at all levels, including the scientific community, assessment experts and administrators, the conventions, United Nations (UN) agencies, governments, donors, intergovernmental institutions, private sector firms, the media, and civil society. The sub-projects developed and applied highly innovative methods and tools. Interdisciplinary methodologies for integrating physical and social sciences

were a significant output of the project. The networks established and nurtured by AIACC were, and still are, critically important for sharing scientific and other policy-relevant knowledge. Project results are now being shared even more widely, including with assessment teams in developed countries, providing an excellent example of a "South-North" flow of knowledge and technologies.

7. Empowerment of the sub-project teams has also been a source of sustainability. In keeping with the evolution of project design occurring more generally at the time, the initial "top down" design of the project was soon adapted to implement an approach that more fully engaged the relevant research communities in decision making. This shift in ownership, and the associated responsibility for good performance, was retained all the way through the project implementation and closure processes. In effect, each sub-project was administered as if it was a stand alone project. The leaders of the sub-project teams appreciated being treated as independent but accountable professionals and felt an obligation not to discredit the trust that had been shown in them and their colleagues. They saw value in continuing with project-related activities long after formal completion dates had passed.

8. Both the "bottom up" approach that underpinned AIACC preparation and implementation, and the "hands off," decentralized approach of the United Nations Environment Programme (UNEP) to project oversight proved to be highly successful. Both approaches are worthy of replication, as appropriate. However, each approach is dependent on having committed and competent individuals overseeing not only the project itself but also the sub-project activities. They must in fact strike a delicate balance between "command and control" and "enabling and facilitating." AIACC was fortunate to have such individuals working at both project and sub-project levels.

Learning through the Project

9. The project's four components (*Development and Application of Climate Change Scenarios, Assessment of Impacts and Evaluation of Adaptation Strategies, Training and Technology Transfer and Project Management*) were in themselves practicable. However, initially, they included restrictions and omissions. The component related to climate change scenarios was unduly narrow and "top down" – it ignored the importance of considering changes other than in climate, as well as the appropriateness and benefits of using regional and local approaches. Unfortunately, given the emphasis AIACC ultimately, and appropriately, placed on its third objective ("to improve links between climate change science and policy communities to enable adaptation planning and action") there was no component of the project devoted specifically to achievement of this objective. Importantly, most of the actual and potential AIACC outcomes, and efforts to ensure their sustainability, related to this objective.

10. Stakeholder engagement at sub-project level was highly variable. Many of the teams underestimated the extent of stakeholder engagement that would be needed and useful for their activities and targeted end users. The importance of this dimension of the assessments was inadequately highlighted in the calls for both the pre and full proposals.

11. Several lessons were learned about partnerships during project implementation. The research focus of the AIACC studies tended to favour proposals coming from university and similar institutions. This did not preclude early involvement of Government institutions and officials as key partners in the assessment activities. However, official involvement in proposal preparation and related activities was often very limited at best, giving rise to the view that the proposed studies had originated independently of Government processes. The AIACC experience should not be misconstrued as implying that the approach should be more Government-driven in the future. Rather, when non-Government institutions play a lead role, it is important that formal partnerships be established with individual Governments early in both the project and sub-project preparation processes.

12. The considerable experience of the two executing agencies, the Global Change System for Analysis, Research, and Training (START) and the Academy of Sciences for the Developing World (TWAS), in implementing science-based as well as policy oriented research projects in developing countries was reflected in the project design. The intention was to divide the work according to their comparative advantage. TWAS was to execute the project in the North and West Africa and Asian regions due to its proximity and contacts. In reality, all aspects of day-to-day project management, other than those relating to financial matters, were undertaken by the AIACC Science Director based in START. While such an

arrangement may have been expedient, it certainly ignored the considerable value adding contributions TWAS could have made.

13. Capacity building efforts presented a spectrum of challenges. It was often easy to overestimate the existing capacity of the study teams, and hence what they could deliver. For example, the main aim of the AIACC Scenario Workshop at the University of East Anglia was to train all sub-project teams in downscaling global climate model (GCM) outputs. However, participants did not have the pre-requisite technical skills. This shortcoming was unforeseen. AIACC's mentoring scheme did not come close to realizing its full potential. Lessons learned as a result of mentoring experiences include: (i) need appropriately formalised process; (ii) the scheme worked better when mentors were chosen by sub-project teams; (iii) provide financial rewards commensurate with contributions and expertise of the mentor; and (iv) the term "technical advisor" is far less pejorative than is "mentor".

14. Monitoring and evaluation were a weakness of AIACC, especially at the project preparation and design phase and with respect to evaluations scheduled to be undertaken by UNEP. The Project Document did not meet good practice requirements for monitoring and evaluation. While GEF's minimum requirements for monitoring and evaluation were not operationalised until later in the life of the project, it is reasonable to expect that the Project Document would have described the project baseline, a monitoring and evaluation plan and organizational setup, as well as identifying specific budget allocations for monitoring and evaluation. While Project Implementation Reports (PIRs) were not a formal requirement until well into the life of the project, UNEP should have prepared annual reports on project implementation from the start of the project, and ensured they had an appropriate level of information. There was no formal mid-term review. AIACC convened two meetings to facilitate the process of capturing general lessons with comparisons and synthesis across the AIACC studies. However, unlike the highly successful inception and initial regional workshops, most members of the sub-project teams were not involved. Many benefits would have resulted from bringing all AIACC participants together towards the end of the project to exploit the many synergies that have yet to be fully tapped, including transfer of methods and tools and of successful practices in stakeholder engagement.

Recommendations

15. The evaluation findings give rise to three recommendations:

(i) UNEP undertake monitoring of the longer term impacts of AIACC, with an emphasis on evaluating the sustainability of the project outcomes already documented, and on identifying activities which AIACC has catalysed. The methods used should reflect best practice in monitoring and evaluation, drawing on the experience of GEF, UNEP and other implementing and executing agencies. A report should be prepared, covering the period to the end of 2010; in addition to reporting on the specific evidence and findings, the report should also include lessons learned, success stories and factors, and relevant recommendations.

(ii) UNEP, START, TWAS and other relevant organizations give thorough consideration to working further with communities and countries where the enabling environment for adaptation remains very weak, to design and ultimately implement a project that builds on the AIACC experience and findings in order to strengthen the enabling environment and demonstrate effective and efficient adaptation initiatives. The time frame should be to complete project preparation within one year, by which time there would be a project proposal that is competitive in terms of receiving funding from GEF.

(iii) Biennial assessments of "quality at entry" conducted by the GEF Evaluation Office, in cooperation with its implementing agencies, include a more comprehensive examination of relevant terminal evaluation reports in order to determine the nature and extent of shortcomings in project preparation (including those in the Project Documents), the reasons why these occurred, the reasons why they were not identified in the STAP review of the draft project document and through other quality assurance processes, the short- and longer- term and irreversible consequences of the shortcomings and the lessons learned, including recommendations for remedial actions. It would be appropriate for a comprehensive and authoritative report addressing these and other points to form part of the next GEF "quality at entry" report due to be published in early 2009.

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Abbreviations used in Main Report and Annexes

AAS	African Academy of Sciences
ACCCA	Advancing Capacity to Support Climate Change Adaptation
ACIS	Adaptive Control Information System
AF	Africa – prefix for sub-project names
AFRICANESS	Global Change Research Network in Africa
AIACC	Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors
AMMA	African Monsoon Multidisciplinary Analysis
AR4	Fourth Assessment Report, Intergovernmental Panel on Climate Change
ARC	Agriculture Research Centre (Egypt)
AS	Asia – prefix for sub-project names
BA	Buenos Aires
BENRON	Botswana Environmental and Natural Resources Observing Network
BRDSEM	Berg River Dynamic Spatial Equilibrium Model
CAREC	Caribbean Epidemiology Centre
CATIE	Tropical Agricultural Research and Higher Education Center
CBD	Convention on Biological Diversity
CCAA	Climate Change Adaptation in Africa
CCID	Climate Change Interactive Database
CD	Compact Disk
CENACARTA	Centro Nacional De Cartografica e Teledeteccao
CIDA	Canadian International Development Agency
CLAC	Central Laboratory for Agricultural Climate (Egypt)
CLIMAG	Climate Prediction and Agriculture
COP	Conference of the Parties
CORDIO	Coral Reef Degradation in the Indian Ocean
CRRH	Comité Regional Recursos Hidraúlicos
DFID	Department For International Development (UK)
DTM	Digital Terrain Model
DSSATT	Decision Support System for Agro Technology Transfers
EEAA	Egyptian Environmental Affairs Agency
FANRPAN	Food Agriculture and Natural Resources Policy Network
FAO	Food and Agriculture Organization
FNC	First National Communication (to UNFCCC)
GCM	Global Climate Model
GCRU-DWR	Global Change Research Unit, Department of Water Resources (The Gambia),
GECAFS	Global Environmental Change and Food Systems
GEF	Global Environment Facility
GEWEX	Global Energy and Water Cycle Experiment
GIS	Geographical information system
GOFC-GOLD	Global Observation of Forestry Cover – Global Observation of Land Cover Dynamics
GWP	Global Water Partnership
HCENR	Higher Council for Environment and Natural Resources
IAAST	International Assessment of Agricultural Science and Technology
IDRC	International Development Research Centre
IGBP	International Geosphere – Biosphere Programme
IGCI	International Global Change Institute (University of Waikato, New Zealand)
IHDP	International Human Dimension Programme
IIED	International Institute for Environment and Development
IMH	Institute of Meteorology and Hydrology (Mongolia)),
IMTA	Mexican Institute for Water Technology
INE	Institute of National Ecology (Mexico)
INIA	Instituto Nacional de Investigación Agropecuaria (Uruguay)
IPCC	Intergovernmental Panel on Climate Change
ITN	Insecticide Treated (mosquito) Net
KAP	Knowledge, Attitude and Practices (surveys)
LA	Latin America and Caribbean – Prefix for sub-project names
LDC	Least Developed Country
LGUs	Local Government Units
LOA	Letter of Agreement
LPA	Laboratory for Atmospheric and Ocean Physics
M&E	Monitoring and Evaluation
MA	Millennium Ecosystem Assessment
MAT	Moving Average of the Temperature
MEA	Multilateral Environmental Agreement

MEDROPLAN	Mediterranean Drought Preparedness and Mitigation Planning
MIIND	Mozambique Integrated Information Network for Decision Making
MNE	Ministry of Nature and Environment (Mongolia)
NAPA	National Adaptation Programme of Action
NAMHEM	National Agency for Meteorology, Hydrology and Environment Monitoring (Mongolia)
NCAR CSM	National Center for Atmospheric Research Climate System Model
NCCC	National Climate Change Committee
NCS	National Conservation Strategy
NEMA	National Environmental Management Authority (Kenya)
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental Organisation
NIH	National Institute of Health (Jamaica)
NOAA	National Oceanic and Atmospheric Administration
NORAD	North American Aerospace Defense Command
NWP	Nairobi Work Programme
OPS3	Third Overall Performance Study of the GEF
PI	Principal Investigators
PIC	Pacific Island Country
PIR	Project Implementation Report
PRECIS	Providing REgional Climates for Impacts Studies (an RCM)
PRIVA	Participatory Rapid Integrated Vulnerability and Adaptation (assessment)
RCM	Regional Climate Model
SAFNet	Southern Africa Fire Network
SAP	Strategic Action Plan
SARS	Severe Acute Respiratory Syndrome
SBSTA	Subsidiary Body for Scientific and Technological Advice (of UNFCCC)
SBSTTA	Subsidiary Body for Scientific, Technical and Technological Advice (of CBD)
SEI	Stockholm Environment Institute
SICA	Central America Integration System
SIS	Small Island State – Prefix for sub-project names
SL	Sustainable Livelihood
SNC	Second National Communication (to UNFCCC)
SRES	Special Report on Emissions Scenarios (of IPCC)
STAP	Science and Technical Advisory Panel, Global Environmental Facility
START	the global change SysTem for Analysis, Research, and Training
TAR	Third Assessment Report, Intergovernmental Panel on Climate Change
TGICA	IPCC Task Group on data scenario support for Impact and Climate Analysis
TOR	Terms of Reference
TWAS	Academy of Sciences for the Developing World (TWAS)
UBA	University of Buenos Aires
UCT	University of Cape Town (South Africa)
UN	United Nations
UNAM	Universidad Nacional Autónoma de México
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
US-EPA	United States Environmental Protection Agency
USP	The University of the South Pacific
UWI	The University of West Indies
WG1	Working Group 1 (of the IPCC)
WG2	Working Group 1 (of the IPCC)
WG3	Working Group 3 (of the IPCC)
VIC	Variable Infiltration Capacity
WCRP	World Climate Research Programme
WEAP	Water Evaluation and Planning
WMO	World Meteorological Organization
WWF	World Wide Fund for Nature

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I. Introduction and Background

This Evaluation and Report

1. Policies of the United Nations Environment Programme (UNEP) and the Global Environment Facility (GEF) require all UNEP/GEF projects to be evaluated by independent evaluators contracted by the UNEP Evaluation Unit. An independent evaluation of the 61 month, $9.75 million project "Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC)" was carried out on behalf of UNEP over the nine months commencing July, 2007. The Terms of Reference (TOR) for the evaluation are provided in Annex 1. Three independent consultants formed the evaluation team: Professor John Hay (team leader, based in the Cook Islands), Dr. Mary Jo Larson (United States) and Dr. Rosa T. Perez (Philippines). A summary of their expertise is provided in Annex 2. This report summarizes information on the project and provides detailed information regarding the evaluation approach, findings, evidence, conclusions, lessons learned and recommendations. Detailed project and subproject Evidence and Evaluation Portfolios which support the evaluation findings are presented in Annex 3.

The Project Rationale and Objectives

2. During preparation of the Third Assessment Report (TAR) of the Intergovernmental Panel on Climate Change (IPCC) it became glaringly apparent that information about vulnerability to the adverse impacts of climate change, and about adaptation options, was very limited for important sectors and systems in developing countries. It was also clear that many developing countries lacked adequate capacity to systematically evaluate the impacts and adaptation options. Collectively, these conditions significantly constrained effective adaptation responses. To help address these gaps in knowledge and scientific capacity the IPCC collaborated with UNEP, the global change SysTem for Analysis, Research, and Training (START) - an international non-governmental organisation - and the Academy of Sciences for the Developing World (TWAS) - an autonomous international organisation - to develop a proposal to be submitted to GEF.

3. The objectives of AIACC were: (i) to enhance scientific capacity in developing countries to assess climate change impacts, vulnerability, and adaptation; (ii) to advance scientific understanding of these issues; and (iii) to improve links between climate change science and policy communities to enable adaptation planning and action.

Project Implementation and Execution

4. The primary activity of the project was the execution of twenty-four regional and national assessments of climate change impacts, vulnerabilities, and adaptation in selected countries in Africa, Asia, Latin America, and islands of the Caribbean, Indian, and Pacific Oceans[1]. Multi-institutional and multi-national teams of more than 350 scientists, stakeholders and students from 150 institutions in 50 developing countries conducted the assessments. Sectors and topics covered by the assessments included agriculture, forestry, fisheries, water resources, coastal systems, food security, rural livelihoods, human health and biodiversity. The teams were supported by capacity building and outreach programmes that included 'learning-by-doing' technical assistance and training, regional science and policy workshops and engagement in international science and policy initiatives.

5. The project commenced in June 2001 with the intention that it be completed by December 2004. An extension was granted and the project officially ended in June 2006. The project was implemented by UNEP. Two organisations, START and TWAS, shared the executing agency responsibilities. The project was managed jointly through a Project Implementing Committee, comprising the Executive Director of TWAS, the AIACC Science Director based in START, and a UNEP representative. General oversight of project implementation was provided by an AIACC Steering Committee, composed of representatives of the GEF, World Climate Research Programme (WCRP), the

[1] Reference to specific sub-projects is by way of a geographical designator (AF = Africa, AS = Asia, LA = Latin America and SIS = Small Island States), followed by the project number. Annex 4 provides details of the sub-projects, including the countries in which they were executed.

Secretariat for the United Nations Framework Convention for Climate Change (UNFCCC), IPCC, the International Human Dimensions Programme (IHDP), the United Nations Development Programme (UNDP), the World Bank, and the International Geosphere-Biosphere Programme (IGBP). A Technical Committee, composed of internationally recognized experts, provided advice in relation to the review and selection of the sub-projects, assessment methods and tools, design and implementation of the technical assistance and capacity building programmes, and review of project outputs.

6. The project was funded by the GEF as an enabling activity in the climate change focal area, through a grant of US$7,500,000. Financial support was also received from the Canadian International Development Agency (US$100,000), the United States Agency for International Development (US$300,000), the United States Environmental Protection Agency (US$50,000) and the Rockefeller Foundation (US$25,000). Participating developing country institutions provided in-kind co-financing valued at around US$4.5 million.

II. Evaluation Objective, Scope and Methods

Objective and Scope

7. This terminal evaluation is intended to determine project performance, specifically in terms of the extent to which the project objectives and planned activities and outputs were achieved by the time of the evaluation. It also assesses the extent and magnitude of the project outcomes and other consequences, whether positive or negative. The evaluation framework (Figure 1) defines the scope of the evaluation. It reflects and adds value to, the objective of the terminal evaluation and meets requirements specified in the TOR (Annex 1).

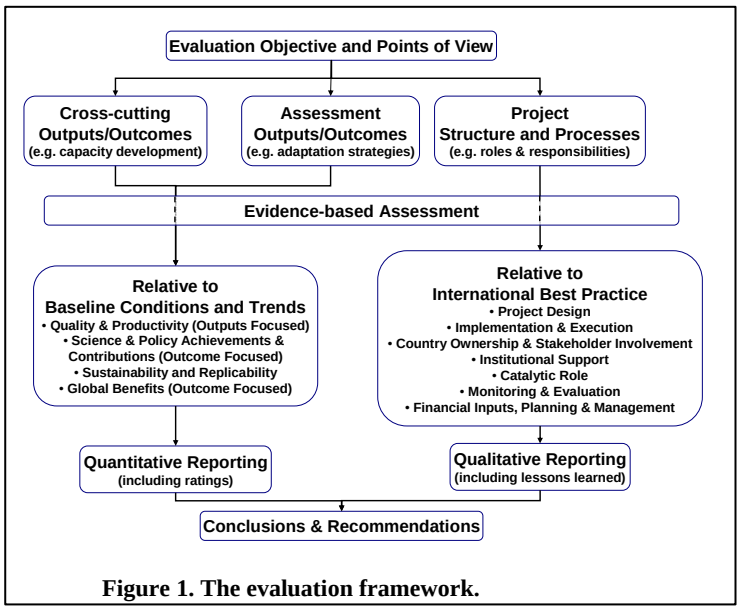

Figure 1. The evaluation framework.

8. Consistent with the approach that contributed to the success of GEF's Third Overall Performance Study (OPS3), three broad points of view (Figure 1) focused and constrained the collection and analysis of: (i) information related to the project's structure and processes; and of (ii) targeted and verifiable evidence pertaining to the quality, productivity, sustainability and replicability of the project's outputs and outcomes. The project's structure and processes were evaluated against international best practices. The outputs and outcomes were assessed relative to baseline conditions and trends. In this way the incremental impacts of the project have been identified and subjected to rigorous appraisal.

9. The evaluation findings have been presented in both quantitative and qualitative terms. These findings in turn informed the preparation of lessons learned. These are intended to help ensure that experiences derived from AIACC can be applied in other projects, as well as at programme and

portfolio levels. The findings will also provide the basis for substantive, evidence-based conclusions, including brief and specific responses to the following questions:

- To what extent have the AIACC project outputs been used, and to what extent have the AIACC processes and outputs helped, to advance the aims of climate-related conventions?
- How effectively has the project contributed capacity, expertise and knowledge to national communications, policy, planning and other activities related to climate change adaptation?
- How effective has the project been in developing and applying methods of assessment that are useful for enabling adaptation?
- How successful has the project been in engaging participants in international science activities such as the assessments of the IPCC?
- How successful are the regional/national assessments executed under the AIACC project in advancing knowledge about climate change impacts, vulnerability and adaptation?
- How effectively has the project added to the science capacity of the participating individuals, institutions and countries, so as to enable climate change adaptation planning and action?
- How effectively has the project added to the climate change policy capacity of the participating individuals, institutions and countries so as to enable adaptation planning and action?

Methods

10. Consistent with the Terms of Reference, a variety of methods and diverse sources of evidence and other information (Figure 2) have ensured that the evaluation findings, conclusions and recommendations are robust, constructive and practical. The evaluation parameters and criteria specified in the TOR were used to define the evidence and other information requirements. A wide range of information providers have been approached (Annex 5) and diverse information sources have been accessed and reviewed (Annex 6).

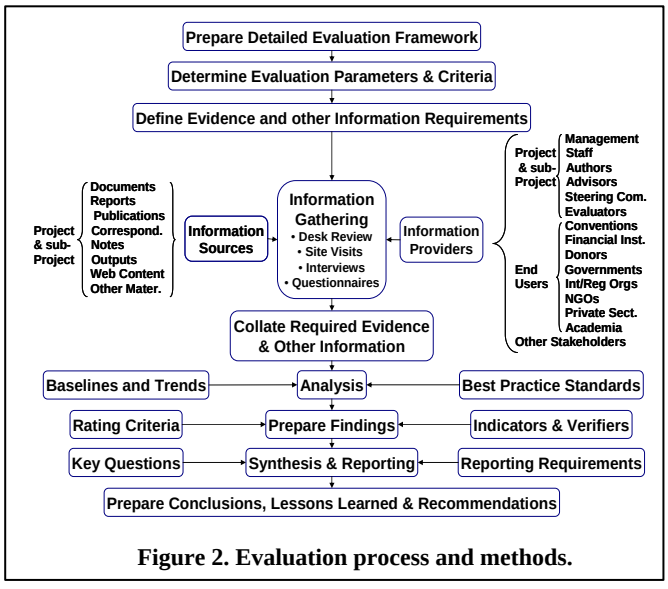

Figure 2. Evaluation process and methods.

11. As shown in Figure 2, numerous methods were used to gather the required evidence and other information. The methods used were structured, semi-structured and open-ended face-to-face interviews as well as similar interviews conducted by telephone, desk top reviews of documents and other information sources, and the use of email to distribute and follow up on questionnaires and engage in further dialogue with key information providers. Site visits were conducted for 17 of the sub-projects (Annex 4). The detailed timetable for these and other site visits is shown in Annex 7. The remaining seven sub-projects were evaluated remotely, using questionnaires, email, telephone and other appropriate means.

12. A major tool for this evaluation was the Evidence and Evaluation Portfolio. It facilitated a bottom-up approach to the evaluation (Figure 3). Such an approach is consistent with the structure and

management of the AIACC project itself. Portfolios were prepared for the project overall and for each sub-project, using a standard template which reflected the prescribed evaluation parameters and synthesis questions.

13. Drafts of the 24 sub-project Portfolios were submitted to the relevant Principal Investigators (PIs) for their review. They were asked to correct or update the evidence provided in the draft Portfolios, and provide additional evidence where appropriate. Each of the revised Portfolios was sent to the relevant GEF Political and Operational Focal Points, for their review and comment. Where necessary the sub-project Portfolios were further revised, based on this feedback.

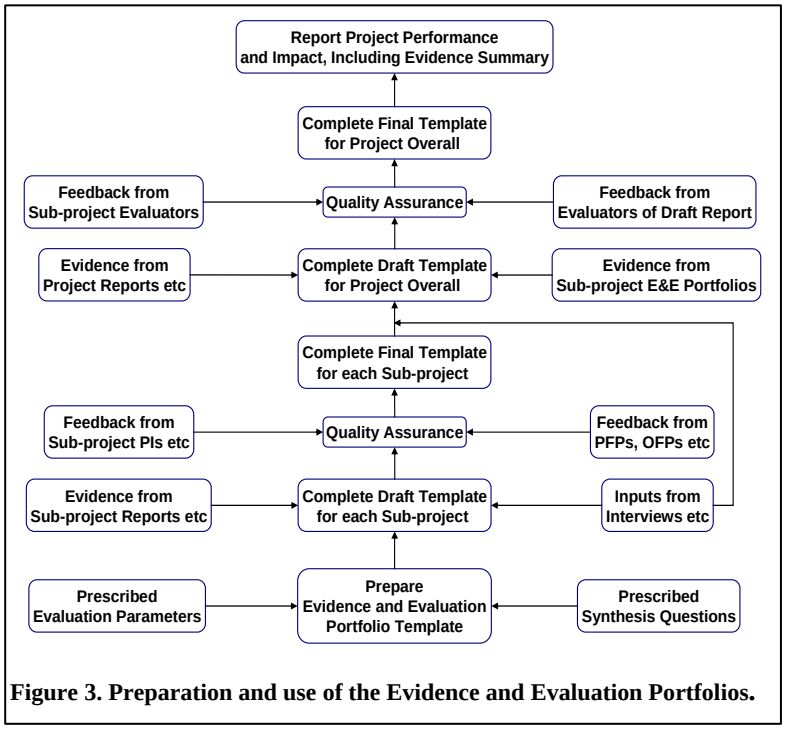

Figure 3. Preparation and use of the Evidence and Evaluation Portfolios.

III. Project Performance and Impact, Including Factual Evidence

14. This section presents a summary of project performance and impact relevant to the evaluation, along with interpretations of the associated evidence. The material is framed in terms of the evaluation parameters and criteria specified in the Terms of Reference and summarized in the evaluation framework (Figure 1). More detailed factual evidence is provided in the Evidence and Evaluation Portfolios, for each sub-project and for the project overall (Annex 3).

Baseline Conditions

15. Baseline conditions for each of the project outputs and outcomes are summarized in Table 1. Information on baseline conditions came from a variety of sources including the Project Document, the sub-project proposals, progress and final reports of the project and sub-projects; project implementation reports (PIRs) and interviews with project managers, sub-project PIs and various stakeholders. Unfortunately, except for the incomplete information on baseline conditions provided in the final PIR, there was no formal recording of baseline conditions.

Achievement of Objectives and Planned Results

Effectiveness

16. The effectiveness of AICC was extremely high, especially when the baselines (Table 1) are taken into consideration. The main contributions focused on advancing technical understanding of the characteristics and consequences of climate change for many countries and regions in the developing

world. In this respect the high effectiveness was due to a combination of factors, including early and dedicated efforts to develop the capacity to build such knowledge, the large time commitment of the devoted research teams and the effective establishment and operation of productive south-south and north-south partnerships and networks.

17. AIACC has also been very effective as measured by the uptake of the findings by international institutions, especially the IPCC. This finding is not surprising given that AIACC was designed specifically to address concerns expressed in the IPCC-TAR regarding the gaps in both knowledge and scientific capacity in developing countries. The IPCC had emphasized that these gaps had limited its ability to report on the observed and anticipated impacts of climate change in key regions such as Africa, Latin America, Asia and the Pacific. The recently published Fourth Assessment Report (AR4) of the IPCC shows that AIACC significantly reduced both the information and capacity gaps. As a result the IPCC was able to achieve a much more balanced geographical coverage and increased certainty in its assessments. It was also able to reflect a greater understanding of the needs and capabilities of the developing world to address the major issue of climate change. As noted above (evidence and evaluation related to Objective 2), AIACC also contributed in a major way to increasing the pool of technical experts who could play key roles in the IPCC's Fourth Assessment. The participation of 27 members of AIACC assessment teams as coordinating or lead authors in the IPCC-AR4 demonstrates the remarkable success of AIACC in building capacity. Their involvement also helped to ensure that AIACC findings played a significant part in shaping the conclusions of the Fourth Assessment.

Table 1
Inferred Baseline Conditions for Each Proposed Output or Outcome

Objective	Planned Output/Outcome	Baseline
Objective 1: Enhance scientific capacity in developing countries to assess climate change impacts, vulnerability, and adaptation	Appropriate range of climate change scenarios including regional high resolution scenarios	Absence of regionally focused climate change scenarios comparable to those which are available to developed nations.
	Broadly accessible research project support and facilitation of targeting adjustment to research needs and effective management	Effective integrated and coordinated support for needs-based climate change research severely lacking in the participating countries and regions.
	Science capacity in climate change improved	Low or no science capacity for targeted climate change research at individual, institutional and national levels in the participating countries and regions. Most capacity building activities are delivered to south by northern institutions.
Objective 2: Advance scientific understanding of these [climate change impacts, vulnerability, and adaptation] issues	Comprehensive sectoral/ regional impact assessments and adaptation strategies	Impacts, vulnerability and adaptation research and assessment activities often highly dependent on external expertise for success. Methods appropriate to developing country circumstances often lacking. Publication in peer-reviewed literature not as common in scientific communities of developing countries as in developed.
Objective 3: Improve links between climate change science and policy communities to enable adaptation planning and action	Appropriate targeting of assessments and researchers	Current and anticipated impacts of climate variability and change, and appropriate adaptation options, are poorly characterised in the participating countries and regions; policy, planning and operations decisions are not well informed. Participation of developing country scientists/experts in international activities is generally low. Working relationships between science providers and stakeholder organizations are typically absent or poorly developed. Scientific input to national communications, NAPAs and other key policy instruments often less than desirable.

18. Uptake and application of AIACC findings by policy makers has been somewhat less effective. This may be attributed to a number of factors, including an initial emphasis on generating research

results to feed into the IPCC assessment process, the predominance of technical experts on the sub-project teams and, in many cases, a lack of ownership of the sub-projects by national Governments, at least initially. The sub-projects that were most effective in influencing policy, and remain so, were those that secured active involvement of Government officials at a very early stage and where the sub-project teams stayed fully engaged with key policy stakeholders over the full project cycle.

19. UNFCCC related activities (e.g. negotiations, communications and work programmes) have also benefited substantially from the skills, knowledge and wider awareness generated by AIACC. The same applies to other multilateral environmental agreements (MEAs) and related activities (e.g. the Convention on Biological Diversity (CBD); the UN Convention on Combating Desertification and the Millennium Ecosystem Assessment (ME)), but to a far lesser extent. This is understandable. What is important is the large number of international science activities to which AIACC scientists have contributed, and continue to do so.

20. The use of AIACC findings by the private sector has been very limited, in large part as a result of not encouraging sub-project leaders to engage effectively with private sector stakeholders during the design phase of their sub-projects. However, it is appropriate to emphasise that, even had this been done, it is likely uptake of findings by the private sector would have been limited. This is a problem faced by climate change researchers around the world.

21. A very different situation exists in regard to use of project findings by the media. At the project level there has been very little media interest. This is not surprising, and is of little concern, since coverage would have been largely of a public relations nature. On the other hand, some sub-projects have been very effective in engaging the media and using them to raise awareness, and encourage uptake of sub-project findings. Other sub-projects have had little or no interaction with the media. The most common reason provided by the PIs of these sub-projects is their pre-occupation with delivering on an ambitious and under-resourced research programme.

22. In many instances the sub-project objectives and proposed work programmes were optimistic in terms of being able to deliver the outputs and outcomes in the time available. One consequence was to extend the project from 48 to 61 months. Other reasons for extending the project were the inclusion of additional activities, such as preparation of synthesis reports and of activities that helped remediate some of the shortcomings in the project design, such as sub-project endorsements by Governments, and enhancing stakeholder engagement.

23. The extent to which the stated objectives and anticipated results have been achieved is summarized in Table 2.

Table 2
Summary of Achievement of Objectives and Planned Results

Objective and Planned Outputs/ Outcomes	Verifiable Indicators	Evaluation Findings
Objective 1: Enhance scientific capacity in developing countries to assess climate change impacts, vulnerability, and adaptation.		AIACC has made, and, through numerous follow-up initiatives and activities, is continuing to make a positive contribution to enhancing the scientific capacity of developing countries to assess climate change impacts, vulnerability, and adaptation.
	Participation in international science activities	27 members of AIACC sub-project teams were coordinating or lead authors of AR4; four of these were authors for WG1. Members of some sub-project teams drew on their AIACC experience when contributing to the ME, to preparation of UNEP's Global Environment Outlook and to similar assessments. Many AIACC team members have leadership roles in international science initiatives such as IPCC, Climate Change Adaptation in Africa (CCAA), Advancing Capacity to Support Adaptation (ACCCA) and START
	Recognition as centres of scientific excellence for climate change and related	Several research groups, mostly from universities, enhanced their capacity and their scientific reputations through their AIACC participation (see list in

Objective and Planned Outputs/ Outcomes	Verifiable Indicators	Evaluation Findings
	research	Annex 3). Nevertheless, the sustainability of science capacity in developing countries is a challenge that has yet to be solved. AIACC showed that it is difficult to build the science capacity to productive and sustainable levels within the life time of a project. The enhanced capacity attributable to the Project is also vulnerable. Without new resources to fund new efforts, the institutions that participated in AIACC will pursue other opportunities, lose persons with relevant knowledge and skills; and their relationships with other institutions working on climate change will weaken from disuse.
	Initiation of south-south capacity building activities	AIACC was successful in promoting and facilitating South-South collaboration. Specific examples include AS07 supporting AS21 in hydrologic modelling; LA26 collaborating with Uruguay to train journalists on climate impacts and vulnerabilities just before the Fourth Conference of the Parties (COP) in Buenos Aires; AS21 training scientists and researchers from Vietnam, Cambodia, Laos and Bhutan. Comprehensive and high quality training documentation was prepared, including manuals, compact discs (CDs) and training reports.
	Number of persons who benefited from learning-by-doing, mentoring and training activities.	More than 300 scientists, experts, and stakeholders from 108 institutions and 50 developing countries participated in AIACC regional assessments. More than 100 early career scientists and experts were trained.
	Number of student theses supported	75 student theses using AIACC assessment results have been completed and approved.
Appropriate range of climate change scenarios including regional high resolution scenarios	Change in the number and comprehensiveness of regional climate change scenarios.	The AIACC sub-projects developed scenarios, with varying success. AF07 developed some of the highest resolution climate change scenarios available for the African continent, comparable to those from developed nations. However, validation was a problem due to sparseness of observations, adding to the inherent uncertainty. It was difficult for AF07 to deliver scenario information in time for use by the other sub-projects, with significant repercussions. AF20 reported that preparation of climate scenarios for West Africa is very weak. However, its paper on the assessment of the strengths and weaknesses of the Regional Climate Model (RCM) was published in an important peer reviewed journal and was referenced in Ch 11 of IPCC WG1 AR4. Other sub-projects explored the usefulness of different downscaling methods, which addressed both the inadequate representation of a coarse Global Climate Models (GCMs) and the lack of capacity to produce them, These included SIS06 for the Caribbean, LA06 for Central America, LA29 for farmers in Mexico and Argentina, and AS21 for the Indonesian component. The AS21 team also recognized the need for a reliable downscaling tool/technique to be able to quantify the potential impacts of climate change on Philippine forests. AF91 had difficulty preparing useful scenarios. It found no significant correlation between the observed temperature variations and GCM-based estimates for the same time period. Such difficulties in downscaling coarse resolution GCM outputs to the topographically complex local scale meant it was not possible to use detailed projections to study the impacts, vulnerability and adaptations to climate change-induced malaria and cholera in the Lake Victoria Region of East Africa. Rather, AF91 focused on the impact of current variability and trends. AS12 was dissatisfied with the climate projections the team developed, particularly rainfall projections. This is likely because the area of study was too small to be represented by the direct results of the GCMs. It was not noted if statistical or dynamical downscaling could have remedied the situation. As part of SIS90, climate scenarios for the Seychelles were prepared for four time slices 2020s, 2050s, 2080s and 2100s. LA26 developed scenarios by calibrating a two-dimensional hydrodynamic model of the River/Rio de la Plata, forced by sea level and surface winds. The model was used to estimate the maximum storm tide values along the banks of the Plata River with initial tide data generating the basic statistics of river level. In cooperation with LA27, LA32 developed climate change scenarios for south eastern South America for 2020 and 2050. The team also generated output for 2080 but found them not useful as the uncertainty was so high. With the evolution of the National Adaptation Programme of Action (NAPA) approach, AF38 considered that climate scenarios were no longer necessary. Emphasis was

Objective and Planned Outputs/ Outcomes	Verifiable Indicators	Evaluation Findings
		instead placed on understanding recent trends in climate variables. Scenarios developed by the University of Cape Town (UCT) Team (Hewitson et al) were explored, but the data were never complete enough to use fully.
Broadly accessible research project support and facilitation of targeting adjustment to research needs and effective management	Responses of Sub-project PIs to question: Were the project management and the supervision procedures effective, efficient and adaptable?	Responses to the question were overwhelmingly positive. This applies not only to the support and management provided by both START and TWAS, but also to the overall design and implementation of the project. Some sub-projects identified delays in the receipt of funds. Such shortcomings were few in number, in an absolute sense and also relative to the number of positive comments. However, when they occurred they usually had significant implications for the implementation of sub-project activities. For example, AF90 experienced delays in the receipt of payments, making it impossible to plan for the PI to travel in order to lead investigations. The delays were due to the required official procedures to open an account in the UNDP Tunis office. Other delays were largely outside the control of project management. For example, AS25 was delayed for two reasons: (i) delayed endorsement of the sub-project by Chinese GEF Office (finally obtained in Sept. 2003); and, (ii) the Severe Acute Respiratory Syndrome (SARS) advisory. These two issues had a large impact on the possibilities for completing the objectives of the AS25 project within the original time frame. With some adjustments, AS25 was able to fulfil the objectives and deliverables as the project completion date was extended by a year. With very few exceptions there was dissatisfaction with the "mentoring" scheme established under AIACC. The main criticism was that the mentors were too heavily committed to their normal professional responsibilities to perform effectively as mentors. A noted exception was Ms Xianfu Lu.
Science capacity in climate change improved	Scientific community acceptance and recognition reflected in peer assessment of outputs and expertise	108 peer reviewed publications based substantially or entirely on AIACC findings have appeared, many in prestigious international journals including *Ambio, Climate Research, Conservation Biology, Geophysical Research Letters, Global Environmental Change, International Journal of Climatology, Journal of Climate, Journal of Environment and Development, Journal of Geophysical Research, Mitigation and Adaptation Strategies for Global Change* and *Theoretical and Applied Climatology.* 14 books and more than 200 other publications were also written based on the AIACCC findings. The IPCC AR4, submitted and current National Communications (NCs) and NAPAs also made use of the substantial findings of AIACC findings.
Objective 2: Advance scientific understanding of these [climate change impacts, vulnerability, and adaptation] issues		As characterized in the AIACC Final Report, the topics covered by the assessments included agriculture, forestry, fisheries, water resources, coastal systems, food security, rural livelihoods, human health and biodiversity. Despite the climate change vulnerability and adaptation being highly context-specific, a number of general lessons have been developed through comparison and synthesis across the AIACC studies. In addition to the final reports, these lessons are reported in two books, namely *Climate Change and Vulnerability* (Leary et al, 2008a) and *Climate Change and Adaptation* (Leary et al, 2008b).
Comprehensive sectoral/ regional impact assessments and adaptation strategies	Successful completion of national/regional vulnerability and adaptation research/ assessment activities by in-country experts. Reference in National Communications and assessment reports	All 24 AIACC teams established contacts and shared scientific outputs with entities responsible for NCs and NAPAs. Many of the teams were asked to contribute formally to the NCs and NAPAs. Several of them are in key leadership roles for planning and preparing their countries' 2nd NCs. Interactions between AIACC teams and stakeholder groups are continuing and contributing to adaptation planning. AIACC findings were also used in the preparation of nine submitted NCs, and in the preparation of five NAPAs. AIACC findings are currently being used in preparation of 29 NCs.
	Inclusion of individual project results in the AR4	As noted above, more than 100 explicit references to AIACC findings in the IPCC AR4 were made, including the WG1 and Working Group 3 (WG3) reports. Timing factors precluded an even greater impact, particularly when preparation of peer reviewed publications (an IPCC assessment requirement) took place towards the end of the sub-project activities. The number of AIACC peer reviewed publications that have appeared after the IPCC cut off date is similar to the number cited in the fourth assessment. The decision to make some AIACC peer reviewed reports available online, thereby meeting

Objective and Planned Outputs/ Outcomes	Verifiable Indicators	Evaluation Findings
		IPCC requirements in a timely manner, resulted in more AIACC findings being used in the IPCC fourth assessment than would have otherwise been the case. AIACC intended to give priority to addressing knowledge gaps and capacity deficits in Africa. It is therefore noteworthy that the IPCC fourth assessment makes much greater use of the findings of the African sub-projects than it does for the other sub-projects.
Objective 3: Improve links between climate change science and policy communities to enable adaptation planning and action.		The AIACC project facilitated the participation of developing country scientists and experts in international science and policy activities by organizing sessions at science conferences and side events at the UNFCCC COP, sponsoring participation in conferences and meetings, and nominating individuals to be authors of the AR4 of the IPCC, participants in expert meetings of the UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA), and presenters in other international meetings. Several AIACC investigators, drawing on their AIACC experiences, co-authored technical papers for UNDP's Adaptation Policy Framework. AIACC investigators have used capacity developed in the project to contribute to and present at policy conferences such as Adaptation and Development Days held annually at UNFCCC COPs; the Adaptation Research Workshop in New Delhi, 2004, hosted by UNEP, the Stockholm Environment Institute (SEI) and the International Institute for Environment and Development (IIED); the Adaptation Science and Policy Conference in Beijing, 2004; expert workshops of SBSTA; and numerous national policy dialogues (e.g. Mongolia, Mexico, Argentina and South Africa). A presentation was made to SBSTA in May 2007 on how the achievements of AIACC can help advance the goals of the Nairobi Work Programme (NWP). Action pledges have been made to draw on the experiences of AIACC to support the NWP. Recommendations frequently sought for scientists from the AIACC network to engage in various activities from groups such as the GEF Secretariat, UNFCCC Secretariat, IPCC, MA, the International Assessment of Agricultural Science and Technology (IAAST), the World Bank, research projects of the Earth System Science Partnership (e.g. the Global Environmental Change and Food Security project), the International Research Institute for Climate and Society, SEI, IIED, CCAA, and bilateral donors. AIACC participants are now members of GEF's Scientific and Technical Advisory Panel (STAP), the steering committee of CCAA, the management team for the ACCCA project, the IPCC Task Group on Data Scenario Support for Impact and Climate Analysis (TGICA) and leaders in developing a new global change research network for Africa (AFRICANESS). Through these and other activities, AIACC participants are now thoroughly engaged with key groups and activities internationally that relate to climate change. Several of the teams have succeeded in new grant applications to the GEF, CCAA, ACCCA, the MacArthur Foundation, and the Inter-American Institute for Global Change Research, the Asia-Pacific Network and others, demonstrating that they have gained important capacity. The networks being established and nurtured by AIACC are a critically important form of capacity needed to comprehensively understand climate change vulnerabilities, evaluate integrative adaptation strategies, and share knowledge and perspectives across stakeholder groups.
Appropriate targeting of assessments and researchers	Responses of Sub-project PIs to question: *What are the main ways in which your project provided capacity, expertise and knowledge to national communications, policy, planning and other activities related to climate change adaptation?*	The responses show that AIACC has been highly productive in terms of building relevant capacity across the full spectrum of the enabling environment for adaptation, including skills, knowledge, and strengthened institutions. AIACC also proceeded to make effective use of this capacity, thereby laying a strong foundation for adaptation interventions

Relevance

24. AIACC delivered highly tangible outputs and outcomes at both project and sub-project levels. Invariably these were very relevant, and in many cases they were extremely important, globally and/or nationally. The recent growing recognition of climate change as a risk to national economic performance, quality of life and environmental quality resulted in the AIACC studies providing information and expertise of relevance to many national priorities.

25. Almost all countries in which AIACC was implemented have identified climate change as a risk to their continuing development, but for many the main national priorities continue to be improving health, education and related social services. AIACC has been extremely successful in demonstrating that, unless appropriate response strategies are in place, and implemented, climate change can reduce the effectiveness and efficiency of investments in these and other sectors. Thus, rather than addressing existing national priorities, AIACC has been highly effective in shaping national priorities so that sustainable development can occur despite changes in the climate. For example, AF04 had a major influence on development of national priorities (e.g. South Africa's National Biodiversity Strategy and Action Plan) and responses to them (e.g. South Africa's Biodiversity Act). SIS90 showed that the tourism sector in the Seychelles is extremely vulnerable to climate change, and identified many ways to reduce climate-related risks. The Government of the Seychelles has acted on almost all of the SIS90 recommendations. The scientific findings are being translated into applicable policies which are now helping Government and the private sector to think more long-term and to take appropriate measures, especially in areas which were the focus of the SIS90 research, namely coastal planning and flood management. Adaptation is now mainstreamed in policy-making and development. The SIS90 recommendations are also reflected in the ten year investment plan and in annual budgets.

26. While most sub-projects eventually delivered outputs and outcomes consistent with existing or emerging national priorities, officials in many countries were at first skeptical that this would occur. Initially many AIACC researchers had poor linkages with, and understanding of, Government processes and agencies. The sub-project objectives and work plans were often developed with little or no consultation with the Government. Moreover, initially national Governments were not involved in formulating and endorsing the AIACC proposal, or in the call for sub-project proposals and the eventual selection of sub-projects. Some Governments argued that, given these circumstances, there was no guarantee the proposed sub-projects were consistent with national priorities. As a result, the necessary Government endorsement was withheld, delaying inception of these sub-projects.

27. Enabling activity projects provide financing for preparation of: (i) a plan, strategy, or programme to fulfil commitments under a global environmental convention; and (ii) a national communication or report to a relevant convention. For the countries in which AIACC was implemented, the sub-project activities contributed to their national communication process for climate change (Table 3). This includes impact, vulnerability and adaptation assessments. For the Least Developed Countries (LDCs) amongst them, AIACC also contributed to National Adaptation Programme of Action (NAPA) preparation at national level (Table 3). In addition and as noted above, AF38 helped to establish policy, methodologies, guidelines and materials for NAPA preparation under the UNFCCC. Table 3 shows that all of the 24 sub-projects have made contributions in some way to the national communication process.

28. As already noted, timing of the AIACC activities relative to those for National Communications (NCs) sometimes precluded a direct contribution. For example, by the time SIS09 was underway in 2003, the Cook Islands had submitted its NC and Fiji had completed its assessments and was finalizing its NC. As a result, SIS09's direct contribution to the First NCs of both the Cook Islands and Fiji was minimal. However, the SIS09 outputs could be useful for their Second NCs.

29. As Table 4 demonstrates, the intended AIACC results are a mix of outputs and outcomes. The project document was extremely conservative when identifying outcomes. Both the planned and implied outcomes have been and, in many cases, continue to be delivered. For example, many AIACC scientists shared in the joint award of the 2007 Nobel Peace Prize to Al Gore and the IPCC.

Table 3
Selected Outputs and Contributions of the Sub-projects

Sub-project	Books Published	Contribution to NAPA	Contribution National Communication	Peer Reviewed Publications	Completed Post-graduate Theses	Coordinating and Lead Authors for IPCC
AF04	0	NA	Upcoming	7	1	2
AF07	0	NA	Upcoming	12	3	1 (WG III)
AF14	0	YES	Past & Upcoming	1	0	1
AF20	0	YES	Past & Upcoming	4	2	2 (WG I)
AF23	1	NA	Past & Upcoming	12	6	0
AF38	1	YES	Past & Upcoming	1	5	2
AF42	0	NA	Upcoming	6	4	1
AF47	0	YES	Past & Upcoming	3	0	0
AF90	0	NA	Upcoming	5	1	1
AF91	0	NA	Upcoming	3	5	3
AF92	0	YES	Past & Upcoming	7	12	1
AS06	3	NA	Upcoming	8	1	1
AS07	0	NA	Upcoming	0	2	0
AS12	0	NA	Upcoming	7	1	0
AS21	0	NA	Upcoming	0	4	3
AS25	1	NA	Upcoming	3	3	1 (WG I)
LA06	0	NA	Upcoming	0	0	0
LA26	1	NA	Past & Upcoming	3	5	1
LA27	0	NA	Past & Upcoming	3	0	1
LA29	4	NA	Past & Upcoming	9	4	3
LA32	0	NA	Past & Upcoming	2	0	1
SIS06	1	NA	Upcoming	4	2	1 (WG I)
SIS09	0	NA	Upcoming	2	0	0
SIS90	0	NA	Upcoming	6	4	1

Table 4
Planned and Implied (underlined) Outputs and Outcomes

Objective	Outputs	Outcomes
Objective 1: Enhance scientific capacity in developing countries to assess climate change impacts, vulnerability, and adaptation	Appropriate range of climate change scenarios including regional high resolution scenarios	Broadly accessible research project support and facilitation of targeting adjustment to research needs and effective management
		Science capacity in climate change improved
Objective 2: Advance scientific understanding of these [climate change impacts, vulnerability, and adaptation] issues	Comprehensive sectoral/ regional impact assessments and adaptation strategies	Uptake and application of AIACC findings by MEAs and in global (e.g. IPCC and Millennium Ecosystem Assessment), regional and national assessments
Objective 3: Improve links between climate change science and policy communities to enable adaptation planning and action		Appropriate targeting of assessments and researchers Strengthened and more effective national bodies with responsibilities that include identifying and implementing responses to climate change

Source: Project Document and this Study

30. AIACC outcomes are highly relevant to not only the Climate Change Focal Area and climate-related Operational Programmes of the GEF, but also to those programmes which address biodiversity conservation, and desertification, among others. Adaptation to climate change is increasingly recognized as a cross-cutting issue by the six GEF Focal Areas, as the principle of 'climate proofing' is now followed across the entire GEF portfolio.

Efficiency

31. The evaluation found no evidence to suggest that AIACC could have achieved its objectives at less cost, or that the considerable number and high quality of the outputs and outcomes could have been achieved in less time. In fact, the baseline on which AIACC built (Table 1) makes the accomplishments all the more remarkable.

32. Table 5 summarizes the overall AIACC expenditure of the $7.2 million of GEF funding. This shows that:

- Personnel costs were 16% of total costs;
- Two thirds of the budget was provided to cooperating agencies for the assessment studies and to supporting organizations for training services;
- Direct expenditure on training was just over $1 million;
- Overall there was a small under-expenditure of $300,000; and
- Budgeted costs for the Science Director operations were exceeded by over 100%, attributable at least in part to the extension of the project by 18 months.

33. Table 6 summarizes co-financing and leveraged support. It demonstates that over and above the additional financial resources secured at project level, many sub-projects also mobilized cash and other financial assistance. Often this took considerable time and presented a burden to the sub-project teams. For example, AF47 spent a substantial amount of time negotiating $100,000 of co-financing from the World Bank, but in the end it did not materialise.

34. The costs of past and ongoing global assessment activities suggest that the cost of the assessments undertaken by AIACC was at least comparable to the following, given differences in the scope and objectives:

- IPCC 2nd Assessment Report (1995): $15 million cash + $15 million of in-kind support;
- Global Biodiversity Assessment (1995): $3 million;
- FAO Forest Resource Assessment (1999): $17 million;
- IPCC 3rd Assessment Report (2001): $15 million cash + $15 million of in-kind support;
- Global International Waters Assessment (2005): $13 million;
- International Assessment of Agricultural Science and Technology for Development (2005-07): $11 million; and
- IPCC 4th Assessment Report (2007): $32 million.
- Millennium Ecosystem Assessment (2006): $20 million

35. The Project appears to have complied with the GEF requirement for incremental costs. The analysis in the Project Document highlighted the following in concluding that the Project was eligible for GEF funding: (i) the project addresses gaps in global assessment and capacity needs for climate change; (ii) the global activities of the IPCC are considered a baseline for the project; and (iii) the main budget allocation is directed to the highest priority, most sustainable and cost effective opportunity for GEF intervention, namely the assessment of climate impacts and adaptation strategies. This recognised that countries require three critical elements for preparing comprehensive stage II adaptation strategies, namely activity data, agreed and tested methodological tools, and training.

36. As noted above, the failure to engage fully with national Governments from project inception resulted in some Governments questioning sub-project proposals, thus delaying endorsement. In some cases this caused a delay in transferring funds from the AIACC budget to the cooperating agencies, in turn delaying sub-project implementation. In other instances, institutional arrangements were not formalised by the time of sub-project inception. Delays in finalising institutional roles and responsibilities had the same consequences.

37. The sub-project Evidence and Evaluation Portfolios (Annex 3) show that there were few instances where delays in implementation had adverse consequences on either project outcomes, sustainability, or efficiencies. In fact, the opposite was more often the case. Thus none of the consequences of the delays could be considered significant when considered from a longer-term perspective. This is due, at least in part, to the ongoing commitment of the sub-project teams, and particularly the PIs. Most came from an academic background. As a result, they saw value in continuing with project-related activities long after formal completion dates had passed, and budgets had been expended. While formal project reports can be submitted on schedule, most researchers will continue to work in order to ensure uptake

by Government and other stakeholders, and will make certain that their findings are published in the peer-reviewed literature. Most AIACC team members placed high importance on these two outcomes.

Table 5
Breakdown of AIACC Expenditure of GEF Funds

	Actual	Budget	Difference
PERSONNEL COMPONENT			
Project Personnel			
Project Coordinator (START)	796,839	380,000	416,839
Project Assistant (TWAS)	141,712	175,000	(33,288)
sub-total	938,552	555,000	383,552
Consultants			
Consultants	123,768	415,000	(291,232)
sub-total	123,768	415,000	(291,232)
Travel on Official Business			
Staff travel	87,864	100,000	(12,136)
sub-total	87,864	100,000	(12,136)
Component Total	**1,150,184**	**1,070,000**	**80,184**
SUBCONTRACT COMPONENT -			
Sub-contracts (MOUs/LOAs for cooperating agencies) -			
Activity	4,490,579	5,534,000	(1,043,421)
Supplemental Small Grants	218,290	-	218,290
sub-total	4,708,869	5,534,000	(825,131)
Sub-Contracts (MOUs/LOAs for Supporting Organizations)			
Scenario Training	117,156	-	117,156
Vulnerability and Adaptation Assessment Training	-		-
sub-total	117,156	-	117,156
Component Total	**4,826,025**	**5,534,000**	**(707,975)**
TRAINING COMPONENT			
Group Training			
Workshops	466,405	771,000	(304,595)
Regional Workshops	611,164	-	611,164
sub-total	1,077,570	771,000	306,570
Meetings/Conferences			
In-service training	375	-	375
sub-total	375	-	375
Component Total	**1,077,945**	**771,000**	**306,945**
EQUIPMENT COMPONEN T			
Non-Expendable Equipment			
Office equipment (computers)	14,043	9,000.00	5,043
sub-total	14,043	9,000.00	5,043
Component Total	**14,043**	**9,000**	**5,043**
MISCELLANEOUS COMPONENT			
Operation and Maintenance of Equipment			
Maintenance of computer equipment	3,000.00	-	(3,000)
sub-total	3,000.00	-	(3,000)
Reporting Costs			
Technical and Steering Committee	20,757	33,000.00	(12,243)
Project Reports (Final Thematic/Sectoral Reports and Synthesis Reports)	5,444	-	5,444
sub-total	26,201	33,000.00	(6,799)
Sundry			
Communications	46,189	60,000.00	(13,811)
- - Outreach Costs	40,889	20,000.00	20,889
sub-total	87,078	80,000.00	7,078
Component Total	**113,279**	**116,000**	**(2,721)**
GRAND TOTAL	**7,181,475**	**7,500,000**	**(318,525)**

Source: UNEP

Table 6
Co-financing and Leveraged Support ($ millions)

	UNEP	Government	Other*	Total
Co-financing				
In-kind Support	2.113	1.823	0.475	4.411
Leveraged Support**				
In-kind Support	0.020			0.020
Cash	0.475			0.475
TOTAL	**2.608**	**1.823**	**0.475**	**4.906**

Source: UNEP

* Refers to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, Non-governmental Organisations (NGOs), the private sector and beneficiaries.
** Additional resources mobilized after project approval and as a direct result of the project. Leveraged resources can be financial or in-kind and may be from other donors, NGOs, foundations, governments, communities or the private sector.

38. At both project and sub-project levels AIACC made effective use of pre-existing resources. The contributions supporting organizations made to training activities, including those related to scenario development and vulnerability and adaptation assessment, helped to ensure the effective transfer and application of existing state of the art, but relevant, methods and tools. However, not all attempts to use existing capabilities were successful. For example, the AS12 PI noted that such efforts delayed sub-project implementation:

39. *"This was due to the delay in one of the consulting teams contracted to supply software and train the team in its use, which gave little time for the team to practice the use of the software. This software ...got expired and now we are not in a position to use it, making the project unsustainable. [Also] we got a special software package on crop modelling developed by the Indian Agricultural Research Institute, but this too developed some bugs and our efforts to get them debugged proved unsuccessful. Consequently, we were unable to come out with reliable results in the case of coconut yield. The final report gives results only in respect of tea."*

40. The ongoing mentoring programme also made a contribution in this respect, despite some of its shortcomings. However, the transfer of tools and methods was not without its problems. AIACC at times overestimated the existing capacity of the study teams, and what they could deliver. An example was the AIACC Scenario Workshop at the University of East Anglia. The intention was to train all sub-project teams in downscaling GCM outputs. However, most participants did not have the pre-requisite skills.

41. Many researchers lack experiential knowledge in climate change, due to their limited engagement with the issue. This challenge highlights the importance of experiential knowledge and skills across all levels of activity in AIACC and the need to build the wisdom and skills of scientists, by means of *learning by doing*.

Sustainability of Project Outcomes

42. The longer terms impacts of AIACC relate collectively to helping reduce vulnerability to climate change, especially in developing countries and regions, by enabling effective adaptation policies, plans and on the ground actions. The pathways are through achievement of all three of the AIACC objectives, namely sustained enhancement of scientific capacity in developing countries, increased scientific understanding and improved links between the climate change science and policy communities.

43. There is considerable evidence to show that AIACC impacts are already occurring. In the longer term, however, it will become increasingly difficult to attribute significant impacts to AIACC activities, even in part. This is because, for all three of its objectives, the AIACC approach was to build on, work in parallel with, and add value to, the efforts of other players. Nevertheless, the

available evidence (Annex 3) makes it clear that AIACC resulted in significant improvements in climate change related capacity, understanding and policy.

44. The individual and institutional capacities built by AIACC show signs of being sustainable. There are a number of reasons why teams are continuing to engage in addressing climate change issues. First, the climate change assessments were executed by scientific institutions that have long-term commitments to research, education, and training related to climate-related hazards. They therefore possess a strong self-interest to further invest in and use the capacities enhanced by the AIACC project. Second, individual capacity building efforts, such as training, were targeted at early-career scientists. As they develop capabilities to excel in this field, it is reasonable to expect that many will focus their future research, assessment and policy activities on addressing issues related to climate change. Third, the success that AIACC has achieved in developing cross-institutional collaborations and engagement of participants with IPCC, MA, IAAST and the global change research programmes, has resulted in networks that will help keep the individuals and institutions that participated in AIACC engaged in climate assessment work.

45. Despite these positive signs, the enhanced capacity developed by the project is vulnerable. Some of the assessment teams have succeeded in securing the financial resources needed to continue working together on the problems of climate change, including adaptation. This will help to sustain their capacity. Importantly, many more have not. Without new resources to fund new efforts, the institutions that participated in AIACC will invest their energies in pursuing opportunities in areas other than climate change. If this happens they will lose people with relevant knowledge and skills. In addition, their relationships with other institutions working on climate change will weaken from disuse. Thus further investments are needed by projects similar to AIACC in order to further nurture and thus sustain the capacity in developing countries for advancing knowledge about climate change risks and applying new knowledge to improve management of those risks.

46. Indeed, new investments that build on the AIACC experience have already emerged. In Africa, Advancing Capacity to Support Climate Change Adaptation (ACCCA) is bringing together scientists and stakeholders to communicate and apply knowledge of climate change risks in planning adaptation. Several of the AIACC teams are helping to provide the technical support for execution of the project. The ACCCA project is a joint initiative of START, the United Nations Institute for Training and Research and SEI. It is funded by the European Commission's EuropeAid Cooperation Office, the UK Department of Environment, Food and Rural Affairs, the International Development Research Centre (IDRC) and the ETC Foundation of the Netherlands. On a larger scale, the new Climate Change Adaptation in Africa (CCAA) programme managed by IDRC is applying a model similar to AIACC, to promote 'action research' that will build capacity for adaptation in Africa.

47. At the sub-project level, many of the teams are optimistic about the longer-term impacts of their efforts. Major channels which facilitate this sustainability include: (i) scientific networks and cooperation established through the project; (ii) interdisciplinary cooperation at institutional level; (iii) ongoing commitment to the delivery of courses in climate change; (iv) AIACC graduate students are now employed in Government and other institutions; and (v) increased awareness of the public, via journalists and teachers.

48. Some projects implemented specific measures to enhance the sustainability of project activities and outcomes. For example, senior Government officials who had already retired were tapped for their wide experience while middle generation experts played a leadership role in the project and young university students engaged in graduate or undergraduate studies were given the opportunity to develop relevant knowledge and skills. These efforts were designed to increase sustainability in the context of the ongoing availability of personnel to work on climate change issues.

Financial Resources

49. The current reality is that in many developing countries external financial support is needed in order for studies to have the appropriate scope in terms of the disciplines covered and to ensure the use

of improved methods and tools. Longer-term funding will often be needed in order to sustain the efforts of new or interdisciplinary scientists. Typically, this type of funding has to come from sources external to the developing countries. International funding may also provide the flexibility required to build the cross-border networks and address cross border issues, such as watershed management.

50. Mainstreaming climate-related concerns into development planning and processes may well increase the likelihood that general Government budget appropriations will support implementation of adaptation action plans, and the like. As long as these activities remain outside of the "regular" work schedule, external funding will always be needed. The capacity building efforts of AIACC, including targeting young scientists and providing training in climate vulnerability and adaptation, has helped accelerate this mainstreaming process. Many participants in the training will continue to undertake research, assessment and policy-related activities to address problems of climate change, eventually being appointed to senior positions in Government, from where they can influence the mainstreaming process.

51. This is perhaps best illustrated by the outcomes of AF04. In part as a consequence of AF04, South Africa has established some of the most forward-looking strategies in bioregional planning, allowing it to contribute substantially to South-South initiatives to adapt to climate change. Moreover, the resulting technical and policy aspects of biodiversity and climate change in South Africa now have their own momentum. There is no longer a great dependency on continuing financial support from outside the country. This is because addressing the issue has been "mainstreamed" in relevant national policies, plans and legislation. Importantly, members of the AF04 team continue to be awarded research funds from external agencies, including through the CCAA project.

52. LA26 is another success story in this regard. Because the sub-project addressed a national and university priority, scientific interest in climate change research continues, as does the financial support. There is increasing demand for applied scientists to investigate potential climate impacts and develop risk management strategies. As a result, LA26 team members are currently working with local jurisdictions to analyze models of regional performance and strengthen institutional water management and adaptation strategies. The University of Buenos Aires, and an affiliated research institution, intend to submit proposals for regional GEF projects, primarily related to adaptation. The proposals will also include some funding for analyzing scenarios to reduce the current levels of uncertainty.

Socio-political Perspectives

53. The AIACC approaches of focusing on early-career scientists for training and other capacity building activities, and of enhancing the linkages between science providers and policy makers, has done much to increase the sustainability of its outcomes from a socio-political perspective. As noted above, AIACC trained scientists are now moving into more senior levels in Government and other national institutions, as well as in regional and similar organizations. This helps to enhance the enabling environment for adaptation.

54. The threats to the longer-term sustainability of the AF91 outcomes are typical of many AIACC sub-projects. Its major longer-term impacts require further strengthening of policies and activities that reduce vulnerability and increase resilience to malaria and cholera. The main objective was to ensure that governments will be better informed for decision making, with resulting benefits for individuals, families and communities. AF91 highlighted that mobilization of the resources required to support adaptation to climate change typically competes with other financial demands, such as those related to education and health. However, the study also showed that political support for the allocation of resources will generally occur if there is a strong evidence base in terms of both need and the effectiveness of the interventions - Governments, donors and NGOs are more ready to act if they are provided with credible, relevant and targeted information. In the case of AF91, the financial resources required to enhance coping and adaptation activities related to malaria were forthcoming. The strong linkages between the AF91 team and the Kenyan Government also helped to increase the likelihood

that the outcomes related to the research are very likely to be sustained. On the other hand, increasing poverty may well undermine any benefits attributable to the study.

55. AS21 also had key findings that highlight the importance of socio-political factors. The involvement of local communities and local Government units (LGUs) in the formulation of adaptation strategies is good practice. To ensure the sustainability of outcomes, AS21 showed a need to mainstream climate change adaptation into development planning, disaster contingency planning, and physical framework and land-use management planning at the LGU level. However, the local Government officials involved as one of the key stakeholders in the AIACC sub-project in the Philippines are likely to be replaced by new ones as a result of the three-year cycle of local elections. If adaptation is not mainstreamed, the changed interests and priorities of the newly elected officials could hamper the sustainability of adaptation policies and actions.

56. The results of the Gambia study undertaken by AF47 also illustrate the difficulty of ensuring the sustainability of the AIACC outcomes. The study was able to identify substantial benefits from irrigation at a macro economic level, including the social benefits of re-vitalised agricultural production on employment generation, alleviation of poverty (increased income, improved nutrition of women and children) and rural re-generation/development. However, the increased income from irrigation did not offset the additional costs incurred by farming households, suggesting the need for further policy measures to support irrigation.

Institutional Frameworks and Governance

57. The AIACC project and its sub-projects provide numerous messages related to the links between institutional frameworks, governance and sustainability of project outcomes. For example, in terms of the uptake of AF91 findings, the contrast between Kenya and the other participating countries highlights the importance of investing substantial effort in developing effective institutional frameworks and enhancing governance.

58. As a result of the experience, findings and interest raised by AF42, the Botswana Environmental and Natural Resources Observing Network (BENRON) is now focusing on climate change. Previously the focus was on ecology in general. The Network is being used as a vehicle to find new sources of funding for research and related studies. One of the key linkages being studied within BENRON is the impact of climate change on biodiversity.

59. LA26 found that the lack of cooperation among jurisdictions and institutions has increased climate-related vulnerabilities. Changes in political administrations at both local and national levels create uncertainty. On the other hand, networking with local Government agencies was strengthened as a result of the sub-project and is likely to lead to the eventual mainstreaming or integration of climate change concerns into the portfolios of relevant agencies. LA26 also showed the advantages of regional cooperation. It established networks among Argentinean, Brazilian and Uruguayan scientists. These continue to operate. Tools, datasets, methods and approaches that were developed and used in the LA26 studies have been made available to academic and other users, for use in future climate change studies.

60. The strong barriers to cooperation between institutions is a major risk to the AF38 findings having longer-term impacts on life and livelihoods in the Miombo region of Africa. The strength and repercussions of these barriers is illustrated by the fact that the AF38 project document named the Mozambique Government officials who would be involved in implementing the sub-project. Since no staff members of the Ministry of Environment were named, they could not participate in the sub-project activities, despite that Ministry having responsibility for the assessment and management of drought. As a consequence, it was not possible to include any studies related to drought in the Mozambique component of the sub-project. Thus for Mozambique the focus of AF38 was on floods only. For the other participating countries - Zambia, Malawi and Zimbabwe - the focus was on both floods and drought.

61. LA06 recognized that if its outputs were to influence science and policy, a regional approach was needed. In the short term, and with EU support, the follow up initiatives under the auspices of the Central American Integration System are designed to influence regional policies, strategies, and infrastructures.

62. Much of the longer-term value of AIACC can be attributed to the broad approach taken by the project. For example, it avoided perpetuating the "spiky nature" of science capacity in Africa and other developing regions. Typically science capacity exists in separate centres ("empires") in these areas. These centres are used to develop knowledge, but to improve their effectiveness there is a need to lower the barriers to the centres interacting with each other and sharing the knowledge that each has generated and the skills that each has developed. The breadth of AIACC allowed it to build broad capacity. This breadth resulted in an 'AIACC community' – people saw personal benefits in engaging with AIACC, so the networks it established were successful. AF07 is a specific example of how the barriers to accessing science can be reduced. Prior to AIACC, regional data on climate change scenarios, studies and other related information related to Africa was very sparse and fragmented. The AS07 study provided a centralized repository for this information. Thus, AIACC made significant progress in reducing institutional and related barriers. Regrettably, and in contrast, the activities supported by some donors still tend to strengthen existing "empires."

Environmental

63. Several sub-projects confirmed that poverty reduces the effectiveness of coping and adaptation measures. These findings were generalized to form one of the key lessons coming out of the project, namely that the livelihoods and food security of the rural poor are threatened by climate change. Given that environmental degradation often enhances poverty, there has to be concern that the project benefits will be compromised in the near and longer terms due to continuing environmental degradation in many parts of the developing world. Even some so-called "development activities" can have adverse impacts on the environment and on environmental health. Many of the AIACC sub-projects resulted in increasing understanding of these important linkages and the resulting need for a very broad approach to adaptation, as well as the need to avoid mal-adaptation

64. For example, LA27 showed that the intensity of land use in the Argentinean, Brazilian and Uruguayan Pampas is increasing. Increased use of irrigation provides good conditions for growing crops; but has also increased risk levels. Increased production of summer crops (soybeans) is creating a monoculture, plus there is a trend to increase the time in which land is in crop production and reduce the number of years the land is in pasture.

Catalytic Role

65. Through its sub-projects, AIACC built capacity on many fronts, including knowledge, skills, institutions, linkages and networks. This has laid a foundation for numerous follow-up and spin-off activities. In themselves these help ensure the sustainability of the project outcomes. AIACC has also shown by example what can be achieved at local, national and regional levels, and raised the international profiles of policy-oriented climate researchers in the participating developing countries. For example, AF20 team members are now very involved in international scientific groups and programmes, such as the Global Energy and Water Cycle Experiment (GEWEX) and African Monsoon Multidisciplinary Analysis (AMMA). The members themselves view this as a very important outcome of the sub-project – for example, "AIACC helped to reinforce the capacity of the scientific team in analysis and modelling and enhanced the regional and international visibility of the AF20 team members, such that we are now playing leading roles in Africa, among both national and regional institutions".

66. Likewise, the uptake of NAPA methodologies and tools initially developed under AF38 is a major contributor to the sustained application of some of the sub-project outputs. Regional training workshops on NAPA preparation provided valuable feedback on the appropriateness of these methods. These tools are now in use by all LDCs. There is also increasing interest from non-LDCs in applying the methodologies and tools in their vulnerability and adaptation assessment work.

67. Several of the African sub-project teams have succeeded with new grant applications to CCAA, ACCCA and other funding sources, demonstrating that they have gained important capacity and are applying it to the problems of climate change research and adaptation. Specifically, the CCAA project will provide £6 million over five years to the Climate Systems Analysis Group at UCT (AF07); the Group is a coordinating partner and is responsible for generation and delivery of climate scenarios.

68. AF42 helped catalyse the efforts of the University of Botswana to build institutional capacity - a draft university research policy has been prepared. It includes development of sustainable research programmes as an advance on the current more *ad hoc*, unfocused approach to research. The policy identifies research themes, including climate change and also land degradation. The Department of Environmental Science, the host of AF42, is also discussing the formation of research teams in an effort to improve continuity and move away from individual projects. A virtual centre – the Global Environmental Change and Policy Centre – is under development, with the support of the University administration. Many activities are already been undertaken by Centre members; if the Centre is established, the University will provide funding.

69. A consortium of eight countries, including Botswana and some Mediterranean and Latin American countries, has begun investigating the drivers and remedies for land degradation. The project is building on the experiences of earlier projects, including AIACC.

70. SIS09 was predicated on the notion that the improved methods and tools would be sufficiently generic to allow their application in other contexts. This has been the case, in two ways: (i) the new open-framework SimCLIM System contains these improvements and is now starting to be used; (ii) the enhanced modelling features, which emphasise risk-based assessments, have been included in a training tool. This is being used in a various ways, including for post-graduate training at the University of the Sunshine Coast in Australia, at University of Papua New Guinea and at the California State University at Chico, as well as by UNDP/GEF's National Communication Support Programme for training in support of national communications to the UNFCCC.

71. The methods developed by LA27 is now used for other projects for climate change impacts and adaptation implemented by the Uruguayan Government and funded by GEF. LA26's replication efforts built upon the methodologies developed by the sub-project, including the hydrodynamic model, the analysis of regional results from GCMs, high resolution topography, and social vulnerability indexes. LA29 methods have been adapted and replicated through AIACC partnerships with Argentina. Capacity building has been a priority - LA29 helped build capacity in working with GCMs and scenarios in Argentina. Argentina and Mexico ultimately used the same methods for generating scenarios for the case studies in the sub-project. The team in Argentina and Veracruz are building on these methods and is also using the regional climate model called Providing REgional Climates for Impacts Studies (PRECIS).

72. A member of the AF90 team is now involved in the European Union funded project: "Improved management tools for water-limited irrigation". Another member is involved in several projects related to climate change in North Africa, financed by the European Union and the Office of Global Programs of the National Oceanic and Atmospheric Administration (NOAA) of the United States. In particular, the European Union's Mediterranean Drought Preparedness and Mitigation Planning (MEDROPLAN) project, that includes Spain, Morocco, Tunis, Greece, Cyprus, and Italy, has the objective of providing guidelines for drought preparedness plans in the Mediterranean countries.

73. With the joint support of the United Nations Educational, Scientific and Cultural Organization **(**UNESCO**)** and the Government of Seychelles, a national programme for the monitoring of Seychelles' beaches based on SIS90 methods and findings has been launched. It involves assistance from hotels. The database now has over 4 years of beach dynamics data, as well as trends in beach degradation. The SIS90 studies related to modelling changes in wave run-up following coral bleaching, and to the preparation of development scenarios for tourism-dominated islands, were specifically designed to help replication and up-scaling of the SIS90 results. However, in general replication and

up-scaling of the scenarios may have some limitations in view of the specific nature and circumstances of small islands.

Achievement of Outputs and Activities

74. Table 2 summarizes the evidence related to achievement of outputs and activities. Overall, the evidence shows that AIACC was most successful in terms of developing, adapting and applying methods for assessing impacts and vulnerability. It was less successful with respect to identifying and assessing adaptation options. This imbalance in performance is far from unique to AIACC. Some sub-project teams simply ran out of time before they had completed their adaptation work programmes – the sequential nature of impact and vulnerability studies often leads to adaptation studies being short changed. In addition, methodological challenges, lack of relevant information and the relative or absolute dearth of policy-related expertise and experience on most sub-project teams resulted in comparatively weak assessments of adaptation options.

75. The Project Document indicated that the AIACC studies would use "a consistent methodological approach" building on the IPCC Technical Guidelines for Assessing Climate Impacts and Adaptations. Consistent with this, the original intention was for the regional assessments to be "top down", with GCM-based scenarios helping to define the problem to be researched in the assessments. Fortunately, as both global understanding and the project evolved, sub-projects were supported in their wish to use approaches and methods that were more "bottom up". These better reflected local conditions in terms of the drivers and the anticipated changes in climate. They were also more consistent with the technical capacity of the sub-project teams to develop climate projections and assess the impacts and possible adaptation strategies. Examples of the methodology-related achievements and shortcomings at the sub-project level are:

- AS21 researchers developed a vulnerability assessment technique based on five key indicators: slope, elevation, distance to a road, distance from the river and distance from the community centre. This approach allowed the degree of vulnerability by land use type to be determined for the entire watershed which was the focus of the study. The set of indicators was validated against the information provided by the local communities. Geographic Information System (GIS) mapping confirmed the congruence of the two sets of information on vulnerability. The methods used provide an example of expert judgment (choice of indicators) and ground-truth validation using information provided by the communities;
- The AF42 team developed and applied many methods; all can be considered robust, appropriate to the local context and effective. An example is the work of Parida et al., who projected catchment runoff coefficients out to 2020 using an artificial neural network model. This work has been published in *Physics and Chemistry of the Earth*, 31, 928-934 (2006);
- The methods used by AF92 placed the stakeholder at the centre of the research - this was very important given that people in the study areas have developed indigenous knowledge systems that have so far enabled them cope with drought;
- In AF38 there was a shift from the proposed integrated modelling for the whole region to focus on a "bottom up" approach to better support ideas of community-driven assessment. This led to the approaches in the NAPA. Due to time and other constraints, the proposed approaches, methods and information were not used by the sub-project to determine the specific needs for, and types of, adaptation projects. As a result, the sub-project outputs do not have the credibility to influence policy makers seeking ways to address the adverse impacts of climate change;
- AS07 demonstrated very clearly that effective strategies for adapting to climate change should be site and time specific - farmers of the lower Mekong River basin have been adapting to climate impacts throughout history and their strategies for managing climate risks have evolved through time. The fact that it was difficult to separate adaptations made in response to climate pressures from actions taken in response to other factors due to demographic, social, economic, technological, and environmental and other changes, highlights the strong interactions between these various pressures and their consequences;
- LA32 analyzed risks to fishermen of climate-related changes in conditions, and easy and low cost adaptation measures. The team initiated the analysis for an Adaptive Control Information System

(ACIS), but was unable to make substantial progress. Constraints included lack of personnel, institutional coordination and political support. Thus, they were unable to apply or verify adaptation measures. Further progress was also contingent on agreements among all stakeholders, including the Ministry of Agriculture and Fisheries, the Coast Guard and the Ministry of Environment. The LA32 team now recognize that adaptation will require greater collaboration with other sectors and institutions; importantly, experiences with EcoPlata suggest that such a system could be implemented; and

- AF92 provides another example of methodologies developed by AIACC sub-projects to assess vulnerability being already widely used, including by the AIACC research teams in Thailand and Vietnam. New projects on climate change adaptation in Africa are being funded by the CCAA programme and the AMMA vulnerability project will also use the methodology. The New Partnership for Africa's Development (NEPAD) has cited AF92 results to justify why African leaders should pay attention to climate change. The sub-project was listed by NEPAD as one that addresses its main priority areas of intervention. The work was also cited in the last Human Development Report (2006) of the UNDP. The UNDP Adaptation Policy Framework used some of the AF92 methods and findings when recommending appropriate steps for stakeholder engagement. These were considered crucial for effective assessments and eventual implementation of adaptation strategies.

76. The evaluation of AIACC's effectiveness provides evidence that the outputs of the project have a generally high level of credibility amongst stakeholders in the relevant MEAs, the GEF and the IPCC, among others.

Assessment of Monitoring and Evaluation Systems

77. The Project Document was very limited in its description of monitoring and evaluation (M&E) procedures. It noted that monitoring of progress in execution of the project would be undertaken by meeting the UNEP and GEF requirements for quarterly and half-yearly reports on substantive and financial matters, and that a mid-term internal review would be undertaken with the guidance of STAP and under the supervision of the UNEP/GEF Co-ordination Office in order to diagnose problems and suggest corrections. A final desk evaluation of the project would also be undertaken by the UNEP Task Manager and an independent evaluation of the overall performance of the project would be undertaken within the framework of the M&E Programme of the GEF Secretariat.

M&E Design and Planning

78. Few of the "objectively verifiable indicators" listed in the Logical Framework section of the Project Document meet the requirements of being specific, measurable and attributable (see Table 7). This hampers a robust evaluation of project performance. Moreover, given the absence of a project baseline, a M&E plan and organizational setup and specific budgets for M&E, the project design did not meet GEF's minimum requirements for project design of M&E and the application of the project's M&E plan. However, it is important to note that the minimum requirements for M&E were introduced with the GEF M&E Policy in 2005, several years after the project was designed and its execution began.

79. Despite the absence of a formal M&E plan in the Project Document, the project did establish several productive measures to ensure efficient and successful operation of the project. For example, the project technical committee, composed of internationally recognized experts, oversaw scientific merit based reviews of the sub-project proposals, selection of revised proposals for participation in the AIACC project, development of technical guidance and training for the sub-project activities, and reviews of the sub-project outputs. In addition, research papers produced for publication as *AIACC Working Papers* were subjected to peer-review.

Implementation of M&E Plan

80. At the start of the project, it was agreed among UNEP, START and TWAS that progress and financial reporting would be done semi-annually and not quarterly. This applied to reporting by both the sub-projects to START and TWAS, and by START and TWAS to UNEP. The first such reports

Table 7
Indicators Listed or Used During the Life of AIACC

Indicator	Listed in the Project Document	Used in the Final PIR	Used in the Final Report[2]	Used in Current Evaluation
International scientific/political recognition for the assessment results	✓			
Recognition from SBSTA and STAP	✓			
Broader scientific community recognition	✓			
Change in the number and comprehensiveness of regional climate change scenarios	✓			✓
Reference in National Communications and assessment reports	✓			✓
Contribution to national communications and NAPAs		✓	✓	
Scientific community acceptance and recognition	✓			✓
Inclusion of individual project results in the IPCC AR4	✓			✓
Research priorities have been addressed	✓			✓
Successful completion of regional V&A research/assessment activities by in-country experts		✓	✓	
Scientific productivity of participants and quality of scientific outputs		✓	✓	
Participation in international science activities		✓	✓	
Leadership in international science activities		✓	✓	
Recognition as centres of scientific excellence for climate change and V&A research		✓	✓	
Initiation of south-south capacity building activities		✓	✓	
Number of persons who benefited from learning-by-doing, mentoring and training activities		✓	✓	
Number of student theses supported		✓	✓	
Scientific publications		✓	✓	
Citation of publications in scientific literature		✓	✓	
Develop and demonstrate assessment methods appropriate to circumstances of developing countries		✓	✓	
Partnerships established between scientific and stakeholder organizations		✓	✓	
Participation in international and national policy activities		✓	✓	
Responses of Sub-project PIs to question: *Were the project management and the supervision procedures effective, efficient and adaptable?*				✓

were submitted by START and TWAS in October 2001 and by most sub-projects in July 2002. This, and the subsequent reporting, was timely.

81. The first available PIR covered project activities to September 2004 – the first year that UNEP introduced the requirements for PIRs. Thus there was no formal review of the project by UNEP until it was well into its fourth year, and only three months before the original completion date for the

[2] Refers to "Climate Change Vulnerability and Adaptation in Developing Country Regions". Final Report of the AIACC Project, November 2007.

project. The first PIR did note that the semi-annual reporting by START and TWAS was providing sufficient oversight and accountability to assure that project implementation had been effective and resources used appropriately. The progress reports from the two executing agencies were distributed to the technical and steering committees for their review and comment. The progress reports from the sub-projects were distributed via the project website to the technical committee, project mentors, and the UNEP task manager, for their review. In addition, project mentors used these progress reports to help determine the technical assistance needed by the sub-project teams. This approach helped, but it did not capture or resolve all of the problems. As noted above, this was in part due to the personal time constraints faced by the mentors. The first PIR noted that implementation progress for the project was highly satisfactory, with the status of all component outputs and activities in substantial compliance with the implementation plan for the project. The PIR considered the project represented "good practice." Given the reported performance, the ratings and other evaluation findings were clearly justified.

82. The second PIR covered the 12 months to June 2005. It gave a "highly satisfactory" rating for implementation of the M&E plan, noting that half-yearly progress reports had been submitted in a timely manner, were comprehensive, and indicated highly satisfactory progress and results. The available evidence suggests that these ratings and other evaluation findings were somewhat generous, especially given the need to extend the project by 18 months. Reasons given included the late start of six sub-projects due to the need to modify their work plans or to delays in obtaining endorsements from GEF focal points. However, other reasons for the extension would suggest the ratings were deserved. These included delays in implementing several sub-projects due to unforeseen events such as a university strike, reassignment of personnel, delayed access to data, interruptions in field work, and tsunami damage. While decisions to produce additional outputs, such as the synthesis reports, also delayed project completion, they show the more important benefits of wise and adaptive project management.

83. The second PIR also noted that UNEP had decided that the mid-term review it had planned to undertake would not occur as the project was nearing completion. Even though the PIRs were identifying few shortcomings in project performance, there would have been benefit in UNEP undertaking a comprehensive review of the project. The first formal review took place within months of the original project completion date, and the mid-term review was delayed until it became redundant due to the short time remaining until project completion.

84. The third and final PIR covered the period July 2005 to formal project completion in June 2006. The PIR showed a substantial improvement in the comprehensiveness and quality of the monitoring process. This included the use of indicators that were more in compliance with the GEF requirements, plus descriptions of baseline and anticipated and actual end-of-project levels for these indicators. The third PIR also indicated a move away from project monitoring activities designed primarily to detect and resolve performance problems at sub-project level, to the collection of information directly related to the performance indicators. However, critical information was lacking for many of these indicators. In part this was a reflection that some key activities had yet to be completed, despite the project being officially terminated. In most instances these shortcomings have been addressed by the subsequent publication of final reports for the project and its 24 sub-projects. At the time of the third PIR, and in general, the many "highly satisfactory" ratings were based on indicators for which complete information was available, while "satisfactory" ratings were assigned to those activities yet to be completed. The current terminal evaluation shows that in most cases the "satisfactory" ratings have been upgraded to "highly satisfactory" due to the availability of more recent evidence of performance.

85. The third PIR noted that participants in training workshops provided evaluations of the workshops and questionnaires were being distributed to the sub-project PIs and to stakeholders for evaluation of project performance, outcomes and outputs. Some information is available in relation to participant evaluation of the workshops. This shows that most participants were satisfied with their participation in the training workshops. Many practical suggestions were offered regarding how the activities could

be made more useful. Importantly, no results of the questionnaire surveys have been made available to the team undertaking the terminal evaluation.

Budgeting and Funding for M&E Activities

86. As noted above, no specific provision was made in the budget for M&E activities. This could be is be attributed, at least in part, to the GEF not requiring a specific focus on M&E issues when the project was designed and approved. The costs of monitoring activities were covered under budget allocations for general administration. Thus there is no way to objectively assess whether or not these were adequate. UNEP funded the final evaluation from its own resources.

Long-term Monitoring

87. Long-term monitoring was not identified as an explicit outcome of the project. However, the late submission of the project's final report (mid November, 2007), and the timing of the current terminal evaluation, have helped ensure that comprehensive and up-to-date information on the project's performance indicators is available. There is no provision for information to be updated in the future. Likewise, there is no evidence that START and TWAS personnel involved in the project received appropriate training in monitoring and review procedures, including ensuring that relevant information will continue to be collected and used after project closure.

Assessment of Processes that Affected Attainment of Project Results

88. The Project Document did not specify any objectives, even in the section titled "Rationale and Objectives." The Call for Full Proposals, issued in July 2001, one month after project inception, appears to be the first formal statement of the AIACC objectives.

Preparation and Readiness

89. It is unfortunate that the project objectives were not included in the initial Call for Pre-proposals, especially when many of these pre-proposals were criticized for not having clearly stated objectives. Moreover, it is difficult to comprehend how the criteria used to determine which pre-proposals should be reworked into full proposals could be developed and applied when a formal set of objectives of the AIACC project itself had not yet been prepared.

90. The project's four components (*Development and Application of Climate Change Scenarios, Assessment of Impacts and Evaluation of Adaptation Strategies, Training and Technology Transfer and Project Management*) were described in a clear manner in the Project Document. The baseline for AIACC meant that achievement of the project's objectives, and fulfilling the expectations of stakeholders, was always going to be challenging. As explained below, procedural, administrative and institutional factors exacerbated this challenge. However, it was appropriate for AIACC to set high performance standards. It is also largely inconsequential that achieving them required the project to be extended by just over a year. Even with the extension, and as of now, several sub-projects have failed to submit final reports of adequate standard. These reporting gaps hamper full documentation of AIACC's numerous and comprehensive achievements.

91. Initially, two of the project's four components had serious drawbacks - by being excessively "top down" and restrictive. *Development and Application of Climate Change Scenarios* reflected the desire for the sub-projects to use "a consistent methodological approach," with GCM-based scenarios helping to define the problem to be researched in the assessments. Fortunately, as both global thinking and the project itself evolved, sub-projects were supported in their wish to use approaches and methods that were more "bottom up". These better reflected local drivers and the anticipated changes in climate and were also more consistent with the technical capacity of the sub-project teams to develop climate projections and assess the impacts and possible adaptation strategies. The *Training and Technology Transfer* component was also "top down", as it referred to training and cooperation between capacity-rich and capacity-poor individuals, institutions and countries. The focus was again on the technical aspects of climate change assessments. Thus "technology transfer" was interpreted in a very narrow sense. As subsequent experiences showed, in order to engage the policy makers and

planners required to implement sub-project findings, the transfer of knowledge and skills to key stakeholders needed to be much more broadly based.

92. The capacities of the executing institutions and counterparts were given appropriate consideration when the project was designed. As an international NGO committed to establishing and supporting scientific and institutional collaboration to assess the causes and impacts of regional global change, START was ideally placed to execute the project. It had considerable experience integrating research outputs into applications and approaches that assist developing countries to address the consequences of climate change. For example, START initiated the Climate Prediction and Agriculture (CLIMAG) project through three demonstration projects for Southeast Asia, Africa and Latin America. AIACC was a logical scaling up of these and related START initiatives.

93. TWAS is an autonomous international organisation based in Trieste, Italy, since 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 more developed countries. Since 1986 TWAS has supported significant scientific research activities in 100 developing countries, through a variety of programmes. It has 546 members. TWAS has intensive experience in capacity building for research. The original intention was for TWAS to execute the AIACC project in the North and West Africa and Asian region, due to its proximity and contacts. However, this did not eventuate. Initially TWAS did play a role consistent with its comparative advantage, but within a short time its contributions reduced to those of a "mere banker", focusing on accounting for, and organizing, the disbursement of funds. Thus TWAS never fulfilled its potential to make important contributions to AIACC.

94. The considerable experience of both START and TWAS in implementing science-based as well as policy-oriented research projects in developing countries was reflected in the project design. An example of building on this experience is the set of required and recommended criteria used to evaluate sub-project proposals.

95. The project design also recognised that past efforts to build capacity in climate change have at times been hampered by the design or implementation of the projects being politically driven or influenced. The outcomes of such projects are less likely to be long lasting compared to those that focus on the enhancement of existing science capacity in universities, research institutes and the like.

96. By focusing on the more technical (i.e. science-based) aspects of climate change, the project was designed to avoid political issues. This was a seriously flawed strategy given the intent of AIACC "to facilitate communication in developing countries among research scientists and decision-makers concerning climate change impacts, adaptation and vulnerability." In the event, many of the AIACC research teams soon acquired the additional expertise required to debate the political dimensions of climate change. This helped them to engage more effectively with politicians and their advisors. The result was an improved technical basis for the decisions made by politicians and associated stakeholders.

97. Relationships between the implementing (UNEP) and executing (START and TWAS) agencies were described in appropriate detail in the Project Document. The proposed relationships reflected their comparative advantages and provided cost effective arrangements for project oversight and administration. The following arrangements were also incorporated in the original project design, and served the project well:

- A Steering Committee, composed of representatives of the GEF, World Climate Research Programme (WCRP), the Secretariat for the United Nations Framework Convention for Climate Change (UNFCCC), IPCC, International Human Dimensions Programme (IHDP), the United National Development Programme (UNDP), the World Bank, and the International Geosphere-Biosphere Programme (IGBP);
- An Operational Committee comprising representatives from TWAS, START and UNEP;

- The AIACC Science Director based at the START Secretariat and reporting to the Steering Committee;
- A Technical Committee composed of approximately 15 highly capable and dedicated individuals with internationally recognized expertise; members were selected by the Steering Committee and were drawn from regional activity participants in Government, academia, public interest NGOs or industry; the Technical Committee, which was chaired by a member of the Steering Committee, also included the AIACC Science Director;
- An Assistant Project Manager based at TWAS (though, as noted above, this position devolved into that of a financial administrator); and
- Sub-project coordinators, who were the principal managers of the research work, and responsible for coordination with relevant policy makers and other stakeholders at national and regional levels.

98. For both project and sub-project levels, the available evidence indicate that the enabling environment for AIACC activities was, overall, more than adequate at the time of project inception. However, noteworthy exceptions were the technical- and policy-related expertise of some sub-project teams, national endorsement of sub-projects, co-financing, and institutional and administrative arrangements for some of the sub-projects. All these shortcomings in the enabling environment are discussed below.

99. The project implementation mechanisms outlined in the project document were not closely followed in all instances. As noted above, the roles and responsibilities initially specified for TWAS did reflect its comparative advantage. However, over time the arrangements changed, such that the contribution of TWAS was soon inconsistent with the original expectations and with its potential to add value to AIACC activities. It was also intended that implementation of the project 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. Due to a variety of factors, at least some of which might have been anticipated, these arrangements did not eventuate. It is difficult to judge whether the project suffered adversely from the lack of such coordination.

100. The project document also stated that the Technical Committee would consider project proposals *after* having received endorsements from the countries directly involved in the project. Not surprisingly, given its impracticability, this procedure was not followed. Unfortunately, a suitable, timely alternative was not put in place, delaying sub-project implementation in several cases.

101. With regard to the effectiveness, efficiency and adaptability of project management, the Evidence and Evaluation Portfolios (Annex 3) show that sub-project PIs and stakeholders had almost universal acclaim for the way the AIACC project was managed. It would be unreasonable if the few isolated instances when shortcomings occurred detracted in any way from this successful performance. One of the few exceptions to the overall excellent way in which the project was managed was delays in receipt of cash advances.

Country Ownership/Drivenness

102. All of the participating countries have submitted their NCs to the UNFCCC. Invariably these highlighted that climate change threatens the speed and sustainability of their development. The NCs also recognized the need for more rigorous assessments of the impacts of climate change and of adaptation options. Shortfalls in the capacity to undertake such assessments, and ensure their effective uptake and application by policy and decision makers and by other stakeholders, have also been identified. Overall, AIACC did much to address these and related needs. However, when requested to endorse a sub-project that was to be implemented in their country, some Governments initially withheld their approval because of concerns that the focus of the sub-project was not consistent with national priorities. In many cases it appears that these concerns were more a response to the late engagement with Governments, as well as a genuine belief that Governments were in a better position than academics and other researchers to decide what national priority studies should be undertaken.

103. Even those sub-projects which Governments were reluctant to endorse at the outset managed to achieve appropriate levels of engagement with Government and other relevant end users well before they were completed. Often this resulted in Governments becoming better informed about climate-related risks to development. As a result, many modified their priorities. For example, in tropical Africa, malaria is the leading cause of morbidity and mortality. A close association between malaria epidemics and climate variability had been reported but was not universally accepted. Similarly, the relationship between climate variability and intensity of disease mortality and morbidity, along with the influence of socioeconomic factors, had been mooted but not proven. AF91 did much to convince the Governments of participating countries of the growing seriousness of both cholera and malaria. It also highlighted the actions that could be taken to reduce risk levels, especially for the most vulnerable individuals, families and communities. Subsequent actions by the Governments and NGOs, especially in Kenya, were strongly influenced by the AF91 findings. Kenyan ministries are now requesting weather and climate information so they can reduce the impact of weather extremes and climate variability on development.

104. As developing country Parties to the UNFCCC, the CBD and other international agreements, the participating AIACC countries are invited to report on the changing status of their environment and natural resources and identify strategies for alleviating or even eliminating the pressures that result in their degradation. AIACC has enhanced the knowledge and skills base of the participating countries, thus enabling them to not only improve the quality of decision making and management, but to also make more substantive national reports in reference to relevant regional and international agreements.

105. Some of the sub-projects delivered outputs and outcomes that support ecosystem-based approaches or help strengthen resource management. For example, South Africa's new Biodiversity Act establishes bioregional planning as a legal requirement for regional development initiatives. AF04 had shown this to be a viable adaptation strategy, by managing biodiversity with active collaboration between land-owners and conservationists to ensure as sympathetic a land use regime as possible, in order to facilitate species persistence and natural migration. Similarly, AS07 showed that changes in water quantity and quality in the Mekong river basin as a result of climate change will inevitably affect agricultural production in particular, and the agricultural based economy in general. There is a very strong dependency on water to produce food, not only for regional consumption, but also for export to other regions. Thus assessing and addressing the vulnerability of this important sector was highly relevant to the national development of Thailand, Lao PDR and Vietnam.

106. In the same way, northern African agriculture suffers from poor irrigation management and high vulnerability to current and future demands for water. Furthermore, production in the rainfed agriculture system is highly influenced by climate variability and change. Population increase, water resources decrease, and an increase in cultivated areas due to Egyptian Government policies is likely to exacerbate the problem, as do unsustainable agricultural practices and improper irrigation management. The anticipated changes in rainfall amounts and distribution, and increased evapo-transpiration, will worsen the water situation for the agriculture sector. In addition, there are major debates in Government regarding possible changes in the allocation of water between the different water usage sectors, with the share for the agriculture sector likely to decrease in the coming years. AF90 made a major contribution to identifying and elaborating an acceptable and efficient strategy to improve the relationship between agriculture and water resources in Egypt, especially at the farm level.

107. The relevance of AIACC to international agreements, such as the UNFCCC, has already been highlighted. The substantial improvements in the climate change-related knowledge and skills base of the participating countries has, and is, being reflected in NCs, NAPAs, and in training, awareness raising and other activities.

Stakeholder Involvement

108. The AIACC Project Document recognized that an important component of adaptation assessment is meaningful involvement of all stakeholders. The Project Document recognised that "Stakeholders should participate in the design of impact 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".

109. Stakeholder engagement occurred at project and sub-project levels. Involvement with the "research community" typically occurred at both levels, while engaging with Ministries, local communities and the private sector was at sub-project level.

110. To help address the gaps in knowledge and scientific capacity identified by the IPCC during preparation of its TAR, the IPCC collaborated with UNEP, START and TWAS to develop the AIACC project proposal. Subsequent discussions with the GEF and other stakeholders resulted in the proposal being broadened to address wider needs than those identified by the IPCC, and to allow the proposed project to meet the GEF requirements for an enabling activity.

111. The involvement of relevant stakeholders at project level was largely through the Steering Committee. Its contributions were complemented by the Technical Committee, composed of individuals with internationally recognized and relevant expertise. The lack of timely engagement with Governments at project level, and the significant consequences, has already been highlighted.

112. Stakeholder engagement at sub-project level was highly variable. During the initiation and training workshops it also became apparent that many sub-projects had underestimated the extent of stakeholder engagement that would be needed for their activities to be of significant use to their targeted end users. Consequently, many of them had budgeted insufficiently for stakeholder engagement. These shortcomings were addressed through a supplemental grant programme to provide for additional training and to support stakeholder engagement activities. It was made possible by new grants of US$450,000 to START from the United States Agency for International Development (USAID), the Canadian International Development Agency (CIDA) and the United States Environmental Protection Agency (USEPA). Under the supplemental grant programme, each sub-project was able to request up to US$15,000 for training and/or engagement of stakeholders. Even with these additional efforts, some sub-projects had inadequate engagement with stakeholders. However, for other sub-projects, and overall, the involvement of stakeholders was substantial and effective. The spectrum of engagement, and its effectiveness, is shown by the following examples:

- One of the notable successes of AF90 was the engagement with stakeholders, especially at the farm level. In Egypt the stakeholders engaged in the project included representatives of small-holders, farmers, commercial farmers, and strategic resource managers. The study was structured as an information exchange between the stakeholders and the scientific team. Stakeholder engagement was conducted through four steps and processes, namely: (i) identifying key stakeholders; (ii) determining stakeholders' interests; (iii) determining stakeholder power and influence; and (iv) formulating a stakeholder participation strategy. The approach was to have stakeholders identify and elaborate adaptation measures, as well as to increase the capacity of stakeholders to understand climate-agriculture relationships. The adaptation measures proposed by the stakeholders were evaluated qualitatively by interviewing agricultural managers and quantitatively by using agricultural simulation models; and
- Initially SIS90 found a general lack of interest by stakeholders, especially those in the tourism sector. Although they stood to be directly affected by the climate change, many were too busy dealing with present day issues to think of the future. However, recent stakeholder engagement efforts by other related projects, in particular preparation of the Second NC, have been more fruitful. This suggests that, while SIS90 was not successful in adequately engaging stakeholders, perhaps due in part to the applied research approach it adopted, the sub-project still managed to increase the level of stakeholder awareness and buy-in in the longer term.

113. One of the notable omissions in the AIACC project objectives was the lack of research on stakeholder's gender-based roles and vulnerabilities. AF92 proposed to identify gender differences in opportunities for, and obstacles to, adaptation in the Sahel region, but the sub-project did not deliver

the planned research-based findings. Given divergent views within the wider research community on the vulnerability of female- versus male-headed households, it is regrettable that only this perfunctory analysis was undertaken by AIACC.

114. Engagement with stakeholders during design of the umbrella project was extremely limited, with no evidence of significant interactions with NGOs, community groups, local governments or the private sector. Individual and collective consultations with members of the IPCC provided the broadest, though still narrow, range of advice. The Technical Committee reviewed project and sub-project outputs, while 108 AIACC papers and books reporting on sub-project findings were peer reviewed prior to publication.

115. Formal stakeholder involvement in M&E at sub-project level was largely restricted to peer-review of papers and books reporting the sub-project findings.

116. In general, the sub-projects made extensive use of the skills, experience and knowledge of various providers. AS06 provides a success story. The sub-project's Technical Expert Team consisted of key policy makers (Members of Parliament, Ministry for Nature and Environment, Ministry of Food and Agriculture), experts and scientists from related agencies, research institutes, consulting companies, and NGOs. Partnerships were developed for information exchange. Knowledge sharing among the stakeholders, including those in the livestock sector (e.g. researchers, user-decision makers, bodies responsible for policy development and implementation, general public), was the key priority task in sub-project management. The goal to ensure maximum stakeholder participation was achieved through different mechanisms, including workshops, direct involvement of different stakeholders in the day-to-day activities of the project and round table discussions. The sub-project helped to initiate and strengthen a climate change dialogue process among Governmental, non-governmental, academic, business, and the grassroots sector. This helped to foster understanding of climate change issues, such as vulnerability and adaptation options, as well as establish linkages with sustainable development strategies at various sectoral levels. An integrated adaptation-development policy is envisioned for the future, given that adaptation is now seen as a key development strategy.

117. On the other hand, the two-year study of small-scale fishermen, including the relations between their livelihood and climate-related vulnerability, that was conducted by LA32 resulted in knowledge from fishermen being translated into science. However, the sub-project failed to transfer science-based knowledge to the fishermen. This was largely due to members of LA26 having inadequate skills in participatory stakeholder engagement. LA26 scientists have learned that implementing adaptation measures requires effective cooperation with other sectors, institutions and organizations, such as EcoPlata.

118. The question, "were perspectives of those that would be affected by decisions, those that could affect the outcomes and those that could contribute information or other resources to the process, taken into account while taking decisions?" is most appropriately answered by considering the sub-projects, rather than the AIACC project at large. And again the response is highly dependent of which sub-project is being evaluated. In general most of the sub-projects considered all perspectives, but the level of success varied considerably. This is illustrated by the following examples:

- The experience of AF42 strengthened the conclusion that the Government of Botswana "rarely listens to recommendations from studies that it has not commissioned or it did not have an involvement in from the beginning". As a result of this realization, AF42 team members now treat Government as a major stakeholder - the Government is now involved from the beginning of an activity, and on an ongoing basis, such as by involving Government in critical committees. This involvement feeds back into the project work plan, by improving the policy relevance of the research; and
- AS25 was an interdisciplinary study which took an approach that required multi-stakeholder participation. The sub-project activities included workshops, survey, and community engagement methods. These were used to involve multiple stakeholders, including policymakers and experts, in

the study process. During the course of implementing the sub-project, the research team built committed partnerships with multiple stakeholders at national, provincial and local levels. An essential part of the stakeholder engagement strategy of the sub-project was the establishment and participation of the Chinese Steering Committee and Technical Committee, consisting of key Government agencies and experts responsible for China's international cooperation on climate change issues as well as for its NCs.

119. LA27 adapted their assessment plans to address the practical needs of farmers in the Argentinian, Brazilian and Uruguayan Pampas, which constitute one of the major food producing regions of the world. The agriculture sector expressed uncertainty about the value of downscaling GCMs. In response to farmer's requests for more immediate climate-related information (0-20 years), the subproject identified "very useful" simulation models: Decision Support System for Agro Technology Transfers (DSSAT) for crops and CENTURY for planted pastures. These models are still in use, with users reporting a high level of confidence in the model outputs.

120. Over the life of the AIACC project various mechanisms were used to ensure effective engagement with stakeholders. At the outset, each sub-project proposal was evaluated against a set of criteria that included both required and recommended elements. A plan for stakeholder consultation to obtain input from the public, private sector and other groups on priorities and concerns was a required element of a proposal. Proposers were also encouraged to clearly identify stakeholder benefits which should lead to policy-relevant results, particularly where there was potential to identify and assess potential adaptation strategies and policies.

121. At the inception meeting held in Nairobi, Kenya, in early February 2002, participants recognized that a key issue in the design of the sub-projects was effective engagement with stakeholders, to ensure that the sub-projects produced information useful for adaptation decision making. In addition, the Vulnerability and Adaptation Training Workshop held in Trieste, Italy, in June 2002 was organised around six major themes, one of which was stakeholder analysis and engagement. Plenary presentations on this and the other themes provided broad overviews of the topics and available methods for analysis. Case studies presented by selected AIACC sub-project teams illustrated how these concepts had been employed in previous climate change assessments. Overall, the themes and emphases of the workshop reflected a "second generation" approach to climate change assessment. This placed understanding vulnerability at the centre of the assessment, engaged stakeholders in the assessment process, and gave priority to generating and communicating information that is relevant to adaptation decisions being made by stakeholders. Several of the AIACC sub-project teams also gave presentations on their planned approaches, including stakeholder analysis and participation. In the discussion of challenges to implementing their studies, including effectively engaging with stakeholders, many study teams indicated a need for additional resources. To meet these needs, as noted above, AIACC secured funding from USAID for a supplemental grant programme that the teams used to implement self-designed stakeholder engagement activities. The grant from USAID was used in conjunction with GEF funds to implement the supplemental grant programme. The AIACC project also established networks that, amongst other benefits, linked scientists with stakeholders from various parts of civil society. Network members were encouraged to consider the risks from climate change and the best ways to adapt.

122. Six regional workshops were held by the AIACC project, two each in Africa, Asia-Pacific and Latin America-Caribbean. The workshops brought together investigators from the AIACC sub-projects as well as members of the science and policy communities of the host regions. The latter included stakeholders with a special interest in climate change issues, such as representatives of Government agencies, the private sector and non-governmental organizations, as well as the national focal points of the GEF and the UNFCCC. The second series of regional workshops also included local stakeholders in the sub-projects for the relevant region. Plenary sessions were devoted to sharing information from the sub-project studies, including the role of stakeholders in assessments. Local stakeholders in the sub-projects gave presentations on their involvement in, and reactions to, the sub-project activities. They also participated in discussions about the effectiveness of stakeholder

engagement in the AIACC activities. Discussions led to a number of useful recommendations for an improved approach towards dealing with climate risks and increasing adaptive capacity.

123. The considerable evidence that is available (see Annex 3) indicates that the above strategies were, in general, highly successful. This is despite the proposal for AIACC having come from the science community, and the selected climate change assessments being administered mostly by scientific institutions. While inclusion of a stakeholder engagement plan was required of all successful proposals, a review of these proposals shows that many of the plans were rudimentary, at best. For this, and other reasons, the inception workshop and the three regional training workshops held in the first year of the project placed emphasis on the importance of serving policy needs and engaging stakeholders from national climate change committees, relevant national agencies and stakeholders from at-risk groups. Each of the sub-project teams was required to engage with the NC process in their countries and strongly encouraged to engage with other stakeholders that could benefit from, and apply, results from the assessments to adapt to climate change. This strategy paid clear dividends, even though it was not always easy retrofitting stakeholder processes into studies that did not include or budget for them from the beginning, or that did so in minimal ways.

124. The national and regional assessments were strengthened by allowing teams to revise work plans and reallocate budgets. In addition, the sub-project teams were given additional supplemental grants to allow them to expand stakeholder activities. This timely, flexible and ultimately effective response of the project managers did much to improve the already good working relationships with the sub-project teams. It is clear that this was a key factor in the project having such excellent performance overall.

125. However, the recommendation in the Final Report of AIACC that such an approach be used in future projects should be viewed with caution, as at least by implication it condones the retrofitting of stakeholder engagement plans. A far more appropriate lesson is to recognize that many of the sub-project teams who were invited to prepare their own study proposals and plans lacked the capacity to propose appropriate mechanisms for stakeholder engagement. Thus the capacity building methods used successfully by AIACC at the inception and initial regional workshops should be employed much earlier, to ensure that teams invited to submit full proposals have the necessary capacity to do so. Even if some of the teams are ultimately unsuccessful in the selection process, such capacity building would not be wasted.

126. At the project level, linkages with international and national policy processes were strengthened by including representatives of these processes in the regional workshops, by organizing side events at Conference of the Parties (COPs), by facilitating involvement of sub-project members in expert meetings of the UNFCCC and by sponsoring participation of some of these members in policy meetings. The capacity building undertaken at project level also helped to ensure the success of the stakeholder workshops, focus groups and consultations undertaken by each of the sub-projects. These efforts were reinforced by inviting local stakeholders in each of sub-projects to participate in the second round of regional workshops.

127. As illustrated above for SIS90, initially the issues of climate change and climate change adaptation did not resonate well with the concerns and priorities of many of the local stakeholders. Rather, the issue of current climate hazards was more of a concern and priority. Most sub-projects found that linking climate change risks and current climate hazards increased the relevance of climate change for their stakeholders. Stakeholders in general recognized the need to improve the way in which climate hazards are managed and also saw the logic and importance of such improvements being an effective step in adapting to climate change. This approach worked well across the diversity of contexts for the sub-projects and can thus be identified as an effective strategy for increasing the relevance and utility to stakeholders of climate change activities in general.

128. The networks established and nurtured by AIACC were, and still are, critically important for sharing knowledge and perspectives across information provider and stakeholder groups. AIACC was generally successful in strengthening institutional capacity as a result of the improved working

relationships between the sub-project members and stakeholder organizations. These working relationships represent important capacity for continued application of scientific knowledge to support both preparation of NCs, and planning for and implementing adaptation. The enhanced capacity of participating institutions is also being used to further strengthen capacity in developing countries, through new training workshops, new graduate level courses, stakeholder outreach and awareness raising activities for the wider public.

129. Overall, and in general, the sequenced use of diverse mechanisms to ensure effective engagement with stakeholders at both project and sub-project levels resulted in AIACC engaging effectively with policy and planning processes at global, regional, national and local levels. Most sub-project stakeholders had their interests identified and addressed, to the extent that they now find much benefit in using the sub-project outputs to further their understanding of both climate change risks and the most effective options for managing them. Most sub-projects were, and are, in some way involved with NC processes, some very intensively. In the future, science-based projects similar to AIACC should ensure that activities related to the stakeholder participation of men and women are incorporated in a substantive manner in the initial project design, as well as in the work plan and budgets of each sub-project. The new CCAA programme and ACCCA project are examples of this lesson having been learnt and already applied.

130. From its original conceptualization AIACC was a highly collaborative project involving many institutions and other partners, at both project and sub-project levels. This carried over to the project design and through to implementation. Much of the considerable success of AIACC can be attributed to the inclusive approach and unconditional commitment of the three implementing and executing agencies (UNEP, START and TWAS), and especially certain individuals working within those organizations. They set an example, which motivated and empowered other key institutions and individuals, at both project and sub-project levels, to be equally inclusive and committed. The sub-project Evidence and Evaluation Portfolios show that examples of poor or non-existent collaboration are few and far between.

131. In summary, there were few, if any, public awareness activities at project level, other than encouraging and assisting sub-project teams to undertaken such activities. The findings and related information of greatest importance and relevance to the public were generated by the sub-projects. In addition, they were the appropriate vehicles for raising public awareness. This is because impacts, vulnerabilities and adaptation are generally location specific. As noted above, some sub-projects were very effective in engaging with the media and using them to help raise awareness, and encourage uptake, of sub-project findings. Meanwhile, other sub-projects had little or no interaction with the media, mainly due to a preoccupation with completing the sub-project's technical activities.

Financial Planning, Management and Controls

132. The budget included in the Project Document made provision for the development and application of climate change scenarios, the undertaking of climate change impact and adaptation studies, training and technical assistance, and for project management. Thus the budget covered all relevant activities except for uptake of findings by key stakeholders and for M&E. In most instances aggregated costs were determined by simply scaling up the costs of individual activities, such as scenario development, workshops, meetings, and impact and adaptation studies, and ensuring there was adequate geographical balance. This included greater emphasis on project activities in Africa.

133. While the evaluation team was not requested to, and did not carry out any financial audit procedures, there are no indications that the finances of the AIACC project were not managed soundly and according to expected standards of professional practice. In general, the financial controls, including planning and reporting, allowed project management to make informed decisions regarding the budget. They also allowed for appropriately documented transfers of funds. At the start of the project it was agreed among UNEP, START and TWAS that financial reporting would be undertaken semi-annually and not quarterly. It was also decided that TWAS would have responsibility for financial management of the project, with START managing all other aspects of project

implementation. While there were some advantages in dividing management responsibilities in this way, the change did not allow TWAS to add value to the project in the ways it could, and in ways that were envisaged during project formulation. In addition, the financial procedures of TWAS followed UNESCO rules. This included provision only for an internal audit, by UNESCO – the audit report could not be distributed outside UNESCO and TWAS. Moreover, the project budget complied with UNEP requirements, which were not always consistent with those of UNESCO. TWAS delegated authority to the AIACC manager based in START for checking and approving expenditures and invoices related to each sub-project. This further constrained TWAS – it saw only one signature for these transactions. If its operations had been audited in detail, TWAS would have lacked the comprehensive documentation showing how sub-project funds were expended. Management of funding for workshops was dominantly in the hands of TWAS. Thus there was full financial accountability for these activities, at least internally.

134. During the life of the project seven minor budget reallocations were made as a result of actual costs for activities being below projected costs for several budget lines. These did not increase the overall cost of the project. Aggregated savings made it possible to produce three major outputs (two synthesis reports and compendiums of technical reports) that were not included in the original budget. Despite a substantial increase in the duration of the project there was no significant transfer of funds from activity-related budget lines to those related to administration. Such transfers often occur when a project is extended.

135. Unfortunately, and all too frequently, the flow of funds to the sub-projects was far from timely, for reasons not directly attributable to financial management and controls. With respect to discrepancies between indicated and actual co-financing, the budget presented in the Project Document was based in part on co-financing of $4.6 million. Table 6 shows that co-financing and leveraged support amounted to $4.9 million. The co-financing and funding leveraged by the GEF contribution had a highly beneficial effect on the project's outcomes and sustainability. For example, as highlighted earlier, the supplemental grant programme financed in part by USAID enabled the sub-contract teams to design and implement stakeholder engagement activities that helped address major shortcomings in the original stakeholder engagement plans.

136. A substantial amount of in-kind support was provided by the institutions that hosted the major components of the sub-project teams. This commitment and subsequent cash and in-kind assistance to many of the sub-project teams, enabled them to engage in follow-up activities and did much to ensure the sustainability of these sub-projects.

UNEP/START/TWAS Supervision and Support

137. The sub-project teams were the most direct and important stakeholders in the supervision and support provided by UNEP, START and TWAS. Their views on the effectiveness and efficiency of the assistance provided part of the evidence in evaluating the outputs and outcomes related to AIACC's first objective (e.g. see Table 1).

138. The four most serious problems to arise during project implementation, and the steps taken to address them, were as follows:

A. *Late engagement with the Governments which needed to endorse the sub-projects* - The delay in requesting Governments to endorse relevant sub-projects was exacerbated by the proposal for AIACC having originated from the science community. In addition, most of the selected sub-projects had been developed by scientific institutions, with these also being responsible for their administration. The need to engage early with the National Focal Points for GEF and UNFCCC was acknowledged in the Project Document, but was not acted upon in many instances. The project managers acted quickly and appropriately once the problem was identified; but by then it was, in some cases, difficult and time consuming to secure retroactive endorsement of some sub-projects.

B. *Lack of capacity at sub-project level to prepare and submit stakeholder engagement plans* - There was early recognition of this problem as many of the work plans submitted as part of the sub-project proposals were rudimentary. As noted above, the AIACC project managers took a variety of timely and effective steps to address this problem. At sub-project level, interdisciplinary research increased stakeholder engagement and sensitized climatologists to the adaptation needs of vulnerable populations. For example, LA29 integrated climate impact tools, hydrology, ethnographic methods and economics to address the priorities of smallholder farmers.

C. *Preparation and use of climate change scenarios* - Over the project lifetime several problems arose, with some being more conceptual and others more practical. The original intention was to use a suite of scenarios, simulation tools, and methods for the project as a whole, to help facilitate comparability, communication, and cohesion across the entire project. It was believed that this would still allow for the use of specific methods that reflected national and regional circumstances. As the project activities evolved, the latter became increasingly dominant. In addition, many sub-projects found that a "top down", scenario-driven approach was incompatible with the sub-project objectives and technical capacities. Even for Africa, where two sub-projects were devoted to preparing, disseminating and applying climate change scenarios, with notable success, some sub-projects abandoned the original plan to use down-scaled GCM-based projections (see Table 1 for evidence used to evaluate the outputs and outcomes of AIACC's first objective).

D. *Ensuring policy relevance of the assessments and uptake of findings by decision makers* - The Project Document provided no guidance regarding application of the assessment findings. This was a serious omission, which can be largely attributed to the history of, and personnel involved in, project preparation. The call for pre-proposals reflected this shortcoming, in that it sought targeted research proposals that were limited to assessing impacts, adaptation options and vulnerabilities while also strengthening the technical capacity to undertake such research. By this time the mould for AIACC sub-project activities had been cast, as had the perception of AIACC by the wider stakeholder community. The subsequent invitations to submit full proposals noted that a secondary objective of AIACC was to facilitate communication in developing countries among research scientists and decision-makers, and to promote the use of scientific information in public and private sector decision making. Thus, one of the criteria used to evaluate the full proposals was "the likelihood that the project would generate and disseminate information of relevance to public and private sector decision makers and be used in planning, management and other decisions and activities (for example, preparing NCs)". However, a review of the proposals for the successful sub-projects, including their work plans, indicates that all proposals fell short in including "explicit strategies to identify and evaluate stakeholder goals, incorporate these goals in the project design and implementation …., and/or communicate information to potential users at key stages of the project." This is not surprising given that the template for the full proposals relegated this requirement to a half to one page statement on "Relevance to Decision Making."

139. The AIACC Science Director had some difficulty retrofitting stakeholder processes into the many assessments that had not made adequate provision for them from the beginning. Sub-projects were permitted to revise their work plans and reallocate budgets. In addition, sub-projects received additional supplemental grants, allowing them to expand stakeholder activities. Linkages to international and national policy processes were reinforced by including representatives of these processes in the regional workshops organized by AIACC, by organizing side events at COPs, by involving AIACC participants in expert meetings of the UNFCCC and by sponsoring participation of AIACC investigators in policy meetings. Local stakeholders for each of the sub-projects were also invited to the AIACC regional workshops. These initiatives, and those undertaken by individual sub-projects, did much to ensure that sub-projects were eventually effective in engaging stakeholders from national climate change committees, from relevant national agencies and from at-risk groups. This helped to ensure that sub-project outputs served policy, planning and decision-making needs, both nationally and internationally. However, the evidence from most sub-projects shows that the ground lost during project preparation and early implementation was never regained fully.

140. The project was managed jointly through a Project Implementing Committee, comprising the Executive Director of TWAS, the AIACC Science Director based in START and a UNEP representative. The three changes in UNEP representation, while largely outside the control of the organization, created some difficulties, especially with retention of institutional knowledge and with record keeping. General oversight of project implementation was provided by an AIACC Steering Committee, composed of representatives of the GEF, WCRP, UNFCCC, IPCC, IHDP, UNDP, the World Bank, and IGBP. A Technical Committee provided advice in relation to the review and selection of the sub-projects, assessment methods and tools, design and implementation of the technical assistance and capacity building programme, and review of project outputs. Members of the Technical Committee included Ian Burton (University of Toronto, Canada), Max Campos (Costa Rica), Tom Downing (SEI, United Kingdom), Saleemul Huq (IIED, United Kingdom and Bangladesh), Jill Jaeger (IHDP), Richard Klein (Germany), Isabelle Niang-Diop (Senegal), Hideo Harasawa (Japan), Mike Hulme (Tyndall Centre, United Kingdom), Murari Lal (India), Linda Mearns (United States of America), Carlos Nobre (Brazil), Annand Patwardhan (India), Robert Scholes (South Africa) and Penny Whetton (Australia).

141. Technical advisors (mentors) to the sub-project teams included members of the Technical Committee plus Paul Desanker (United States and Malawi), Bruce Hewitson (UCT, South Africa), Roger Jones (Australia), Xianfu Lu (Tyndall Centre, United Kingdom and China) and Jose Marengo (Brazil). The AIACC mentoring scheme was generally considered to be a "good idea," but often implementation was "not ideal" and the scheme "did not work as well as hoped." The mentoring scheme was "run on the cheap." For example, only a nominal retainer fee was paid to each mentor who had responsibility for four to five sub-projects. The scheme might have been more effective if payments to mentors reflected the actual time involved and their level of expertise. Also, the scheme worked better when a mentor was chosen by the sub-team, rather than being allocated to it by project management. Some mentors were appropriately proactive in their roles, but most were reactive. For many sub-projects the mentors acted more as "gate keepers" in that they helped teams source the technical assistance they were seeking.

142. AIACC held very productive orientation and training workshops soon after project inception. Most leaders of the sub-project teams also participated in synthesis activities in 2006-2007, to compare results and to derive common lessons. This included two meetings not in the original work programme, but due to the more limited participation they were not as effective as those workshops held soon after project inception.

143. UNEP adopted a relatively hands-off approach to project implementation and management, thereby facilitating the overall sub-project driven, "bottom up" approach which was a laudable feature of AIACC. The project was originally planned to be completed by 31 December 2004. A request to extend the project to 30 June 2006 was granted by UNEP. Several reasons were given to justify the extension, including: (i) six regional assessments started late due either to the requirement by AIACC that they modify their work plans or to delays in obtaining endorsements from GEF focal points; (ii) several regional assessments were slowed by unforeseen events (e.g. university strike, reassignment of personnel, delayed access to data, interruptions in field work, tsunami); and (iii) the decisions to produce synthesis and other outputs not originally planned.

144. As noted above, the changes in UNEP personnel managing the project caused some difficulties. However, these were mitigated due to the relatively hands-off management approach adopted by UNEP. Given that there were 24 sub-projects scattered amongst Africa, Asia, Latin America and the Small Island States, regular field visits by the project managers based in UNEP, START and TWAS were unaffordable. Most interactions were therefore conducted remotely, or during the numerous workshops that brought together project managers, sub-project leaders and other key individuals. This approach was consistent with the conscious plan to provide as much autonomy as possible to the sub-project teams. While the Evidence and Evaluation Portfolios for a small number of sub-projects (see Annex 3) indicate that the continuity and in-person nature of the support could have been improved,

the generally positive views on the support provided by START and TWAS are perhaps best summed up in the following comments by a leader of one of the sub-projects:

"The project management was "excellent, personally as well as professionally". The management approach was "more than helpful – the management team was there to help, which is very different to the norm in international project management". The funding arrangements "freed up the research process in a way that other projects don't". The AIACC Science Director gave the researchers space. This distance between the funders and the researchers created an opportunity for the latter to be innovative when finding solutions to the research questions. There were no unnecessary reporting requirements – just sufficient reporting to satisfy due diligence. Project managers were open to making justified changes to funding budget lines – they showed the flexibility that is required in a [initially] three year project. Response times to requests for administrative approvals were reasonable……It was not obvious that there were two executing agencies, as there was a logical interface between the two."

145. As already noted, each sub-project was required to submit bi-annual progress reports. In general these proved to be an effective to identify situations that were having an adverse effect on progress, allowing project management to assist in rectifying the problems. Important value-adding opportunities were missed by not bringing all the sub-project teams together near the end of the project.

Co-financing and Project Outcomes and Sustainability

146. As noted above, the amount of co-financing exceeded initial expectations by a small margin. Importantly, funding in cash from CIDA, the USAID, the USEPA and the Rockefeller Foundation allowed for AIACC to build upon the core project activities with additional capacity building, stakeholder engagement and synthesis activities. These not only added value to the project outcomes, such as a strengthened enabling environment for adaptation, but also to their sustainability.

Delays and Project Outcomes and Sustainability

147. As noted above, the failure to engage fully with national Governments from the start of the project resulted in some Governments questioning the relevance of the sub-project proposals, thus delaying endorsement and hence implementation of the proposed activities. In other instances, institutional arrangements were not formalised by the time of sub-project inception. In some cases this caused a delay in transferring funds from the AIACC budget to the cooperating agencies, in turn delaying sub-project implementation. In other cases, delays in finalising institutional roles and responsibilities had the same consequences.

148. The AIACC objectives were ambitious given the operational baseline in terms of the capacities of the participating countries and institutions to undertake the proposed assessments. In many instances the sub-project objectives and proposed work programmes were also very optimistic in terms of being able to deliver the outputs and outcomes by the completion date. One consequence was to extend the project from 48 to 61 months. Other reasons for extending the project were the inclusion of additional activities, such as preparation of synthesis reports and of activities that helped remediate some of the shortcomings in the project design, such as sub-project endorsements by Governments and enhancing stakeholder engagement.

IV. Evaluation Conclusions

149. This section includes overall assessments and ratings of the project as well as responses to the seven key synthesis questions.

Preparation and Design

150. The project had its beginnings when it was realised that the Third Assessment of the IPCC suffered from a lack of relevant information on developing countries and from the low participation of experts from these same countries. Addressing these shortcomings remained a major focus of AIACC despite a broadening of its aims and activities in order to meet the GEF requirements for an enabling activity. The technical emphasis of AIACC was a deliberate strategy to avoid repeating the experience of some past efforts to build capacity in climate change. These have at times been hampered when the

design or implementation of the project was politically driven or influenced. The non-governmental institutional arrangements for the sub-projects were also part of this same strategy. However, the strategy had significant weaknesses, especially in relation to the third AIACC objective, "to improve links between climate change science and policy communities to enable adaptation planning and action".

151. Initially, two of the project's four components had serious shortcomings by being excessively top down and restrictive. *Development and Application of Climate Change Scenarios* called for the regional assessments to be "top down," with GCM-based scenarios helping to define the problem to be researched in the assessments. Over time the sub-projects recognized the need to reflect local conditions in terms of the drivers and the anticipated changes and their approaches to develop climate projections and assess the impacts and possible adaptation strategies became more "bottom up." This project component could also have usefully included activities related to supporting the development of general methodologies for preparing non-climate scenarios. In many of the participating countries such changes may be of equal or greater importance, at least in the near term.

152. As initially formulated, the *Training and Technology Transfer* component was also "top down" given its emphasis on training and cooperation between capacity rich and capacity poor individuals, institutions and countries and the focus on the technical (i.e. science-based) aspects of climate change assessments rather than on science-policy interactions. Over time the sub-project teams increased their understanding of the need for the transfer of knowledge and skills to be much more broadly based in order to engage policy makers and planners and facilitate uptake and application of the sub-project findings.

153. The considerable experience of both START and TWAS in implementing science-based as well as policy-oriented research projects in developing countries was reflected in the project design. The intention was to have the two executing agencies, START and TWAS, divide the work according to their comparative advantage. TWAS was to execute the project in the North and West Africa and Asian region due to its proximity and contacts. In reality, all aspects of day-to-day project management, other than those relating to financial matters, were undertaken by the AIACC Science Director, based in START. While such an arrangement may have been expedient, it certainly ignored the value-adding contributions TWAS could have made. Indeed, even TWAS's responsibilities for financial management were constrained, with the AIACC Science Director authorizing payment of all invoices and transfers of funds to the sub-projects.

154. In general, the enabling environment for AIACC activities was more than adequate at the time of project inception. Noteworthy exceptions were the technical- and policy-related expertise of some sub-project teams, national endorsement of sub-projects, co-financing, and institutional and administrative arrangements for some of the sub-projects.

Major Achievements

155. Overall, AIACC was a remarkably successful project. The baseline for AIACC meant that achievement of the project's ambitious objectives, and fulfilling the high expectations of stakeholders, was always going to be challenging. In addition, the project also represented a major administrative challenge. Effectively AIACC was 24 largely independent projects spread over three continents as well as the small island nations. There were some clear successes.

156. Perceptive, strong but sensitive, and adaptive management by the AIACC Science Director was at the heart of the successful implementation of the project. His strategic and diplomatic skills enabled sub-project teams to establish and retain ownership of their research and other activities, and of their results. He successfully engaged a very diverse set of stakeholders, including the conventions, the scientific community, assessment experts and administrators, civil society, governments, donors, intergovernmental institutions, UN agencies, private sector firms and the media. His considerable efforts were complemented by those of the sub-project teams. They showed enormous dedication and commitment, often working well beyond the formal requirements of each sub-project contract.

Significant additional cash co-financing allowed shortcomings in the project design and implementation plan to be addressed. As a result, 24 climate change impact, adaptation and vulnerability assessments were completed, generally to a very high standard.

157. The assessments often developed and applied highly innovative methods and tools. Existing methods and tools were subject to critical examination and were often used only when they could be adapted to reflect local conditions and requirements. In most cases, new approaches, methods and tools were developed, tested and implemented. Often these were shared with other sub-project teams facing similar challenges. They are now being shared even more widely, including with assessment teams in developed countries, providing an excellent example of South-North transfer of technology.

158. The assessments helped fill large information gaps, as highlighted in the IPCC-TAR. The 24 assessment teams did not rest once their final report had been submitted. Rather, and well before this happened, team members were actively engaged in preparing and publishing peer-reviewed reports and papers, in part so they could meet the cut-off date for inclusion of such material in AR4. As a result, there were in excess of 100 references to AIACC findings in AR4; 108 peer-reviewed publications have appeared in many prestigious international journals, 14 books have been published and more than 200 other publications have appeared. AIACC findings have been used in preparation of nine submitted NCs, and in the preparation of five NAPAs. The findings are currently being used in preparation of 29 NCs.

159. Through these publications, and a wide variety of outreach activities, AIACC has raised the profile of climate change as a serious risk to economic development, to lives and livelihoods, and to environmental and to ecosystem health. The sub-project findings have been used to help ensure that policy and decision makers, and planners at national and community levels are aware of the urgency to address climate change through appropriate adaptation interventions. They have also helped to ensure that decisions made in relation to reducing climate risks are well informed, including through the provision of technical information based on sub-project findings.

160. AIACC has strengthened the capacity of developing countries, governments, academic institutions, communities and other stakeholders to assess climate change impacts, adaptation measures and the residual vulnerabilities. Over 300 scientists, experts, and stakeholders from 108 institutions and 50 developing countries gained valuable knowledge and experience by participating in the AIACC assessments and related activities. Over 100 early career scientists and other professionals were trained. Seventy-five student theses using AIACC assessment results have been completed and approved. This capacity was put to great use in the Fourth Assessment of the IPCC. Twenty-seven members of AIACC sub-project teams were coordinating or lead authors of the IPCC AR4; four of these were authors for WG1. Members of some sub-project teams drew on their AIACC experience when contributing to the MA, to preparation of the Global Environment Outlook and to similar assessments. Many AIACC team members now have leadership roles in international science initiatives such as IPCC, CCAA, ACCCA and START. Thus the capacity built by AIACC is not only substantial, but is being sustained through its use in numerous follow-up activities, nationally, regionally and internationally.

Opportunities for Improvement

161. Given the evidence presented above, it is hardly surprising that there were a few weaknesses in AIACC preparations, implementation and products; and it is perhaps unfair to document them. However, doing so provides a learning opportunity. It is in that spirit that the following comments are made.

162. AIACC was borne disadvantaged. Only through immense efforts were these “disabilities” overcome. Project design and preparation left much to be desired. The shortcomings have been detailed in Annex 3 and are summarised above. Suffice to say that arguably the only lasting damage inflicted on AIACC was the perception among many stakeholders, particularly at the international level, that AIACC was science-focused and as a result few of the outputs and outcomes of AIACC had

policy relevance. AIACC did indeed focus on the technical aspects of climate change, but in many cases the sub-projects delivered outputs and outcomes shown to be of direct relevance to policy makers, negotiators, convention secretariats and other stakeholders. Especially since the project was officially terminated, AIACC leaders, at both project and sub-project levels, have done much to demonstrate the policy relevance of the studies. For example, despite climate change, vulnerability and adaptation being highly context-specific, a number of general lessons have been developed through comparison and synthesis across the AIACC studies. In addition to the final reports, these lessons are reported in two books, namely *Climate Change and Vulnerability* (Leary et al, 2008a) and *Climate Change and Adaptation* (Leary et al, 2008b).

163. AIACC convened two meetings to facilitate the process of capturing the general lessons. However, unlike the inception and initial regional workshops, most members of the sub-project teams were not involved. Many benefits would have resulted from bringing all AIACC participants together, perhaps again through a series of regional workshops. This would have helped exploit the numerous synergies that have yet to be fully tapped, including transfer of methods and tools and of successful practices in stakeholder engagement.

164. Another shortcoming which had its origins in project preparation, and persisted almost to the end of the formal life of the project, was the failure of the Project Document to describe the project objectives, baseline and adequate performance indicators. Various versions of the objectives did materialize soon after inception, but it was not until AIACC's Final Report that the baseline and performance indicators were adequately documented.

165. There were also shortcomings in securing timely endorsements from GEF and UNFCC Focal Points for some sub-projects. Securing co-financing for sub-projects was also poorly handled in several instances, and for all sub-projects inadequate attention was given to documenting the cash and in-kind co-financing that was obtained. Poorly defined and implemented institutional and administrative arrangements for some of the sub-projects also caused significant delays, or worse.

166. The AIACC mentoring scheme was an important component of AIACC and was acknowledge by most sub-project PIs as being useful. However, there were shortcomings in the way the scheme was implemented, leading to unfulfilled needs and expectations. The more recent AIACC reports have tended to use the less pejorative terms such as "technical advisors" and "technical assistance", rather than "mentors" and "mentoring."

167. The sustainability of the AIACC outcomes has been acknowledged to be at risk. Some of the sub-project teams have succeeded in securing funding that will allow them to continue working together on climate change and related issues. However, many more have not. Without new resources to fund new efforts, the institutions that participated will invest their energies in pursuing opportunities in areas other than climate change; they will lose persons with relevant knowledge and skills; and their relationships with other institutions working on climate change will weaken from disuse. Further investments are needed by projects similar to AIACC, to nurture and sustain the capacity in developing countries for advancing knowledge about climate change risks and applying new knowledge to better management of the risks.

168. M&E were another weakness of AIACC, especially at the project preparation and design phase and with respect to evaluations scheduled to be undertaken by UNEP. The Project Document did not meet GEF's current minimum requirements for monitoring and evaluation due to the fact that these were not introduced until 2005. However, good practice at the time of project preparation should have resulted in some attention being paid to descriptions of the project baseline, the monitoring and evaluation plan and organizational setup and to the allocation of some funding to M&E. Moreover, and as noted previously, the first annual performance review by UNEP was not undertaken until the project was nearing the end of its original three and a half year lifetime. While the technical and financial reporting procedures implemented by the executing agencies were useful in identifying issues related to project and sub-project implementation, UNEP should have undertaken its own M&E

activities earlier in the life of the project. These shortcomings were compounded by the failure to undertake a separate mid-term review. It is acknowledge that mid-term reviews are most useful in the case of poorly performing projects since they are more focussed on identify the need and opportunities for operational improvements. Clearly the AIACC project was being managed and performing well. However, at the time when a mid-term review should have been scheduled there was very little independent information on project management and performance. Moreover, we are not aware of any documentation recording and justifying the decision not to undertake such a review.

169. Stakeholder engagement at sub-project level was highly variable. Many of the teams underestimated the extent of stakeholder engagement that would be needed and useful for their activities and targeted end users. The importance of this dimension of the assessments was inadequately highlighted in the calls for both the pre and full proposals.

Role of UNEP

170. UNEP was one of three key parties to collaborate with the IPCC, to develop the proposal for AIACC, and submit it to GEF. UNEP took a relatively "hands off" approach as implementing agency. This was consistent with, and facilitated, the "bottom up" approach that proved so successful for AIACC. The three changes in UNEP personnel managing AIACC may also have influenced the project management approach taken by UNEP. Clearly such changes were largely outside UNEP's control. The most serious shortcomings in UNEP's management of the project were the omission of key information and procedures from the Project Document and the failure to undertake a timely and high quality mid-term review. AIACC enjoyed the services of highly competent and dedicated individuals in START and TWAS, as well as excellent advice and support from the Steering and Technical Committees. As a result, many of the reasons for undertaking a mid-term review might not have been applicable to AIACC. However, the reality is that UNEP did not undertake any formal review of the project until it was well into its fourth year, and only three months from the original completion date. If for no other reason, a review of AIACC soon after the end of its second year would have provided a timely opportunity for the implementing agency to assess the emerging evidence of the need for an extension to the project, and to advise the executing agencies as to how the situation might best be managed.

Use of Funds

171. The current evaluation found no evidence to suggest that AIACC could have achieved its objectives at less cost, or that the considerable number and high quality of the outputs and outcomes could have been achieved in less time. In fact, the baseline on which AIACC built makes the accomplishments all the more remarkable. A breakdown of expenditure of the $7.2 million of GEF funding shows that:

- Personnel costs were 16% of total costs;
- Two thirds of the budget was provided to cooperating agencies for the assessment studies and to supporting organizations for training services;
- Direct expenditure on training was just over $1 million;
- Overall there was a small under-expenditure of $300,000; but
- Budgeted costs for the Project Coordinator were exceeded by over 100%, attributable at least in part to the extension of the project by 18 months.

172. In addition to the additional financial resources secured at project level, many sub-projects also mobilized cash and financial assistance. Often this took considerable time and presented a burden to the sub-project teams.

173. Was this funding well spent? While a categorical answer on the value of AIACC is impossible to provide, the knowledge, tools, methods and capacity created by AIACC suggests that the answer is "yes". The cost of AIACC compares favourably with those of comparable assessments, as does its impacts and influence. The frequency with which the AIACC approach has been replicated also suggests that the project was highly efficient and effective in the way the funding was utilized.

Overall Assessment

174. The evaluation TOR requires that, for all criteria except sustainability, the success of the AIACC project implementation is to be assessed and rated on a scale from 'highly satisfactory' to 'highly unsatisfactory'. For the sustainability criteria the ratings range between "likely" (i.e. no risks affecting sustainability) and "unlikely" (i.e. there are severe risks affecting sustainability). The results are shown in Table 8. The table also contains very brief summary comments on points made in this report. These should be read in conjunction with the entire report.

Table 8
Summary Comments and Ratings Related to Given Evaluation Criteria

Criterion	Evaluators' Summary Comments	Evaluators' Rating
Attainment of project objectives and results (overall rating) Sub criteria below	Project objectives stated only after inception; planned outputs and outcomes underwent substantial revisions as the project evolved. However, end results are outputs and outcomes that go a remarkably long way to meeting stakeholder needs and expectations, especially given the baseline.	HS
Effectiveness	Extremely high, given the baseline, and especially with regard to strengthening technical understanding and capacities. Uptake and application of AIACC findings by policy makers and related stakeholders has been somewhat less effective. Ongoing/Emerging Key Risks: (i) Lack of information sharing between technical experts and policy makers; (ii) Technical experts lose relevance due to lack of funding for ongoing and new studies.	HS
Relevance	Very tangible outputs and outcomes at both project and sub-project levels. These address the recent and growing recognition of climate change as a major risk to national economic performance, quality of life and environmental quality. Ongoing/Emerging Key Risks: (i) Research and related findings become outdated; (ii) Lack of guidance from policy makers as to how research can continue to be policy relevant.	HS
Efficiency	No evidence to suggest that AIACC could have achieved its objectives at less cost, or in less time. The accomplishments are all the more remarkable given the baseline. Ongoing/Emerging Key Risks: (i) Failure of the sub-project teams to continue their efforts to ensure effective uptake of findings by Government and other stakeholders; (ii) sub-projects teams weaken their efforts to ensure their findings are published in the peer-reviewed literature.	HS
Sustainability of Project outcomes (overall rating) Sub criteria below	Despite some initial misgivings, largely related to the initial weakness of national institutions to assess impacts and adaptation options, and implement the latter, AIACC has laid the foundation for project outcomes to make a long term contribution to strengthening the enabling environment for adaptation, locally, nationally and internationally.	Moderately Likely (i.e. moderate risks exist)
Financial	AIACC experience has highlighted the need for many developing countries to receive external financial support if studies by national and regional experts are to have the appropriate scope in terms of the disciplines covered and to ensure the use of improved methods and tools. Several projects also showed that mainstreaming climate-related concerns into development planning and processes increases the likelihood of Government budget appropriations to support implementation of adaptation action plans, and the like. Ongoing/Emerging Key Risks: (i) Lack of external financial support for continuing technical and related studies; (ii) Current efforts to mainstream climate change responses into national development plans and processes are not maintained.	Moderately Likely
Socio Political	By focusing on early-career scientists for training and other capacity building activities, and by enhancing the linkages between science providers and policy makers, the sustainability of AIACC outcomes is very much enhanced. However, AIACC could do little to address the adverse consequences on the adaptation enabling environment arising from the high turnover of politicians and political appointees in many developing countries and from low political influence of environmental managers. Ongoing/Emerging Key Risks: (i) Changes in Government lead to changed national priorities, with less attention give to climate change; (ii) members of the sub-project teams are attracted to other areas of endeavour.	Moderately Likely

Criterion	Evaluators' Summary Comments	Evaluators' Rating
Institutional framework and governance	The breadth of AIACC allowed it to build broad capacity in the form of an AIACC community, with members seeing personal benefits as well as being committed to breaking down institutional and related barriers and facilitating cross border collaboration. However, in developing countries there are still strong barriers to cooperation between institutions, putting the long term outcomes of AIACC at moderate risk. Ongoing/Emerging Key Risks: (i) Institutional and related barriers cannot be reduced; (ii) members of the study team fail to identify with AIACC due to other more attractive opportunities.	Moderately Likely
Environmental	To the extent to which environmental degradation enhances poverty, and given that poverty reduces the effectiveness of coping and adaptation measures, there has to be concern that the project benefits may be compromised in the near and longer terms. Ongoing/Emerging Key Risks: (i) Impacts of climate change become overwhelmingly large, resulting in disillusionment; (ii) poverty alleviation measures fail to deliver the anticipated results.	Moderately Likely
Achievement of outputs and activities	AIACC was most successful in terms of developing, adapting and applying methods for assessing impacts and vulnerability. It was less successful with respect to identifying and assessing adaptation options and transferring this information to decision makers and other stakeholders. As the project evolved, sub-projects used approaches and methods that were more "bottom up" in order to better reflect local conditions in terms of the drivers and the anticipated changes in climate and also to be more consistent with the technical capacity of the sub-project teams. While some sub-projects delivered less than planned, most exceeded expectations due to a commitment to continue activities after the formal end of the project.	S
Monitoring and Evaluation (overall rating) Sub criteria below	M&E started badly, including the failure to define an adequate system in the Project Document. Over time, procedures improved, especially in terms of demonstrating project performance rather than just collecting information to detect and resolve performance problems at sub-project level.	MS
M&E Design	The Project Document did not meet GEF's current minimum requirements for monitoring and evaluation due to the absence of a project baseline, a monitoring and evaluation plan, an organizational setup and specific budgets for monitoring and evaluation.	U
M&E Plan implementation (use for adaptive management)	A robust system was put in place to assess the performance and emerging needs of sub-projects. The information was used effectively, not only to address issues at sub-project level but to also initiate actions at project level that would improve the overall performance of the project. This included additional capacity building, strengthening stakeholder engagement and undertaking synthesis activities. PIRs were undertaken but only late in the life of the project, and were initially very inadequate. There was no mid-term review by UNEP, a decision taken only when the project was due to terminate.	MS
Budgeting and Funding for M&E activities	No specific provision was made in the budget for monitoring and evaluation activities. Any costs of such activities were covered under budget allocations for general administration.	U
Catalytic Role	Through its sub-projects, AIACC built capacity on many fronts, including knowledge, skills, institutions, linkages and networks. This laid the foundation for numerous follow-up and spin-off activities, and many have eventuated. In themselves, these have helped ensure the sustainability of the AIACC outcomes.	S
Preparation and readiness	At both project and sub-project levels, the available evidence indicates that the enabling environment for AIACC activities was more than adequate at the time of project inception, except for the national endorsement, co-financing and institutional and administrative arrangements of some sub-projects. The Project Document did not specify any objectives. Given the emphasis, AIACC ultimately, and appropriately, placed on its third objective ("to improve links between climate change science and policy communities to enable adaptation planning and action"). It is unfortunate that there was not a component of the project devoted specifically to achievement of this objective. The considerable experience of both START and TWAS in implementing science-based as well as policy oriented research projects in developing countries was reflected in the project design. In the past, efforts to build capacity in climate change have at times been hampered by the design or implementation of the projects being politically driven or influenced. By focusing on the technical aspects of climate	MS

Criterion	Evaluators' Summary Comments	Evaluators' Rating
	change, the project was designed to avoid this. This was a seriously flawed strategy given the third AIACC objective (see above).	
Country ownership / driveness	All the participating countries have highlighted that climate change threatens the speed and sustainability of their developments. Their National Communications have also recognized the need for more rigorous assessments of the impacts of climate change and of adaptation options. Shortfalls in the capacity to undertake such assessments to ensure their effective uptake and application by policy and decision-makers have also been identified. Overall, AIACC did much to address these and related needs, despite the "top down" nature of project preparation. Initial delays in gaining Government endorsement for some sub-projects were more a reflection of shortcomings in the approval process than in addressing national priorities. Country ownership also increased once there was improved engagement with stakeholders in Government.	MS
Stakeholder involvement	The involvement of relevant stakeholders at project level was largely through the Steering Committee composed of representatives of GEF, WCRP, UNFCCC, IPCC, IHDP, UNDP, the World Bank, and IGBP. Stakeholder engagement at sub-project level was highly variable. During the initiation and training workshops it became apparent that many sub-projects had underestimated the extent of stakeholder engagement that would be needed for their activities to be of significant use to their targeted end users. Consequently, many of them had budgeted insufficiently for stakeholder engagement. These shortcomings were addressed through a supplemental grant programme to provide for additional training and to support stakeholder engagement activities. Even with these additional efforts some sub-projects had inadequate engagement with stakeholders. For other sub-projects and overall, the involvement of stakeholders was substantial and effective.	S
Financial planning	In general, financial planning and reporting allowed project management to make informed decisions regarding the budget and also allowed for appropriately documented transfers of funds. The several minor budget revisions did not increase the overall cost of the project and despite a substantial increase in the duration of the project there was no significant transfer of funds from activity-related budget lines to those related to administration. Aggregated savings made it possible to produce three major outputs (2 synthesis reports and compendiums of technical reports) that were not included in the original budget. All too frequently the flow of funds to the sub-projects was far from timely, often for reasons not directly attributable to financial management and controls.	HS
UNEP/START/ TWAS Supervision and Backstopping	With regard to the effectiveness, efficiency and adaptability of project management, the sub-project PIs and stakeholders had almost universal acclaim for the way the AIACC project was managed. The AIACC mentoring scheme was generally considered to be a "good idea", although implementation was "not ideal" and "did not work as well as hoped". UNEP adopted a relatively hands-off approach to project implementation and management. This complemented the overall sub-project driven, "bottom up" approach which was a commendable feature of AIACC. The three changes in UNEP representation on the Project Implementing Committee created some difficulties, especially with retention of institutional knowledge and with record keeping.	S
Overall Rating	In summary, despite some shortcomings in preparation and oversight, AIACC was a highly successful project. This is especially so when one takes into account the baseline, including capacity and the technical basis of policy making and planning.	S

Responses to Synthesis Questions

Synthesis Question #1: How effective has AIACC been in developing and applying methods of assessment that are useful for enabling adaptation?

175. The largely pioneering research undertaken by the AIACC sub-projects has resulted in dramatic improvements in our understanding of the vulnerability of developing countries to climate change, and how they might best to adapt. The research was undertaken in relatively unstudied parts of the developing world, where special circumstances prevail. This often required the development and application of innovative methodologies as well as substantial modification of methods originally used under very different circumstances. Not surprisingly, the focus of the research was on impact and

vulnerability assessments, but many sub-projects were able to progress from this foundation to make important advances in developing and applying methods for facilitating the adaptation process.

176. Importantly, many of the methods were shared between sub-projects, where they underwent further development before being applied under somewhat different circumstances. The methods are now being acknowledged and taken up by the wider climate change research and assessment community, thanks in part to the research findings being reported in globally important publications such as the IPCC AR4 and the two books which synthesized the AIACC results. Many of the methods are now being applied in more recent adaptation initiatives, such as the CCAA programme and ACCCA project.

177. The wider relevance of methods developed or refined by the AIACC sub-projects is in part a reflection of two important aspects of many of the AIACC studies. Firstly, rather than pursuing the more conventional "top down", scenario-driven approach used to assess both vulnerability to climate change and adaptation options, many sub-projects took a more realistic "bottom up," interdisciplinary and multi-sector approach that better reflected technical and adaptive capacities, stakeholder values and needs, as well as the spatial scales at which adaptation typically takes place.

178. In terms of developing methods that have now had wide uptake in both developing and developed countries, one sub-project is worthy of mention. However, this should not imply lesser contributions by other sub-projects. AF38 focused on developing and implementing "bottom up" methods that include the rapid assessment approach now used in NAPA preparations, as well as informing adaptation processes in general. These methods are now included in the NAPA guidelines and in Participatory Rapid Integrated Vulnerability and Adaptation (assessment) (PRIVA).

Synthesis Question #2: How successful were the regional/national assessments executed under AIACC in advancing knowledge about climate change impacts, vulnerability and adaptation?

179. Collectively, the sub-projects were extremely successful in advancing technical understanding of climate change impacts, vulnerability and adaptation, especially when the relevant baseline is taken into account. In general, the level of success declined as the studies progressed from impact assessment to identifying and examining adaptation options, and determining the residual vulnerability. Most sub-projects were also handicapped by the initial failure to recognise the need for, and to fund, the activities that would transfer the technical findings to key stakeholders and ensure their successful and timely uptake and application in planning, decision making and other contexts. Significant and successful steps were taken to remedy this shortcoming in project preparation. This included ensuring that training workshops and related initiatives highlighted the need for effective stakeholder engagement and uptake of the sub-project findings. It also included securing and allocating the additional co-financing needed to ensure that sub-projects had the necessary resources and capacity to undertake the relevant activities, and stakeholders increased their capacity to make effective use of the research findings.

Synthesis Question #3: How effectively has the project contributed capacity, expertise and knowledge to national communications, policy, planning and other activities related to climate adaptation?

180. AIACC was conceived as a project that would address the gaps in both technical understanding and scientific capacity in developing countries, in relation to assessing the impacts of, and adaptive response to, climate change. Preparation of the TAR of the IPCC had, for example, highlighted these shortcomings. There was a strong desire to address them so that the Fourth Assessment by the IPCC, as well as related global and regional assessments, could report authoritatively on the consequences of climate change for developing countries, as well as how these might best be addressed.

181. Over its official 61 month life, AIACC evolved in ways that allowed it to deliver much more than technical understanding and improved science capacity at regional and global levels. Imaginative and astute project management, including credible guidance and encouragement with a flexible and relatively hands-off approach, meant that sub-projects rose to the challenge of engaging with national

and community stakeholders and providing them with targeted information and the other resources that help ensure policy, planning, decision-making and reporting processes are well and appropriately informed. Greatest success was experienced by those sub-projects that received Government approval early in the project cycle, with Government officials and other stakeholders playing ongoing and active roles in the research and outreach activities of the sub-project.

182. Timing also influenced the effectiveness of the sub-project contributions, especially in terms of national communications under the UNFCCC and the CBD. Several sub-projects had not made significant progress by the time preparations of the relevant NCs were almost completed. In other cases, substantive preparations had not commenced by the time sub-projects submitted their final reports, making it difficult to demonstrate an impact on the preparatory process in terms of either information uptake or using the expertise of members of the sub-project teams.

Synthesis Question #4: To what extent have the AIACC outputs been used, and to what extent have the AIACC processes and outputs helped to advance the aims of climate-related conventions?

183. There is extensive evidence of substantive contributions at a variety of levels – national, regional and global – and in a variety of ways, including: methods and tools; information; competent experts participating in technical- and policy-related workshops and related fora, negotiations and outreach activities; NCs and other reports; and raising the profile of climate related issues. Most of the contributions relate to advancing the aims of the UNFCCC, but there have also contributions related to implementing the CBD and the UN Convention to Combat Desertification, especially at national level.

184. An AIACC scientist authored the "Comparison study of the National Adaptation Programme of Action (NAPA) projects in Africa" (East and Southern Africa), undertaken as part of the European Capacity Building Initiative - The Policy Analysis Programme. An AIACC side event at a UNFCCC COP resulted in the paper 'A plan of action to support climate change adaptation through scientific capacity, knowledge and research' being circulated at COP-11. As a result, the paper had some influence on discussions that ultimately led to the Nairobi Work Programme (NWP). Largely due to the knowledge and experience gained through its involvement in AIACC, START has pledged an action for each of the NWP areas of work. This includes collaboration with the Institute of Resource Assessment at the University of Dar es Salaam to implement an education and training programme on climate change and biodiversity conservation for African graduate students and early to mid-career professionals and collaboration with the African Academy of Sciences (AAS) to implement a new African Climate Change Fellowship Programme.

Synthesis Question #5: How successful has AIACC been in engaging participants in international science activities such as the assessments of the IPCC?

185. The project was extraordinarily successful in this regard, especially with respect to the IPCC. In the words of the Chairman of the IPCC, Mr Rajendra Pachauri:

"I am particularly happy with the whole project. It produced a great deal of knowledge of use to the IPCC, especially given that the information came from, and was generated by people from parts of the world where previously there had been substantial gaps. This includes South Asia, the small islands and Africa. The contributions covered both impacts and policy-relevant adaptation. AIACC also built human expertise. Many of these people were able to make important contributions to the Fourth Assessment……They will also play an important role in follow-up activities – they are critical to future activities of the IPCC. There is a need to build on the expertise developed to date. The GEF can do a lot more in terms of capacity building. It can have attractive programmes, but without capacity there is little chance of continuing success…..…" [Source: Interview with Dr Pachauri by John Hay]

186. Several AIACC participants contributed to the planning of the IPCC Fourth Assessment and, subsequently, 27 members participated as coordinating or lead authors. Eight out of ten coordinating lead authors of the regional chapters for Asia, Africa and Latin America were participants in AIACC. Collectively, this significant involvement of AIACC scientists enabled the Fourth Assessment to have a much more balanced geographical coverage, increase the certainty in its findings and reflect a

greater understanding of the needs and capabilities of the developing world to address the major issues related to climate change; thus significantly shaping its conclusions.

187. AIACC scientists also served as authors for the MA and the IAAST, and contributed to the Stern Review on the Economics of Climate Change. An AIACC scientist contributed to the Large Marine Ecosystems project under the GEF, the Coral Reef Degradation in the Indian Ocean (CORDIO) Indian Ocean research programme and the Global International Waters Assessment project, while several AIACC scientists are participating in other multi-donor assessments, such as the AMMA project.

188. AIACC organized numerous sessions at international meetings. These provided another opportunity for members of the sub-project teams to engage with the international scientific community. The meetings included conferences of the International Human Dimensions Programme, the Earth System Science Partnership, the Stanford Energy Modelling Forum, the United Kingdom Meteorological Office, the Chinese Academy of Sciences, Subsidiary Body for Scientific and Technological Advice (SBSTA) expert workshops and side events at the UNFCCC COPs. In this way AIACC was able to increase the participation of developing country experts. AIACC participants have also been regular contributors to the highly successful and well attended Adaptation and Development Days events that are held annually in conjunction with the UNFCCC COPs.

189. AIACC received and acted on many requests for scientists from the AIACC network to engage in various activities from groups such as the GEF Secretariat, UNFCCC Secretariat, IPCC, MA, IAAST, the World Bank, research projects of the Earth System Science Partnership (e.g. the Global Environmental Change and Food Security project), the International Research Institute for Climate and Society, SEI, IIED, the CCAA programme, and bilateral donors. AIACC participants are now members of GEF-STAP, the steering committee of CCAA, the management team for the ACCCA project, the IPCC's Task Group on data scenario support for Impact and Climate Analysis (TGICA), and Diversitas, and helped lead planning for a new global change network for Africa (AFRICANESS). Through these and other activities many members of the AIACC sub-project teams are now fully engaged with international groups and activities that are addressing issues arising from climate change. Several sub-project teams have succeeded with project proposals to the GEF, CCAA, ACCCA, the MacArthur Foundation, the Inter-American Institute for Global Change Research, the Asia-Pacific Network, among others, demonstrating that substantive and enduring capacity has been established.

Synthesis Question #6: How effectively has AIACC added to the science capacity of the participating individuals, institutions and countries, so as to enable climate change adaptation planning and action?

190. There is overwhelming evidence for the success of AIACC in increasing the technical expertise of individuals. This includes university graduates who undertook their research studies under the auspices of the project, enabling them to addressing meaningful research questions related to climate change and to receive strong supervision from experienced staff. In many cases their studies were also assisted by the availability of financial assistance via AIACC. At least 75 student theses using AIACC assessment results have been completed and approved. At the other extreme of the career spectrum, many experienced scientists have redirected their research to addressing topics related to climate and other environmental changes. Overall, members of the sub-project teams felt empowered by being involved in AIACC. They developed a strong sense of ongoing commitment to climate change research, teaching, training and outreach. This commitment is exemplified by the stability of the 24 sub-project teams. Importantly, very few lost members over the five years of the project. Instead, many teams gained new members, attracted by the opportunity to undertake applied research within an international framework.

191. AIACC organized several well-timed workshops that added a new dimension to learning, experience and skills. These workshops exposed members of the sub-project teams to leading professionals in impact assessment and adaptation, and helped improve the quality and relevance of their work. The workshops also increased the capacity and ability of the AIACC participants to analyse technical issues, to appreciate the multi-disciplinary nature of adaptation, to work in this

context, and to apply many of the techniques and skills learned. This helped improve the quality of advice and supervision provided to post-graduate students in adaptation, increased the research effort in adaptation, enabled sub-project team members to monitor and advise on adaptation projects being implemented by other agencies, and to offer short courses on adaptation.

192. AIACC also promoted and facilitated South-South collaboration. Specific examples include AS07 supporting AS21 in hydrologic modelling; and AS21 training scientists and researchers from Vietnam, Cambodia, Laos and Bhutan. Comprehensive and high quality training documentation was prepared, including manuals, CDs and training reports.

193. Many of the challenges in achieving the successes mentioned above are exemplified in the experiences of sub-project LA29. Team members with "hard science" backgrounds indicated that interactions with social scientists and end users sensitized them to the needs of the end users, including particularly vulnerable women and elderly populations residing in rural areas. They found that applied science is not considered "high quality science" by theoretical geophysicists, astrophysicists and science administrators, often hampering career progress. Studying climate change poses important questions, but LA29 found there was initially little communication between applied and theoretical climate scientists. The latter were often sceptical about applied work. Collaboration among science disciplines was rewarding, but not easy. While the theoretical scientist focuses on the climate that "might be," social scientists tend to focus on the practical needs of the vulnerable "now".

194. The PIR undertaken at the time of formal project completion noted that the sustainability of the capacity of the institutions, rather than the individuals, was not evident. While the latter is important, the sustainability of the project could have been enhanced by building core national capacity in climate change science. Furthermore, the PIR recognised that a lack of funding for scientific research in many countries will often make this difficult. There is now more evidence showing that AIACC has built sustainable science capacity in the participating institutions and countries. Some examples follow. AIACC participants in Argentina and Uruguay have collaborated to develop a graduate course and to deliver training for journalists, in order to improve understanding of climate change impacts, vulnerabilities and adaptation strategies. AF07 resulted in sustainable, on-going working relationships for climate change modellers in Africa. Rather than having various teams working on independent projects, the collaboration and networking linked capacity-poor and capacity-rich institutions, resulting in a model-literate community within Africa. In a joint activity with AF90, the University of Al Azhar, Faculty of Agriculture, Department of Ecology and Bioagriclture, established the course "Climate Change and Agriculture", with credits for both undergraduate and postgraduate students. A similar course was established at Cairo University, Faculty of Science, also as a joint activity with AF90. It carries postgraduate credits. Prior to the AIACC project there was no climate change related course at the University of Jos. Climate change is now a major component of the graduate programme in Environmental Resources and Planning. SIS90 trained many people from various sectors in topics related to vulnerability assessment and adaptation techniques. The project has improved science capacity in the Departments of Environment, Planning, Development, Meteorological Services, Fisheries, Tourism and Coastal Management. In the absence of a university in the Seychelles, training proved to be difficult. Much of the work had to done through Government support. However, with the creation of the new University of Seychelles, it is expected that the findings of SIS90 will lay the foundation for further climate related research, training and education in the Seychelles. A key feature of AS21 was the enhancement of capacity of local researchers to conduct climate change impact and vulnerability assessments. By working with developed country scientists from its key partners there was a transfer of skills and know-how in modelling and assessment tools. Aside from the researchers, other stakeholders within both the Philippines and Indonesia benefited as they participated in the research process. This included staff of Government agencies, NGOs and people's organizations.

195. AIACC showed that, where the existing science capacity is low, it is difficult to build the science capacity to productive and sustainable levels within the life time of a project. For example, AF07 found that where no existing capacity to develop climate change scenarios existed within a research team, it was not possible for that team to prepare such scenarios within a reasonable time frame.

196. The Final AIACC Report notes that the enhanced capacity delivered by the project is vulnerable. Some of the sub-project teams have succeeded in securing resources to continue working together to address climate change issues, including adaptation. This will help to sustain their capacity. However, many sub-projects have failed to secure follow-up funding As the Final Report goes on to say, without new resources to fund new efforts, the institutions that participated in AIACC will invest their energies in pursuing opportunities in areas other than climate change. As a result, they will lose persons with relevant knowledge and skills and their relationships with other institutions working on climate change will weaken from disuse.

Synthesis Question #7: How effectively has AIACC added to the climate change policy capacity of the participating individuals, institutions and countries so as to enable climate change adaptation planning and action?

197. There is a widespread perception, especially at the international level, that AIACC was relatively unsuccessful in building the climate change policy capacity of participating individuals, institutions and countries. To some extent this is justified, in part because such AIACC outcomes were not in the original work programme and budgets. The view is strengthened by a lack of convincing evidence at the time of formal project completion. The evidence that was added between then and 2008 tells a much more positive story. Some examples follow.

198. AS06 reports that the sub-project helped to initiate and strengthen a climate change dialogue process among governmental, non-governmental, academic, business and the grassroots sector. This has fostered improved understanding of climate change issues, such as vulnerability and adaptation, as well as the linkages with sustainable development strategies at various sectoral levels. An integrated national adaptation-development policy is envisioned for the future given that adaptation is now seen as a development issue. An important component of the AF14 was the policy and institutional analyses to determine the factors that enabled the success of specific sustainable livelihood (SL) and environmental management measures. These were primarily policy and institutional. As a result, the study identified several policy-relevant findings including: (i) policy analyses conducted in the context of the SL framework can help identify the ways in which policy impacts on different aspects of people's livelihoods, including their livelihood assets, the vulnerability context within which they operate; and their capacity to choose effective livelihood strategies; and (ii) contingency short-term plans for mitigating the impacts of drought, have always led to short term improvement of living conditions, but at the same time contributed to the creation of relief dependent communities incapable of future adaptation.

199. AF90 provided the basis for members of the team to participate in the National Committee for Climate Change, where policy is developed in relation to climate change. With the assistance of AF90, Egypt has established the Higher Committee for Climate Change and Agriculture, the strategic policy making body dealing with the subject. Currently, climate change is on the highest agenda of the country. The future agenda produced by AF90 has been presented to the Committee for it consideration. Institutional capacity building resulted from the strengthening of two groups for further investigations in climate change, namely the Institut National de Recherche en Génie Rural, Eaux et Forêts in Tunisia, and the Central Laboratory for Agriculture Climate that is part of the Agriculture Research Centre in Egypt. AF90 has also helped increase public awareness and understanding of climate change and related issues, through workshops for stakeholders, conferences by the project team and numerous opinion pieces and interviews in the media. Involvement of the Nigerian Ministry of Environment in AF92 created awareness among policy makers of the importance of climate change to Nigeria and led to the creation of the Inter-Ministerial Committee on Climate Change that brought together all the line Ministries that could be influenced by climate change. In this way climate change is now seen as a cross-cutting issue. The Ministry, in collaboration with some of the AF92 team members and the Federal Parliament, organized Nigeria's first workshop on the impacts of climate change on the country's development.

200. Some sub-projects reported less success. For example, AF91 found that policy makers tend not to come to sources of expert advice. For this reason they found it critical to work with the officials who write and formulate policy. Importantly, politicians are reluctant to go against written policy advice. AF38 did not complete its work programme, resulting in limited direct impact on policy arising from the research. After the project, however, some members of the AF38 team have often been requested to give policy advice to Government and to provide support to their countries in international negotiations, such as those related to the UNFCCC.

V. Lessons learned

Capacity Building

201. The final PIR for the project suggested that the current terminal evaluation consider in detail two aspects of sustainability of the project – an individual's capacity and institutional capacity - in order to contribute to lessons learned from the project. The PIR expressed the view that, while the capacity of individuals had clearly been demonstrated and enhanced, institutional capacity had not. However, this terminal evaluation has highlighted many examples where institutional capacity has been significantly enhanced as a result of AIACC. The discrepancy can be explained largely by the time which has elapsed between the final PIR and the current evaluation. It has allowed for a more comprehensive and detailed documentation of the capacity building outputs and outcomes. Nevertheless, the lack of funding for scientific research in many developing countries is still an issue, and is one of the threats to the sustainability of project-based efforts to build science capacity in developing countries.

202. The key lesson arising from these findings is that the time that must elapse before it is reasonable to evaluate the outcomes of capacity building initiatives is highly variable, depending in part on the type of capacity being built. This highlights the need for some investment in the ongoing monitoring and evaluation of project outcomes, a practice that is now advocated by GEF, but is seldom implemented.

203. Two substantive lessons have been learned in relation to existing capacity, and to capacity building.

Learning from the Effect of Capacity Constraints on the Initial Engagement with Individuals and Institutions from Developing Countries

204. Most of the prospective sub-project teams, and their host institutions, lacked the expertise and experience to develop competitive proposals. These included shortcomings in their ability to engage effectively with end users and other stakeholders in order to better reflect their needs and capacities in the proposal itself. The Final Report for AIACC recommended that the capacity building methods used successfully by AIACC at the inception and initial regional workshops be used in future projects. Importantly, this does not address the problems faced by individuals and institutions which lack the capacity to reach even this stage of the competitive process. Thus capacity building methods such as those used at AIACC's inception and initial regional workshops should be employed much earlier, to ensure that at least those teams invited to submit full proposals have the necessary capacity to do so. Even if some of the teams are ultimately unsuccessful in the selection process, it is unlikely that such capacity building efforts would be wasted. This is especially so if the institutions involved are outside Government and are already committed to training, education and similar activities. As already highlighted, the decision to work solely with non-governmental institutions in the initial phases of preparation caused significant problems and almost derailed some sub-projects. Therefore, while non-governmental institutions should continue to have a central role in science-based assessment and related activities, the AIACC experience illustrates the need to engage with Governments as early as is practicable, rather than leaving them to a *fait accompli*.

205. Another aspect of this learning was AIACC experience showing that it was often easy to overestimate the existing capacity of the study teams, and hence what they can deliver. For example,

the main aim of the AIACC Scenario Workshop at the University of East Anglia was to train all sub-project teams in downscaling GCM outputs. However, participants did not have the necessary experiential skills.

Learning from the Mentoring Scheme

206. The mentoring (or technical guidance) scheme implemented by AIACC was an appropriate way to help sub-project teams overcome capacity constraints and inspire them to achieve standards of performance that approached best practice. For reasons provided earlier in this report, the mentoring scheme never came close to realizing its full potential. A number of lessons have been learned as a result of this experience including: (i) the need to have an appropriately formalised process; (ii) mentors should be provided with financial rewards commensurate with the time they contribute and with their expertise and experience; and (iii) the term "mentor" should be avoided as some of the more highly qualified and experienced sub-project leaders felt degraded by the implication that they needed mentoring. It was felt that the term "technical advisor" is far less pejorative.

207. Several other lessons are worthy of wider consideration and application.

Learning from AIACC's Approach to Engaging Researchers from Developing Countries

208. Another lesson learned relates to the empowerment of the sub-project teams. While the project document hinted at an excessively "top down" approach, the project management soon implemented a "bottom up" approach which engaged and empowered the relevant research communities from numerous developing countries. The initial call for pre-proposals was the starting point for this approach, as ownership of the proposed research stayed with the proposers. The approach was supported by the establishment of technical committee made up of members who were well qualified to adjudicate and advise on the quality of the pre-proposals. Similarly, teams submitting full proposals retained ownership of their intellectual property. This ownership, and the associated responsibility for good performance, was retained all the way through the project implementation and closure processes. In effect, each sub-project was administered as if it was a stand alone project. The leaders of the sub-project teams appreciated being treated as independent but accountable professionals. They felt an obligation to not discredit the trust that had been shown in them and their colleagues. Moreover, since most members of the project teams were from academic or research institutions, they saw value in continuing with project-related activities long after formal completion dates had passed and budgets had been expended.

209. The research focus of the AIACC studies tended to favour proposals coming from university and similar institutions. Importantly, this did not preclude early involvement of Government institutions and officials, as key partners in the assessment activities. However, their involvement in proposal preparation and related activities was often very limited at best, giving rise to the view that the proposed studies had originated independent of Government processes. This made subsequent Government endorsement problematic in some instances. It would be regrettable if this AIACC experience resulted in a belief that the "bottom up" approach should be more Government driven in the future. Rather, a supplementary lesson to be learned is that, even when non-Government institutions play a central role in the project, formal partnerships should be established with individual Governments early in both the project and sub-project preparation processes.

Learning from the Project Preparation and Management Experiences

210. The Project Document had both serious omissions and major shortcomings in aspects of the Document itself. These have been detailed elsewhere in this report. Suffice to say here that, while the omissions and shortcomings did provide real and substantial opportunities for adaptive management, they appear to have also undermined the importance of key aspects of the Project Document. For example, while the Project Document called for quarterly reporting, a decision was made by UNEP, START and TWAS that six month reporting would suffice. If such a change was appropriate soon after project inception, why was it not made before submission of the Project Document? Similarly, the Project Document states that START and TWAS would share responsibilities as Executing Agencies according to their comparative advantages. Again there was an early decision to share

responsibilities in ways that largely ignored the institutional experience and capacities of TWAS, but were perhaps more expedient and in keeping with the management styles of key individuals. Given the similarly early timing of this change, why was this new allocation of responsibilities amongst the Executing Agencies not reflected in the Project Document? The resulting key lesson is that every effort should be made to ensure that all reasonably foreseeable revisions to a project document are included in the document submitted for approval. Anecdotal evidence suggests that in many instances emphasis is placed on gaining project approval, at the expense of all relevant details being included in the project document. This is because it is customary and relatively easy to "fine tune" the document at a later date.

211. Both the "bottom up" approach that underpinned AIACC preparation and implementation, and the "hands off" approach of UNEP to project oversight proved to be highly successful, and are indeed worthy of replication, as appropriate. Importantly, both approaches are dependent on having committed and competent individuals overseeing not only the project itself but also the sub-project activities. They must in fact strike a delicate balance between "command and control" and "enabling and facilitating". AIACC was fortunate to have such individuals working at both project and sub-project levels. Both approaches also require the implementation of a comprehensive M&E system at both levels. The system should be designed to provide not only feedback on project and sub-project performance, but would also capture the quality, relevance and sustainability of the project outcomes.

VI. Recommendations

212. No provision has been made for monitoring and evaluating the longer-term impacts of AIACC. The current evaluation has been able to document the project's achievements through to the latter part of 2007. This showed a major increase relative to the achievements documented in the PIR undertaken near the time of project termination (June, 2006). As further time elapses it will become increasingly difficult to attribute achievements to AIACC, even partially. However, if the emphasis is on evaluating the sustainability of the project outcomes already documented, and on identifying activities which AIACC has catalysed, there should be little difficulty in terms of attribution.

Thus, the first recommendation is that UNEP undertake monitoring of the longer term impacts of AIACC, with an emphasis on evaluating the sustainability of the project outcomes already documented, and on identifying activities which AIACC has catalysed. The methods used should reflect best practice in M&E, drawing on the experience of GEF, UNEP and other implementing and executing agencies. A report should be prepared, covering the period to the end of 2010; in addition to reporting on the specific evidence and findings, the report should also include lessons learned, success stories and factors, and relevant recommendations.

213. The success of AIACC means there are already many follow up projects and programmes which have a similar emphasis and are adopting analogous approaches. The main difference is greater emphasis on not only adaptation assessment, but also in the implementation of adaptation initiatives. These follow up projects are also tending to build on the most successful AIACC sub-projects where the enabling environment for adaptation is now relatively strong. Follow up projects and programmes are tending to focus on the "low hanging fruit", where success comes easier and with greater certainty. Thus, there is both an opportunity and need for an AIACC follow-on project that addresses two priorities, namely: (i) strengthening the enabling environment for adaptation in communities and countries where it is demonstrably weakest, by undertaking focused activities related to building capacity (e.g. knowledge, expertise, institutions, legislation, financing); and (ii) demonstrating effective and efficient ways to manage climate-related risks through adaptation in those same communities and countries.

214. **Thus the second recommendation is that UNEP, START, TWAS and other relevant organizations give thorough consideration to working further with communities and countries where the enabling environment for adaptation remains very weak, to design and ultimately implement a project that builds on the AIACC experience and findings in order to strengthen**

the enabling environment and demonstrate effective and efficient adaptation initiatives. The time frame should be to complete project preparation within one year, by which time there would be a project proposal that is competitive in terms of receiving funding from GEF.

215. This evaluation has highlighted significant omissions and other shortcomings in project preparation, as reflected in the Project Document, and in M&E of project performance. Identification of these inadequacies, and their consequences, has provided a learning opportunity – see "Learning from the Project Preparation and Management Experiences" in Section V above. Importantly, there is much more to be learnt, especially if the relevant findings from this current terminal evaluation are combined with those for other projects.

216. **Thus the third recommendation is that the biennial assessments of "quality at entry" conducted by the GEF Evaluation Office, in cooperation with its implementing agencies, include a more comprehensive examination of relevant terminal evaluation reports in order to determine the nature and extent of shortcomings in project preparation (including those in the Project Documents), the reasons why these occurred, the reasons why they were not identified in the STAP review of the draft project document and through other quality assurance processes, the short- and longer- term and irreversible consequences of the shortcomings and the lessons learned, including recommendations for remedial actions. It would be appropriate for a comprehensive and authoritative report addressing these and other points to form part of the next GEF "quality at entry" report due to be published in early 2009.**

Annex 1

Terms of Reference

TERMS OF REFERENCE

Terminal Evaluation of the UNEP GEF project
"Assessment of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC)"
GF/2010-01-07

BACKGROUND

Project rationale

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 global project funds 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.

This project has attempted to 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 was intended to 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 include expanded socioeconomic and other data, training and methodologies adapted to developing country regions. These results are intended to 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.

This effort was also intended to contribute to global assessment activities in collaboration with IPCC by enabling selected developing countries, chosen on the basis of several criteria, to develop technical capacity and apply it to the assessment of climate change impacts and options for adaptation.

1. 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.

The main objective of the AIACC was to:

To establish internationally recognized methods and assessment results of preparedness and planning to reduce the adverse effects of climate change.

More specifically to enable climate change adaptation planning and action in vulnerable regions of the developing world by

a) enhancing science capacity;
b) developing and applying assessment methods;
c) advancing knowledge of climate change impacts, vulnerabilities and adaptation opportunities;
d) promoting participation of developing country scientists in international science activities such as the IPCC assessments; and
e) linking science and policy communities to provide scientific expertise and knowledge for national communications, policy planning and other activities related to climate change adaptation.

The expected outcomes of the AIACC include:

1. Appropriate range of climate change scenarios including regional high resolution scenarios;
2. Comprehensive sectoral/regional impact assessments and adaptation strategies;
3. Appropriate targeting of assessments and researchers;
4. Science capacity in climate change improved;
5. Broadly accessible research project support and facilitation of targeting adjustment to research needs and effective management.

Relevance to GEF Programmes

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.

Executing Arrangements

The project was implemented by UNEP, which co-sponsors the IPCC along with the World Meteorological Organisation.

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. The Global Change System for Analysis, Research and Training (START) is an international non-governmental organisation. START Secretariat acted as the executing agency and hosted the office of the Project manager. The Third World Academy of Sciences (TWAS) is an autonomous international organization.

The project manager was based at the START secretariat and was responsible for co-ordinating both executing agencies. The project manager reported to the Steering Committee of the project, with assistant project manager based at TWAS. For the purpose of project management, an operational committee representing TWAS, START and UNEP was formed to coordinate day-to-day issues. This committee met every quarter through teleconference.

Project Activities

The project duration was June 2001 – June 2006 (61 months)

The project has four components of activities:
Activity 1. Development and Application of Climate Change Scenarios

Activity 2. Assessment of Impacts and Evaluation of Adaptation Strategies
Activity 3. Training and Technology Transfer
Activity 4. Project Management comprising of developing Guidelines Document, call for proposals, expert peer review, selecting the assessment activities, organize training, arrange for expert interaction)

Budget

The total original project budget (including PDF-B funding) is US$ 12,460,000 with US$ 7,850,000 funded by the GEF Trust Fund, US$ 2,113,000 funded by WMO and UNEP, US$ 1.320 from bilateral agencies, US$702,000 funded by Research Agencies and US$ 175,000 from START/TWAS.

TERMS OF REFERENCE FOR THE EVALUATION

1. Objective and Scope of the Evaluation

The objective of this terminal evaluation is to determine the extent to which the project objectives were achieved, or are expected to be achieved, and assess whether the project has led to any other positive or negative consequences. If possible, the extent and magnitude of any project impacts to date will be documented and the likelihood of future impacts will be determined. The evaluation will also assess project performance and the implementation of planned project activities and planned outputs against actual results.

The evaluation will focus on the following main questions:

1) To what extent have the AIACC project outputs been used and to what extent has the AIACC process and outputs advanced the aims of climate-related conventions?
2) How effectively has the project contributed capacity, expertise and knowledge to national communications, policy planning and other activities related to climate change adaptation?
3) How effective has the project been in developing and applying methods of assessment that are useful for enabling adaptation?
4) How successful has the project been in engaging participants in international science activities such as the assessments of the IPCC?
5) How successful are the regional/national assessments executed under the AIACC project in advancing knowledge about climate change impacts, vulnerability and adaptation?
6) How effectively has the project added to the **science** capacity of the participating individuals, institutions and countries so as to enable climate change adaptation planning and action?
7) How effectively has the project added to the climate change **policy** capacity of the participating individuals, institutions and countries so as to enable climate change adaptation planning and action?

The analysis of impact and outcomes achieved should include, *inter alia*, an assessment of the extent to which the project has (1) helped produce the best available information and knowledge on climate change adaptation ***and the extent to which it has been utilized in policy and management decisions at global, regional, national and local levels***; and (2) strengthened capacity to undertake integrated ecosystem assessments and to implement action based on the assessments. The "achievement" indicators and verifiers provided in the log frame of the project document should be used together with the evaluation parameters specified below.

The evaluation shall make recommendations that may contribute to the assessment and development of GEF's portfolio of projects. Furthermore, the evaluation should highlight lessons learned - both the positive as well as the negative, geared towards enhancing planning and implementation of future GEF and UNEP programmes and projects.

The evaluation should also include a breakdown of final actual costs and co-financing for the project prepared in consultation with the relevant UNON/DGEF Fund Management Officer of

the project (table attached in Annex 1 Co-financing and leveraged resources). The evaluation shall comment on financial management and co-financing arrangements.

2. Methods

This terminal evaluation will be conducted as an in-depth evaluation using a participatory approach whereby the UNEP/GEF Task Manager, and other relevant staff are kept informed and regularly consulted throughout the evaluation. The evaluators will liaise with the UNEP/EOU and the UNEP/DGEF Task Manager on any logistical and/or methodological issues to properly conduct the review in as independent a way as possible given the circumstances and resources offered.

The Lead Evaluator will be responsible for the design of the evaluation framework. It is suggested that the evaluation team consider grouping the subject matter of the TOR into three broad points of view (POVs) for purposes of data collection and analysis. This approach was adopted in GEF's OPS3 [3] and allowed for a more focused and thematic approach to assessment of performance. The POVs suggested for the evaluation of the AIACC are the:

- **Cross-cutting point of view**, which includes issues concerning, among other things, the AIACC's role as a catalytic initiative, capacity development and similar issues that can be observed across the AIACC's operations, sustainability, contributions to global benefits, replicability, incremental cost, country-drivenness etc.
- **Assessment-based point of view,** focussing on the quality and utility of the interlinked assessments undertaken at local, watershed, national, regional and global scales especially the Global, and Sub-global assessments.
- **Institutional point of view**, which includes the effectiveness of the AIACC structure, roles, and responsibilities and the core processes the AIACC used for conducting its work.

In assessing the AIACC project from these different perspectives, it is essential that the evaluators speak with as wide a range of people as possible including Board and Panel (Technical Advisory Boards/Committees, Steering Committee) members, secretariat, convention bodies, sub-global users, authors, review editors etc. Opportunities to achieve this effectively and efficiently will involve telephone and email contact. Opportunities to meet a wide range of people associated with AIACC also occur at convention meetings.

The findings of the evaluation will be based on the following:

1. A desk review of project documents including, but not limited to:

a) The project documents, outputs, monitoring reports (such as progress and financial reports to UNEP and GEF annual Project Implementation Review reports) and relevant correspondence.
b) Review of specific products including computer software, publications in international journals, peer-reviewed books, regional synthesis papers, reports from regional workshops as well as national case studies, highlighting case studies, technical information, research results, methodological guidelines, strategies and recommendations related to wider application of the generic tools and methodological approach developed by the project;

[3] http://www.gefweb.org/MonitoringandEvaluation/MEOngoingEvaluations/MEOOPS3/meoops3.html

c) Notes from the Steering committee and technical review panels
d) Other material produced by the project or partner organisations
e) The project web site www.aiaccproject.org
f) Feedback from stakeholders: decision makers, communities and partners engaged in adaptation activities, IPCC teams working on the working groups on impacts, other major research groups working in V&A e.g. CSIRO, TERI, ENDA, ISD etc

2. Interviews with project management (such as the coordinators of the Working Groups, the Director, Program Officer, Assistant and Communications Specialist as well as Administrative and Finance Personnel, and telephone interviews with members of Working Groups, Panels as well as the Steering Committee.
3. Interviews and Telephone interviews with other stakeholders in the different regions, which were involved with this project. As appropriate, these interviews could be combined with an email questionnaire;
4. The evaluation team shall approach representatives of key target audiences for the products developed by the project (e.g. country climate change coordinators, policy makers, university heads, representatives of World Bank, Convention Secretariats, Government and Non-Governmental organizations etc.). ***Examples and evidence of the use of project products by key target audiences shall be verified and reported wherever possible.***
5. Interviews with the UNEP/DGEF project task manager and Fund Management Officer, and other relevant staff in UNEP/DGEF as necessary.

Key Evaluation principles.
In attempting to evaluate any outcomes and impacts that the project may have achieved, evaluators should remember that the project's performance should be assessed by considering the difference between the answers to two simple questions ***"what happened?***" and ***"what would have happened anyway?"***. These questions imply that there should be consideration of the baseline conditions and trends in relation to the intended project outcomes and impacts. In addition, it implies that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project.

Sometimes, adequate information on baseline conditions and trends is lacking. In such cases this should be clearly highlighted by the evaluator, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.

3. Project Evaluation Parameters

A. Attainment of objectives and planned results:

The assessment of project results seeks to determine the extent to which the project objectives were achieved, or are expected to be achieved, and assess if the project has led to any other positive or negative consequences. While assessing a project's outcomes the evaluation will seek to determine the extent of achievement and shortcomings in reaching the project's objectives as stated in the project document and also indicate if there were any changes and whether those changes were approved. If the project did not establish a baseline (initial conditions), the evaluator should seek to estimate the baseline condition so that achievements and results can be properly established (or specify the simplifying assumptions used). Since most GEF projects can be expected to achieve the anticipated outcomes by project closing, assessment of

project outcomes should be a priority. Outcomes are the likely or achieved short-term and medium-term effects of an intervention's outputs. Examples of outcomes could include but are not restricted to stronger institutional capacities, higher public awareness (when leading to changes of behaviour), and transformed policy frameworks or markets. The evaluation should assess the extent to which the project's major relevant objectives were effectively and efficiently achieved or are expected to be achieved and their relevance.

Effectiveness: Evaluate how, and to what extent, the stated project objectives have been met, taking into account the "achievement indicators" specified in the project document and logical framework. In particular, the analysis of outcomes achieved should evaluate whether and to what extent the results of this project have been utilized in policy decisions at all levels and strengthened capacity to undertake integrated ecosystem assessments and to implement action based on the assessments.

- Did the AIACC project influence policy debates at the global level? To what extent did it inform the IPCC and other relevant players?
- To what extent did assessments and other analysis inform climate change teams in governments, e.g., were useful to countries in developing National Communications, etc.
- Evaluate the immediate impact of the project on policy development and decision-making at local, national, regional and global levels
  - Global: To what extent have AIACC findings and outputs been used by international institutions (including in particular the environmental conventions and the plans and strategies of the GEF) to:
    a) measure progress in achieving conservation and sustainable use objectives?
    b) help identify priorities for action? and,
    c) identify "best practices" for how to respond to degradation of ecosystem goods and services?
  - To what extent has the AIACC assisted the UNFCCC National Communications process, including planned strategies, and the SBSTA work program on adaptation.
  - Global: To what extent have AIACC findings and outputs been used by the media and private sector as "the" source of scientific consensus on controversial issues regarding climate change and its potential impacts on health, economics, and development?
  - To what extent have AIACC researchers written or reported findings in the local popular media.
- Evaluate the immediate impact of the project on scientific research and 'conventional wisdom'.
  - Global: To what extent have AIACC findings and outputs been used by the scientific community and by institutions supporting scientific research to focus research support on questions that simultaneously exhibit great scientific uncertainty and significant policy ramifications?

Relevance: In retrospect, were the project's outcomes consistent with the focal areas/operational program strategies and country priorities? The evaluation should also assess the whether outcomes specified in the project document and or logical framework are actually outcomes and not outputs or inputs.

Comment on the nature and significance of the contribution of the project outcomes to the wider portfolio of the GEF.

Efficiency: Cost-effectiveness assesses the achievement of the environmental and developmental objectives as well as the project's outputs in relation to the inputs, costs, and implementing time. Include an assessment of outcomes in relation to inputs, costs, and implementation times based on the following questions: Was the project cost–effective? How does the cost-time vs. outcomes compare to other similar projects? Was the project implementation delayed? Was the project compliant in the application of the incremental cost concept[4]? The evaluation will:

- Assess the cost-effectiveness the GEF funded activities of the project and whether these activities achieved the goals and objectives within planned and/or reasonable time and budget. How did the costs compare to the costs of similar projects in similar contexts?
- Assess the contribution of cash and in-kind co-financing to project implementation and to what extent the project leveraged additional resources.
- Determine the extent to which external scientific and technical information and knowledge have been incorporated and have influenced the execution of the project activities (i.e. consider whether the project effectively capitalised on pre-existing research investment).

B. Assessment of Sustainability of project outcomes:

Sustainability is understood as the probability of continued long-term project-derived outcomes and impacts after the GEF project funding ends. The evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits after the project ends. Some of these factors might be outcomes of the project, e.g. stronger institutional capacities or better informed decision-making. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes. The evaluation should ascertain to what extent follow-up work has been initiated and how project outcomes will be sustained and enhanced over time. In this case, sustainability will be linked to the continued use and influence of scientific models and scientific findings, produced by the project.

Four aspects of sustainability should be addressed: financial, socio-political, institutional frameworks and governance, and ecological (if applicable) The following questions provide guidance on the assessment of these aspects:

- *Financial resources.* To what extent are the outcomes of the project dependent on continued financial support? What is the likelihood that any required financial resources will be available to sustain the project outcomes/benefits once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and market trends that support the project's

[4] http://www.gefweb.org/council/council7/c7inf5.htm

objectives)? Was the project was successful in identifying and leveraging co-financing?

- *Socio-political:* To what extent are the outcomes of the project dependent on socio-political factors? What is the likelihood that the level of stakeholder ownership will allow for the project outcomes/benefits to be sustained? Is there sufficient public / stakeholder awareness in support of the long-term objectives of the project?
- *Institutional framework and governance.* To what extent are the outcomes of the project dependent on issues relating to institutional frameworks and governance? What is the likelihood that institutional and technical achievements, legal frameworks, policies and governance structures and processes will allow for, the project outcomes/benefits to be sustained? While responding to these questions consider if the required systems for accountability and transparency and the required technical know-how are in place.
- *Ecological.* Are there any environmental risks that can undermine the future flow of project environmental benefits? The TE should assess whether certain activities in the project area will pose a threat to the sustainability of the project outcomes. For example, construction of dam in a protected area could inundate a sizable area and thereby neutralizing the biodiversity related gains made by the project.

As far as possible, also assess the **potential longer-term impacts**, considering that the evaluation is taking place upon completion of the project and that longer term impact is expected to be seen in a few years time. Which will be the major 'channels' or 'pathways' for longer term impact? The evaluation should formulate recommendations that outline possible approaches and necessary actions to facilitate an impact assessment study for the AIACC in a few years time.

C. Catalytic role

The terminal evaluation will also describe any catalytic or replication effect of the project. What examples are there of replication and catalytic outcomes that suggest increased likelihood of sustainability? Replication approach, in the context of GEF projects, is defined as lessons and experiences coming out of the project that are replicated or scaled up in the design and implementation of other projects. Replication can have two aspects, replication proper (lessons and experiences are replicated in different geographic area) or scaling up (lessons and experiences are replicated within the same geographic area but funded by other sources). If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out.

D. Achievement of outputs and activities:

The Project document specifies that several key outputs will be produced including:

- Appropriate range of climate change scenarios focussing on Africa and SIDS.
- Sectoral / regional impact assessments and effectiveness of adaptation strategies in reducing vulnerability with focus on Africa

- Training and technology transfer: Includes new results for the IPCC Fourth Assessment Reports, assessment tools, socio-economic scenarios, models, National Communications training etc.

With respect to these outputs, and others, the evaluation should:

- Assess the project's success in producing each of the programmed outputs, both in quantity and quality as well as usefulness and timeliness.
- Assess the soundness and effectiveness of the methodologies used for undertaking the assessments as well as their relevance for informing decision-makers and catalyzing action based on the findings of the assessments.
- Assess whether the AIACC approach / methods have been used or are likely to be used in the new adaptation projects in the GEF pipeline. These are for various sectors and regions! (evaluative comments should be linked to the 'catalytic role' above).
- Assess to what extent project outputs produced have the weight of scientific authority necessary to influence policy makers, particularly the UNFCCC[5], other MEAs, the GEF, its Implementing Agencies and other relevant stakeholders.

E. Assessment of Monitoring and Evaluation Systems:

- **M&E design.** Did the project have a sound M&E plan to monitor results and track progress towards achieving project objectives? The Terminal Evaluation will assess whether the project met the minimum requirements for project design of M&E and the application of the Project M&E plan (Minimum requirements are specified in Annex 4). The evaluation shall include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The M&E plan should include a baseline (including data, methodology, etc.), SMART (see Annex 4) indicators and data analysis systems, and evaluation studies at specific times to assess results. The time frame for various M&E activities and standards for outputs should have been specified.
- **Implementation of M&E plan .** Was an M&E system in place and did it facilitate tracking of results and progress towards projects objectives throughout the project implementation period. Were Annual project reports complete, accurate and with well justified ratings? Was the information provided by the M&E system used during the project to improve project performance and to adapt to changing needs? Did the Projects have an M&E system in place with proper training for parties responsible for M&E activities to ensure data will continue to be collected and used after project closure?
- **Budgeting and Funding for M&E activities.** Were adequate budget provisions made for M&E made and were such resources made available in a timely fashion during implementation?
- **Long-term Monitoring.** Is long-term monitoring envisaged as an outcome of the project? If so, comment specifically on the relevance of

[5] e.g. use of AIACC findings in the IPCC process and reports

such monitoring systems to sustaining project outcomes and how the monitoring effort will be sustained.

F. Assessment of processes that affected attainment of project results.

The evaluation will consider, but need not be limited to, consideration of the following issues that may have affected project implementation and attainment of project results:

i. **Preparation and readiness.** Were the project's objectives and components clear, practicable and feasible within its timeframe? Were capacities of the executing institutions and counterparts properly considered when the project was designed? Were lessons from other relevant projects properly incorporated in design? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to implementation? Was availability of counterpart resources (funding, staff, and facilities), passage of enabling legislation, and adequate project management arrangements in place at project entry?

- Ascertain to what extent the project implementation mechanisms outlined in the project document have been closely followed. In particular, assess the role of the various committees established and whether the project document was clear and realistic to enable effective and efficient implementation, whether the project was executed according to the plan and how well the management was able to adapt to changes during the life of the project to enable the implementation of the project.
- Evaluate the effectiveness and efficiency and adaptability of project management and the supervision of project activities / project execution arrangements at all levels (1) policy decisions: Steering Group; (2) day to day project management: LOICZ-IPO; (3) GEF guidance: UNEP DGEF

ii. **Country ownership/Drivenness.** This is the relevance of the project to national development and environmental agendas, recipient country commitment, and regional and international agreements. Examples of possible evaluative questions include: Was the project design in-line with the national sectoral and development priorities and plans? Are project outcomes contributing to national development priorities and plans? Were the relevant country representatives, from Government and civil society, involved in the project? Did the recipient Government maintain its financial commitment to the project? Have the Government approved policies or regulatory frameworks been in-line with the project's objectives? Specifically the evaluation will:

- Assess the level of country ownership. Specifically, the evaluation should assess whether the project was relevant for national development and environmental agendas and to supporting effective implementation of ecosystem-related conventions and resource management.

iii. **Stakeholder involvement.** Did the project involve the relevant stakeholders through information sharing, consultation and by seeking their participation in project's design, implementation, and monitoring and evaluation? Did the project consult and make use of the skills, experience and knowledge of the appropriate academic institutions, Government entities, NGOs, community groups, private sector, local governments and

in the design, implementation and evaluation of project activities? Were perspectives of those that would be affected by decisions, those that could affect the outcomes and those that could contribute information or other resources to the process taken into account while taking decisions? Specifically, was the level of participation in relation to the National Communications (NCs) adequate? What was the extent of involvement of the national climate teams/V&A teams with AIACC projects? Were the relevant vulnerable groups and the powerful, the supporters and the opponents, of the processes properly involved? Did the project implement appropriate outreach and public awareness campaigns e.g., were there any specific activities designed to inform policy makers of the AIACC results at national/sub regional levels? The evaluation will:

- Assess the mechanisms put in place by the project for identification and engagement of stakeholders in each participating country and establish, in consultation with the stakeholders, whether this mechanism was successful, and identify its strengths and weaknesses.
- Assess the degree and effectiveness of collaboration/interactions between the various project partners and institutions during the course of implementation of the project.
- Assess the degree and effectiveness of any various public awareness activities that were undertaken during the course of implementation of the project.

iv. **Financial planning.** Did the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds. Specifically, the evaluation should:

- Assess the strength and utility of financial controls, including reporting, and planning to allow the project management to make informed decisions regarding the budget and allow for a proper and timely flow of funds for the payment of satisfactory project deliverables throughout the project's lifetime.
- Present the major findings from the financial audit if one has been conducted.
- Did promised co-financing materialize? Identify and verify the sources of co- financing as well as leveraged and associated financing (in co-operation with the IA and EA).
- Assess whether the project has applied appropriate standards of due diligence in the management of funds and financial audits.
- The evaluation should also include a breakdown of final actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co- financing. This information will be prepared by the relevant DGEF Fund Management Officer of the project for scrutiny by the evaluator (table attached in Annex 1 Co-financing and leveraged resources).

v. **UNEP Supervision and backstopping.** Did UNEP Agency staff identify problems in a timely fashion and accurately estimate its seriousness? Did UNEP staff provide quality support and advice to the project, approved modifications in time and restructure the project when needed? Did UNEP and Executing Agencies provide the right staffing levels, continuity, skill mix, frequency of field visits?

vi. **Co-financing and Project Outcomes & Sustainability.** If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for this? Did the extent of materialization of co-financing affect the project's outcomes and/or sustainability, and if it did affect outcomes and sustainability then in what ways and through what causal linkages?

vii. **Delays and Project Outcomes & Sustainability.** If there were delays in project implementation and completion, the evaluation will summarise the reasons for them. Did delays affect the project's outcomes and/or sustainability, and if so in what ways and through what causal linkages?

Ratings will be presented in the form of a table with each of the categories rated separately and with **brief justifications for the rating** based on the findings of the main analysis. An overall rating for the project should also be given. The parameters to be rated and the system to be applied are specified in Annex 1:

4. Evaluation report format and review procedures

The report should be brief, to the point and easy to understand. It must explain; the purpose of the evaluation, exactly what was evaluated and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner. The evaluation report shall be written in English, be of no more than 50 pages (excluding annexes), use numbered paragraphs and include:

i) An **executive summary** (no more than 3 pages) providing a brief overview of the main conclusions and recommendations of the evaluation;

ii) **Introduction and background** giving a brief overview of the evaluated project, for example, the objective and status of activities;

iii) **Scope, objective and methods** presenting the evaluation's purpose, the evaluation criteria used and questions to be addressed;

iv) **Project Performance and Impact** providing factual evidence relevant to the questions asked by the evaluator and interpretations of such evidence. This is the main substantive section of the report and should provide a commentary on all evaluation aspects (A − F above).

v) **Conclusions and rating** of project implementation success giving the evaluator's concluding assessments and ratings of the project against given evaluation criteria and standards of performance. The conclusions should provide answers to questions about whether the project is considered good or bad, and whether the results are considered positive or negative;

vi) **Lessons learned** presenting general conclusions, based on established good practices that have the potential for wider application and use. Lessons may also be derived from problems and mistakes. The context in which lessons may be applied should be clearly specified, and lessons should always state or imply some prescriptive action. A lesson should be written such that experiences derived from the project could be applied in other projects or at portfolio level;

vii) **Recommendations** suggesting *actionable* proposals regarding improvements of the current project. They may cover, for example, resource allocation, financing, planning, implementation, and monitoring and evaluation. Recommendations should always be specific in terms of who would do what, provide a timeframe, and a measurable performance target. In general, Terminal Evaluations are likely to have very few (only two or three) actionable recommendations;

viii) **Annexes** include Terms of Reference, list of interviewees, documents reviewed, brief summary of the expertise of the evaluator / evaluation team, a summary of co-finance information etc.. Dissident views or management responses to the evaluation findings may later be appended in an annex.

Examples of UNEP GEF Terminal Evaluation Reports are available at www.unep.org/eou

Review of the Draft Evaluation Report

Draft reports submitted to UNEP EOU are shared with the corresponding Programme or Project Officer and his or her supervisor for initial review and consultation. The DGEF staff and senior Executing Agency staff are allowed to comment on the draft evaluation report. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks agreement on the findings and recommendations. UNEP EOU collates the review comments and provides them to the evaluators for their consideration in preparing the final version of the report.

All UNEP GEF Evaluation Reports are subject to quality assessments by UNEP EOU. These incorporate GEF Office of Evaluation quality assessment criteria and are used as a tool for providing structured feedback to the evaluator (see Annex 3).

5. Submission of Final Terminal Evaluation Reports.

The final report shall be submitted in electronic form in MS Word format and should be sent to the following persons:

Segbedzi Norgbey, Chief, Evaluation and Oversight Unit
UNEP, P.O. Box 30552-00100
Nairobi, Kenya
Tel.: (254-20) 7624181
Fax: (254-20) 7623158
Email: segbedzi.norgbey@unep.org

With a copy to:

Officer-in-Charge
UNEP/Division of GEF Coordination
P.O. Box 30552-00100
Nairobi, Kenya
Tel: + 254-20-7624686
Fax: + 254-20-7624041/4042
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Liza Leclerc
Task Manager
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Catherine Vallee
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The final evaluation report will be printed in hard copy and published on the Evaluation and Oversight Unit's web-site www.unep.org/eou. Subsequently, the report will be sent to the GEF Office of Evaluation for their review, appraisal and inclusion on the GEF website. In addition the final Evaluation report will disseminated to: The relevant GEF Focal points, relevant Government representatives, UNEP DGEF Professional Staff, The project's Executing Agency and Technical Staff. The full list of intended recipients is attached in Annex 5.

6. Resources and schedule of the evaluation

This final evaluation will be undertaken by an evaluation team of a lead evaluator and two supporting evaluators. The principal evaluator is responsible for coordinating the work of the evaluation team, leading the review of the global outputs and preparing the final evaluation report covering the Terms of Reference. The supporting evaluators are each responsible for preparing in-depth evaluations of the regional and sectoral assessments.

The contract for the lead evaluator will begin on ?????March 2007 and end on ???? 2007 56 working days spread over 14 weeks. The contract for the supporting evaluators will begin on ????April 2007 and end on ???? 2007 and include 35 days spread over 11 weeks.

The lead evaluator will submit a draft report to EOU on ???? 2007, with a copy to the UNEP/GEF Task Manager and the Project Director for initial comments. Comments to the final draft report will be sent to the consultant by ?????(two weeks later) 2007 the latest after which the consultant will submit the final report no later than ??? (two weeks after receipt of comments) 2007.

In accordance with UNEP/GEF policy, all GEF projects are evaluated by independent evaluators contracted as consultants by the EOU. The evaluators should have the following qualifications and undertake the duties and travel described:

Lead evaluator:
The principal evaluator should not have been associated with the design and implementation of the project. The evaluator will work under the overall supervision of the Chief, Evaluation and Oversight Unit, UNEP. The evaluator should be an eminent international expert and have the following minimum qualifications: (i) in depth knowledge of climate change impacts and development issues, UNFCCC and IPCC processes and National Communications (ii)

experience on ecosystems and their management; (iii) experience with management and implementation of global projects and in particular with targeted assessment projects that generate policies/strategies, knowledge and information; (iv) experience with project evaluation. Knowledge of UNEP programmes, GEF activities modeling and scenario-generation is desirable. The lead evaluator will be responsible for the overall preparation, quality and delivery of the evaluation report.

First and second supporting evaluators (regional and sectoral assessments):
The supporting evaluators will, under the supervision of the Lead Evaluator, assist in conducting evaluations of the regional and sectoral assessments. They should not have been associated with the design and implementation of the project. The evaluators should have the following minimum qualifications: i) in depth knowledge of climate change impacts and development issues, UNFCCC and IPCC processes and National Communications (ii) experience on ecosystems and their management; (iii) experience with management and implementation of global projects and in particular with targeted assessment projects that generate policies/strategies, knowledge and information; (iv) experience with project evaluation. Knowledge of UNEP programmes, GEF activities modeling and scenario-generation is desirable. The supporting evaluators will work under the supervision of the lead evaluator, with the division of labour agreed among the team.

7. Schedule Of Payment

The consultants shall select one of the following contract options.

Lump-Sum Option

The evaluator will receive an initial payment of 30% of the total amount due upon signature of the contract. A further 30% will be paid upon submission of the draft report. A final payment of 40% will be made upon satisfactory completion of work. The fee is payable under the individual Special Service Agreement (SSA) of the evaluator and is **inclusive** of all expenses such as travel, accommodation and incidental expenses.

Fee-only Option

The evaluator will receive an initial payment of 40% of the total amount due upon signature of the contract. Final payment of 60% will be made upon satisfactory completion of work. The fee is payable under the individual SSA of the evaluator and is NOT inclusive of all expenses such as travel, accommodation and incidental expenses. Ticket and DSA will be paid separately by UNEP.

The consultant's choice of payment option will be specified in the signed contract with UNEP.

In case, the evaluator cannot provide the products in accordance with the TORs, the timeframe agreed, or his products are substandard, the payment to the evaluator could be withheld, until such a time the products are modified to meet UNEP's standard. In case the evaluator fails to submit a satisfactory final product to UNEP, the product prepared by the evaluator may not constitute the evaluation report.

Annex 1. OVERALL RATINGS TABLE

Criterion	Evaluator's Summary Comments	Evaluator's Rating
Attainment of project objectives and results (overall rating) **Sub criteria (below)**		
Effectiveness		
Relevance		
Efficiency		
Sustainability of Project outcomes (overall rating) **Sub criteria (below)**		
Financial		
Socio Political		
Institutional framework and governance		
Ecological		
Achievement of outputs and activities		
Monitoring and Evaluation (overall rating) **Sub criteria (below)**		
M&E Design		
M&E Plan Implementation (use for adaptive management)		
Budgeting and Funding for M&E activities		
Catalytic Role		
Preparation and readiness		
Country ownership / driveness		
Stakeholders involvement		
Financial planning		
UNEP Supervision and backstopping		
Overall Rating		

RATING OF PROJECT OBJECTIVES AND RESULTS

Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Moderately Satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Moderately Unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Highly Unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Please note: Relevance and effectiveness will be considered as critical criteria. The overall rating of the project for achievement of objectives and results **may not be higher** than the

lowest rating on either of these two criteria. Thus, to have an overall satisfactory rating for outcomes a project must have at least satisfactory ratings on both relevance and effectiveness.

RATINGS ON SUSTAINABILITY

A. Sustainability will be understood as the probability of continued long-term outcomes and impacts after the GEF project funding ends. The Terminal evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits after the project ends. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives /or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes..

Rating system for sustainability sub-criteria

On each of the dimensions of sustainability of the project outcomes will be rated as follows.

Likely (L): There are no risks affecting this dimension of sustainability.

Moderately Likely (ML). There are moderate risks that affect this dimension of sustainability.

Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability

Unlikely (U): There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an Unlikely rating in either of the dimensions then its overall rating cannot be higher than Unlikely, regardless of whether higher ratings in other dimensions of sustainability produce a higher average.

RATINGS OF PROJECT M&E

Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing project with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Evaluation is the systematic and objective assessment of an on-going or completed project, its design, implementation and results. Project evaluation may involve the definition of appropriate standards, the examination of performance against those standards, and an assessment of actual and expected results.

The Project monitoring and evaluation system will be rated on ‘M&E Design’, ‘M&E Plan Implementation’ and ‘Budgeting and Funding for M&E activities’ as follows:

Highly Satisfactory (HS): There were no shortcomings in the project M&E system.

Satisfactory(S): There were minor shortcomings in the project M&E system.

Moderately Satisfactory (MS): There were moderate shortcomings in the project M&E system.

Moderately Unsatisfactory (MU): There were significant shortcomings in the project M&E system.

Unsatisfactory (U): There were major shortcomings in the project M&E system.

Highly Unsatisfactory (HU): The Project had no M&E system.

"M&E plan implementation" will be considered a critical parameter for the overall assessment of the M&E system. The overall rating for the M&E systems will not be higher than the rating on "M&E plan implementation."

All other ratings will be on the GEF six point scale.

GEF Performance Description		Alternative description on the same scale
HS	= Highly Satisfactory	Excellent
S	= Satisfactory	Well above average
MS	= Moderately Satisfactory	Average
MU	= Moderately Unsatisfactory	Below Average
U	= Unsatisfactory	Poor
HU	= Highly Unsatisfactory	Very poor (Appalling)

Annex 2. Co-financing and Leveraged Resources

Co-financing (basic data to be supplied to the consultant for verification)

Co financing (Type/Source)	IA own Financing (mill US$)		Government (mill US$)		Other* (mill US$)		Total (mill US$)		Total Disbursement (mill US$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
– Grants										
– Loans/Concessional (compared to market rate)										
– Credits										
– Equity investments										
– In-kind support										
– Other (*) - - - - -										
Totals										

* Other is referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

Leveraged Resources

Leveraged resources are additional resources—beyond those committed to the project itself at the time of approval—that are mobilized later as a direct result of the project. Leveraged resources can be financial or in-kind and they may be from other donors, NGO's, foundations, governments, communities or the private sector. Please briefly describe the resources the project has leveraged since inception and indicate how these resources are contributing to the project's ultimate objective.

Table showing final actual project expenditure by activity to be supplied by the UNEP Fund management Officer. (insert here)

Annex 3

Review of the Draft Report

Draft reports submitted to UNEP EOU are shared with the corresponding Programme or Project Officer and his or her supervisor for initial review and consultation. The DGEF staff and senior Executing Agency staff provide comments on the draft evaluation report. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks agreement on the findings and recommendations. UNEP EOU collates the review comments and provides them to the evaluators for their consideration in preparing the final version of the report. General comments on the draft report with respect to compliance with these TOR are shared with the reviewer.

Quality Assessment of the Evaluation Report

All UNEP GEF Mid Term Reports are subject to quality assessments by UNEP EOU. These apply GEF Office of Evaluation quality assessment and are used as a tool for providing structured feedback to the evaluator.

The quality of the draft evaluation report is assessed and rated against the following criteria:

GEF Report Quality Criteria	**UNEP EOU Assessment**	**Rating**
A. Did the report present an assessment of relevant outcomes and achievement of project objectives in the context of the focal area program indicators if applicable?		
B. Was the report consistent and the evidence complete and convincing and were the ratings substantiated when used?		
C. Did the report present a sound assessment of sustainability of outcomes?		
D. Were the lessons and recommendations supported by the evidence presented?		
E. Did the report include the actual project costs (total and per activity) and actual co-financing used?		
F. Did the report include an assessment of the quality of the project M&E system and its use for project management?		
UNEP EOU additional Report Quality Criteria	**UNEP EOU Assessment**	**Rating**
G. Quality of the lessons: Were lessons readily applicable in other contexts? Did they suggest prescriptive action?		
H. Quality of the recommendations: Did recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?)'. Can they be implemented? Did the recommendations specify a goal and an associated performance indicator?		
I. Was the report well written? (clear English language and grammar)		
J. Did the report structure follow EOU guidelines, were all requested Annexes included?		

K. Were all evaluation aspects specified in the TORs adequately addressed?		
L. Was the report delivered in a timely manner		

GEF Quality of the MTE report = 0.3*(A + B) + 0.1*(C+D+E+F)
EOU assessment of MTE report = 0.3*(G + H) + 0.1*(I+J+K+L)
Combined quality Rating = (2* 'GEF EO' rating + EOU rating)/3
The Totals are rounded and converted to the scale of HS to HU

Rating system for quality of terminal evaluation reports

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1, and unable to assess = 0.

Annex 4 GEF Minimum requirements for M&E

Minimum Requirement 1: Project Design of M&E[6]

All projects must include a concrete and fully budgeted monitoring and evaluation plan by the time of Work Program entry (full-sized projects) or CEO approval (medium-sized projects). This plan must contain at a minimum:

- SMART (see below) indicators for project implementation, or, if no indicators are identified, an alternative plan for monitoring that will deliver reliable and valid information to management
- SMART indicators for results (outcomes and, if applicable, impacts), and, where appropriate, corporate-level indicators
- A project baseline, with:
  - a description of the problem to address
  - indicator data
  - or, if major baseline indicators are not identified, an alternative plan for addressing this within one year of implementation
- An M&E Plan with identification of reviews and evaluations which will be undertaken, such as mid-term reviews or evaluations of activities
- An organizational setup and budgets for monitoring and evaluation.

[6] http://gefweb.org/MonitoringandEvaluation/MEPoliciesProcedures/MEPTools/meptstandards.html

Minimum Requirement 2: Application of Project M&E

- Project monitoring and supervision will include implementation of the M&E plan, comprising:
- Use of SMART indicators for implementation (or provision of a reasonable explanation if not used)
- Use of SMART indicators for results (or provision of a reasonable explanation if not used)
- Fully established baseline for the project and data compiled to review progress
- Evaluations are undertaken as planned
- Operational organizational setup for M&E and budgets spent as planned.

SMART INDICATORS GEF projects and programs should monitor using relevant performance indicators. The monitoring system should be "SMART":

1. **Specific**: The system captures the essence of the desired result by clearly and directly relating to achieving an objective, and only that objective.
2. **Measurable:** The monitoring system and its indicators are unambiguously specified so that all parties agree on what the system covers and there are practical ways to measure the indicators and results.
3. **Achievable and Attributable:** The system identifies what changes are anticipated as a result of the intervention and whether the result(s) are realistic. Attribution requires that changes in the targeted developmental issue can be linked to the intervention.
4. **Relevant and Realistic:** The system establishes levels of performance that are likely to be achieved in a practical manner, and that reflect the expectations of stakeholders.
5. **Time-bound, Timely, Trackable, and Targeted:** The system allows progress to be tracked in a cost-effective manner at desired frequency for a set period, with clear identification of the

particular stakeholder group to be impacted by the project or program.

Annex 5 List of intended additional recipients for the Terminal Evaluation

Name	Affiliation	Email	
maillist	UNEP DGEF Professional staff		
Aaron Zazuetta	GEF Evaluation Office	azazueta@thegef.org	
Government Officials			
GEF Focal Point(s)			
Executing Agency			

Annex 2

Names, Expertise and Responsibilities of the Evaluation Team

Professor John E. Hay As an IPCC (WG2) lead author, a UNFCCC COP delegate, and consultant and advisor to many non-Annex 1 countries (working principally through GEF, World Bank, UNDP, UNEP and ADB), John has an in depth knowledge of and experience in climate change impacts, adaptation and development issues, UNFCCC and IPCC processes and preparation of National Communications. As a Professor of Environmental science, John has considerable knowledge of ecosystems and experience in their management, especially in relation to climate change. Principally through his work in Asia and the Pacific, at regional, sub-regional and national levels, John has experience with the design and implementation of targeted assessment projects that generate policy relevant information and outcomes. He has been a project and programme evaluator for GEF and the World Bank, among others. His experience also includes acting as a senior advisor to UNEP/ROAP and UNEP/IETC. Through his work for GEF, ADB, World Bank, UNEP, UNDP and other parties, he has a knowledge of UNEP programmes, GEF activities, and expertise in modelling and scenario-generation.

Dr Mary Jo Larson Mary Jo is a capacity building specialist with extensive global and regional experience in programming, training, management, monitoring and evaluation. Relevant qualifications and experience include: (i) a doctorate in conflict analysis and resolution, focused on international climate change negotiations and the contributions of UNFCC, IPCC and AOSIS; (ii) Principal Facilitator, Climate Change and Vulnerability Conference held at the Peace Palace of The Hague in February, 2007; (iii) proven ability to manage, and implement regional and global programs, including Gates Foundation global women's leadership program and Programming and Training for Asia Pacific Region of the Peace Corps; (iv) author of manuals, reports and articles on climate change, vulnerability, adaptation, multilateral negotiations, capacity building, gender, experiential learning, cooperative leadership, and corporate governance; (v) Senior Fellow with the University for Peace, established by the UN; (vi) proven experience working with diverse communities; (vii) ability to facilitate team building, consensus building, and innovative solutions; (viii) strong public speaking, analytic, writing, and interpersonal communication skills; and (ix) field experience developing conservation and education projects in Africa, Asia, Central and Eastern Europe, Latin America, the Pacific Islands and the Middle East, including Afghanistan.

Dr Rosa Perez As a consultant to UNDP-GEF, Rosa has evaluated GEF Projects on Climate Change in China, while as a member of the Environmental Impact Assessment Review Committee, Philippines Department of Environment and Natural Resources, Rosa has assessed more than 20 environmentally critical projects, five programmatic EIA projects and three environmental performance reports and management plans. She is currently Assistant Team Manager of the UNDP/AUSAID Project READY which focuses on hazards identification and assessment for effective community based disaster risk management. Rosa is also Professorial Lecturer in the Department of Geography, College of Social Sciences and Philosophy, University of the Philippines and was a UNDP-GEF consultant for preparation of the Philippine adaptation proposal under the SCCF. Other relevant experiences comes as a result of the following: (i) Lead Author of Chapter 20 [Perspectives on Climate Change and Sustainability] of Working Group II (Vulnerability and Adaptation), Intergovernmental Panel on Climate Change (IPCC) for the Fourth Assessment Report (AR4); (ii) EMI Consultant for the Flood Risk Assessment Module, Training Course on Risk-Sensitive Land Use Planning: Integrating Disaster Risk Reduction for Sustainable Disaster-Resilient Cities; (iii) UNDP-GEF consultant for the Proposal Preparation for the Philippines' Second National Communication to UNFCCC and for the Self Assessment and Stocktaking component for the National Communication; (iv) Climate Change Specialist for Asian Development Bank's Climate Adaptation Program for the Pacific through Risk Reduction; (v) Philippines' Focal Point/Representative on the WMO Commission on Hydrology, WMO; (vi) Internal Reviewer for the International Water Management Institution's Comprehensive Assessment on Water Management; (vii) as Member of the Philippines' National Water Resources Board Consultative Group on Integrated Water Resources Management; (viii) UNDP/GEF consultant for proposal preparation for the National Action Plans for Adaptation for both Cambodia and Lao PDR; and (ix) Lead Author,

Technical Publication 9 on "Continuing Adaptation", part of the UNDP-GEF Adaptation Policy Framework.

Evaluator	Responsibilities
Lead Evaluator Prof. John Hay	Work under the overall supervision of the Chief, Evaluation and Oversight Unit, UNEP. Responsible for: (i) designing the evaluation framework and deciding on information providers to be consulted, information sources to be accessed and on methods to be used; (ii) overall preparation, quality and delivery of the draft and final evaluation reports, consistent with the Terms of Reference; (iii) allocating, monitoring and coordinating the work of the evaluation team; (iv) evaluating overall project structure and processes; and (v) reviewing and evaluating the global outputs and outcomes, including interviewing project-level key players (e.g. GEF, implementing and executing agencies, implementing, technical and steering committees) and end users (e.g. convention bodies, IPCC, multi-lateral development assistance partners) and evaluating project-level outputs and outcomes. The Lead Evaluator will also ensure that the UNEP/GEF Task Manager, and other relevant staff, are kept informed and regularly consulted throughout the evaluation. He will liaise with the UNEP/EOU and the UNEP/DGEF Task Manager on any logistical and/or methodological issues related to conducting the review in as independent a way as possible, given the circumstances and available resources.
Co-evaluator Dr Mary Jo Larson	Work under the overall supervision of the Lead Evaluator and in close collaboration with the other co-evaluator. Responsible for: (i) commenting on, and improving, the evaluation framework and the selection of information providers, information sources and methods to be used; (ii) in-depth desk top and on-site reviews and evaluations of regional and sectoral assessments undertaken by sub-projects implemented in Latin America and the Caribbean; and (iii) preparing and revising relevant portions of the draft and final reports.
Co-evaluator Dr Rosa Perez	Work under the overall supervision of the Lead Evaluator and in close collaboration with the other co-evaluator. Responsible for: (i) commenting on, and improving, the evaluation framework and the selection of information providers, information sources and methods to be used; (ii) in-depth desk top and on-site reviews and evaluations of regional and sectoral assessments undertaken by sub-projects implemented in SE Asia and the Pacific; and (iii) preparing and revising relevant portions of the draft and final reports.