

**United Nations Environment Programme/Global Environment Facility  
Subproject GF/ 2200-97-56**

**Enabling activities for the preparation of initial national communications  
related to the United Nations Framework Convention on Climate Change  
in the Comoros**

**Evaluation report**

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## Abbreviations and acronyms

AIACC	assessments of impacts and adaptations to climate change in multiple regions and sectors (programme)
AIDE	Environment Action Association
CNRS	Centre national de recherche scientifique (National Scientific Research Centre)
EOU	Evaluation and Oversight Unit (UNEP)
FADC	Fonds d'appui au développement communautaire (Community Support Development Fund)
GAD	Development Action Group (GAD)
GEF	Global Environment Facility
INRAPE	Institut national de la recherche pour l'agriculture, la pêche et l'environnement (National Agricultural, Fisheries and Environmental Institute)
IPCC	Intergovernmental Panel on Climate Change
IUCN	World Conservation Union
ODA	official development assistance
RNFD	Réseau national Femmes et Développement (National Women and Development Network)
ROA	UNEP Regional Office for Africa
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNITAR	United Nations Institute for Training and Research

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## **Executive summary**

The evaluation of the UNEP/GEF sub-project GF/ 2200-97-56, on enabling activities for the preparation of initial national communications related to the United Nations Framework Convention on Climate Change in the Comoros, was undertaken during the period 17 March 2003–28 April 2003.

The project was implemented within the United Nations Environment Programme (UNEP) by the Climate Change Enabling Activities Task Manager in the UNEP Division of Policy Development and Law and carried out in the Comoros by the Ministry of Development, Infrastructure, Posts and Telecommunications and International Transport. The project was to last for two years, starting from January 1999 but actually continued for four years.

The main objective of the Framework Convention on Climate Change is to stabilize concentrations of greenhouse gases in the atmosphere at a level that would prevent dangerous anthropogenic interference with the global climate system. UNEP, as one of the implementing agencies of the Global Environment Facility (GEF), is committed, among other things, to facilitating the process of preparation, compilation and consideration of communications and ensuring that the Conference of the Parties has sufficient information to enable it to carry out its responsibilities to assess the overall effects of the steps taken by the Parties as well as the level of implementation of the Convention.

The main objective of the evaluation was to assess the project outputs and results in terms of relevance, appropriateness, effectiveness, efficiency, impact and sustainability and to determine the extent to which the project had been successful in achieving its objectives. The evaluation team, consisting of the consultant and an evaluation officer of the UNEP Evaluation and Oversight Unit, travelled to the Comoros to meet and have discussions with several contributors to the project and to the final document.

The project made available to the Department of the Environment, (the national implementing agency), the amount of \$310,000 over a period of two years to enable the Comoros to fulfil its reporting requirements under the Convention.

The project activities included, first, development of the national greenhouse gas inventory and, second, assessment of the vulnerability of certain sectors. These activities helped the Comoros to begin to identify and evaluate mitigation and adaptation measures that could form the basis for future strategies and action plans. The activities generated information on the various sectors examined and, most important, helped to identify major data issues.

The project facilitated, for the national experts and consultants that had been recruited, the provision of technical training on the use of analytical tools and methodologies developed and described in the Intergovernmental Panel on Climate Change (IPCC)/UNEP handbooks on methods and climate change impact assessment and adaptation strategies. This was consistent with the mandate of UNEP. The scientific and technical expertise gained by these nationals will help them to give appropriate advice to the policy makers. The project in the Comoros was relevant and consistent with the programme and the mandate of UNEP and, to a large extent, contributed to the objectives of the Convention and of GEF.

The Project Coordinator, who was the Director General of the Environment, recruited 17 national consultants from various government departments to form the national study teams. Four international consultants were also involved in the implementation of the project. Six consultants investigated greenhouse gas emissions from processes and sources in five sectors, namely: agriculture; energy; forestry; land-use changes; wastes and industries, on the basis of the revised version of the IPCC methodologies of 1996.

Major data gaps were identified in all the sectors investigated. It was suggested that research should be carried out to find ways of improving future inventories. Reduction options were identified and assessed for each of the sectors studied and recommendations were made for the reduction of emissions and for the enhanced performance of the existing sinks. National mitigation strategies were proposed.

Within the energy sector, it was suggested that the existing power stations be improved, while reforestation of various parts of the country, especially on the islands of Moheli and Anjouan, was also suggested. The study teams assessed the potential impacts of climate change on four sectors, using scenarios to predict the future climate in the Comoros. The studies revealed that the coastal area and the availability of drinking water were the two sectors which would undergo the most dramatic impacts.

For each of the sectors investigated, a range of potential adaptation options (stage I) were identified and assessed. Certain programme or project concepts were also proposed. Biological diversity conservation and restoration activities figured prominently in the response strategy for adaptation to climate change in the forestry sector.

In the energy sector, the use of renewable energy sources, such as wind, solar and geothermal energy, was proposed, in addition to the use of energy-saving stoves. The use of gas for the distillation of ylang-ylang products was also suggested.

The recommendations that emerged from the national validation workshop were incorporated into the final version of the national communication, which was compiled by an international consultant. The project management team, not being fully operational, was unable to fulfil its proper role. The project coordinator was also Director General of the Environment and, as such, had a very busy schedule; this too had a negative effect on the smooth running of the project.

The training courses and workshops organized during the project development phase helped the consultants and the other professionals participating in the activities of the project to upgrade their scientific and technical knowledge of topics related to climate change. The results helped identify the major sources and sinks of greenhouse gas emissions in the Comoros and pointed to the conclusion that the Comoros islands were a net sink country, given the generally low level of emissions. The overall quality and the usefulness of these technical outputs at this initial phase were good.

UNEP played an important role in giving technical support and advice. The Task Manager in the UNEP Division of Policy Development and Law provided advice and responded to queries and requests for technical support. The Project Coordinator was fully responsible for the project. The assistance provided by the four international consultants helped with the implementation process.

There was a clear lack of participation on the part of many government institutions. Representatives of the various ministries and institutions, as in most small, developing countries, were more inclined to work as national consultants. Non-governmental organizations were not involved, nor was the private sector.

Where institutional strengthening was concerned, the main mechanism was the establishment of a multidisciplinary and multi-sectoral country team. Emphasis was put on the need to draw from the available expertise in the country but this was mainly from the public sector. Where training and education were concerned, the project included a provision in the budget for enhancing the capacity of the national experts in various climate change issues; in all, 11 workshops and training courses were organized in the Comoros during the project implementation period.

The preparation of inventories and assessments has revealed the existence of serious gaps in information and data in various sectors related to climatic change and impact assessment. Although it was not possible to undertake detailed research during this phase of the project, more targeted and independent studies could be carried out in the future. The results produced by the technical teams provide sufficient evidence of the existence in the Comoros of adequate basic expertise in the various climatic change areas, and the capacity-building process matched national needs. The project was effective in helping to build on the existing expertise and enable most of the national consultants to develop their skills in the area of climate change.

The initial Comoros national communication was finalized with the assistance of an international consultant, who completed the compilation of all the interim reports and integrated the recommendations of the validation workshop. It is still too early to determine to what extent and how effectively the results are currently being integrated into national planning. There are, however, a number of indicators (for example, some of the project studies' results were used to revise the national paper on poverty reduction), that suggest that the project has answered some of the particular concerns and needs of the Comoros. It will also provide an

opportunity for the results of the initial national communication to be integrated into the national strategic plan for the sustainable development of the Comoros.

There was some gender imbalance in the implementation of the project, in that only one of the national consultants was female. She participated in the team involved in the studies on wastes for the green-house gas inventory and compiled the interim report on the inventory of green-house gas emissions in the country. In addition, two of the international consultants involved in the vulnerability and adaptation studies and the final write-up of the initial communication were also female.

Progress reports and quarterly financial reports were provided, but not as regularly as necessary. Consequently, monitoring was not as effective as expected. Most of the activities, when completed, contributed to the environmental assessment objectives.

A few serious problems were encountered by the project during this implementation phase, one being the non-availability of much-needed data in the various sectors. Another serious constraint was the overall political, social and economic context, which was not referred to in any documentation, except in the various island newspapers. For the past seven years, the Comoros has been searching for the most appropriate political system for the administration of the country; it has been a period characterized by civil and military unrest and general political instability. The project was implemented within the context of this very unstable situation.

Another issue is the fact that the three islands are quite different in many aspects and need first to be studied carefully as individual entities before being seen as a national entity. Consultants also found difficulty in commuting from one island to the other to collect the required data for their investigations.

Lessons can be drawn from this phase, including:

- (a) The imbalance in gender representation and the absence of participation by the private sector and civil society. Subsequent phases should be inclusive rather than exclusive, with specific attention being devoted to these target groups;
- (b) The poor understanding, at the initial stage, of the methodologies and guidelines proposed by IPCC on the part of the national consultants, which was exacerbated by the inadequacy of the material available in French. A good number of longer and more focused training courses on specific issues would be of great benefit to all the national consultants;
- (c) Delays in delivery of project studies by national consultants heading government institutions, thus hindering monitoring and evaluation systems, show that, in future phases, more care should be given to the choice of consultants, their availability and their commitment to the project;
- (d) While the project was being implemented there were, simultaneously, a number of other climate change-related projects and studies under way. More synergy could be created between some of these projects and the enabling activities project;
- (e) The project coordinator, who is provided with a salary by the project, was at the same time the Director General of the Environment. Obviously it was impossible for him to devote his full time and attention to the project's activities.

The following summary recommendations are made:

- (a) During subsequent phases, a number of detailed studies should be conducted in the following priority areas: the coastal area; waste disposal, water availability and alternative sources of energy. These studies should include more reference to social and economic factors and analysis, prepared with the help of the budding private sector and the environmental groups known as "Ulangas";
- (b) Training courses that are slightly longer and more focused should be organized for new participants, particularly those from non-governmental organizations and the private sector, and there should be an emphasis on the participation of young scientists, especially women;
- (c) UNEP/GEF should encourage the Government of the Comoros to furnish equipment for the National Department of Meteorology;
- (d) The national coordinating committee on sustainable development should be set up and made to play its mandated supervisory role effectively under well-defined terms of reference. A steering committee should also be established;

- (e) The project management team should be established efficiently, with clear terms of reference headed by the project coordinator and kept up throughout the entire cycle of the project. The role and responsibilities of the project coordinator should be redefined and an assistant recruited;
- (f) Primary data collection should be organized in the various research sectors, with a view to compiling accurate, comprehensive and up-to-date databases that can be used in future inventories, assessments or updating exercises. A comprehensive documentation and information section should be established at the Project Coordinator's office.

The project was completed successfully, and achieved an overall rating of "good", taking into account the size of the Comoros, the expertise available, and the country's complex social and economic situation. The project has already provoked some discussion on possible measures and strategies that could be taken to make policy makers and planners more aware of the need to reduce poverty on the islands and to take appropriate measures to mitigate these impacts, so that the sustainable development of the country can be ensured while at the same time remaining in compliance with the requirements of the Convention on Climate Change.

## **I. Introduction**

The evaluation of UNEP/GEF subproject GF/2200-97-56, on enabling activities for the preparation of initial national communications related to the United Nations Framework Convention on Climate Change in the Comoros, was conducted under the guidance of the Chief of the Evaluation and Oversight Unit of UNEP, and in close collaboration with the UNEP Climate Change Enabling Activities Task Manager. This evaluation was undertaken during the period 17 March 2003–28 April 2003.

### **A. Background**

The project was implemented through UNEP by the Climate Change Enabling Activities Task Manager in the UNEP Division of Policy Development and Law and executed in the Comoros by the Ministry of Development, Infrastructure, Posts and Telecommunications and International Transport. The project was meant to take 24 months, from January 1999 to December 2000, but actually lasted until March 2003.

The Comoros is made up of three small islands, namely Grande Comore (Ngazidja), Moheli (Mwali) and Anjouan (Ndzuani), with a population of 572,000 inhabitants (2002), covering 1,861 sq km and situated 300 km east of the African continental coast, in the middle of the northern entrance of the Mozambique Channel. The Comoros islands originated from recent volcanic activity (only 100,000–130,000 years ago for Grande Comore). This resulted in the emergence of a very fragile ecosystem, lacking in wildlife but with a rapid rate of population increase (2.5 per cent) and a population density of up to 555.8 inhabitants per sq km on Anjouan island alone, in spite of the fact that 35 per cent of the population lives abroad. The Comoros signed the Framework Convention on Climate Change in 1992 at the United Nations Conference on Environment and Development (the "Earth Summit") and ratified it in 1994. This project was funded by GEF to enable the country to fulfil the obligations of the Convention by helping it to undertake the following activities:

- Development of a national greenhouse gas inventory, based on the 1994 base year;
- Identification and assessment of mitigation options;
- Development of a comprehensive vulnerability assessment for various sectors;
- Identification of stage I adaptation options;
- Capacity-building to integrate climate change concerns into planning;
- Heightening of public awareness and dissemination of information.

The main objective of the Framework Convention on Climate Change is to stabilize concentrations of greenhouse gases in the atmosphere at a level that would prevent dangerous anthropogenic interference with the global climate system. Through the Convention, which entered into force in March 1994, Governments formally recognized that human-induced climate change posed a significant environmental threat and that there was need for action. The Convention commits Parties to certain reporting obligations and, in order to promote their preparation and submission, at its first meeting, the Conference of the Parties to the Convention requested that GEF operate as an interim financial mechanism of the Convention, giving priority to the provision of financial support for the preparation of the required national communications from non-Annex I Parties.

UNEP, as one of the implementing agencies of GEF, is contributing strategic, scientific and technical support to the Framework Convention on Climate Change through an umbrella project. In its efforts to enhance the scientific and technical information necessary for the implementation of the Convention on Climate Change, UNEP has undertaken:

- To enable selected developing country Parties to meet their reporting obligations under article 12.1 of the Convention on Climate Change;
- To strengthen the technical capacity of national institutions to develop the studies required for national communications;
- To provide guidance to GEF for the timely provision of the financial support needed by the Parties to meet their obligations;
- To facilitate the process of preparation, compilation and consideration of the communications;
- To ensure that the Conference of the Parties has sufficient information to carry out its responsibility for assessing both the overall effects of the steps taken by the Parties and the implementation of the Convention.

## **B. Purpose and scope of the evaluation**

The main objective of the evaluation was to assess the project outputs and results in terms of relevance, appropriateness, effectiveness, efficiency, impact and sustainability. The purpose of the evaluation was to determine the extent to which the project had been successful in achieving its objectives and obtaining the expected results in a cost-effective manner and to ensure the official submission of the initial national communications to the Framework Convention on Climate Change.

The evaluation covers the activities carried out by UNEP to implement the preparation of the initial national communications. As per the terms of reference attached to it as annex I, the report compares the expected outputs of the project with the actual outputs and assesses the steps taken to sustain the capacity attained. The report also highlights the lessons learned and suggests recommendations that may help to improve the implementation of future activities and projects in the area of climate change. The evaluation also assesses the ability of the project to meet the long-term objectives of UNEP, GEF and the Convention.

## **C. Methodology of the evaluation**

The consultant reviewed the documentation (listed in annex II) provided by UNEP, which included the Comoros subproject document, and various progress reports. In addition, a draft of the initial national communications and some of the presentations, as well as recommendations of the national seminar for the validation of the national communications, were made available by the Project Coordinator in the Comoros.

The evaluation team, consisting of the consultant and an evaluation officer from the UNEP Evaluation and Oversight Unit, travelled to the Comoros to meet and hold discussions with several contributors to the project and to the final document, namely, the national executing agency, the project management team, government officials and other stakeholders not directly involved in the project, such as staff attached to the United Nations Development Programme (UNDP). A list of these contacts is attached to the report as annex III.

Throughout the evaluation, in addition to the assistance of the Evaluation Officer, the consultant benefited from the advice and guidance of the Task Manager at UNEP, the Chief of the Evaluation and Oversight Unit and the GEF Project Fund Manager, with whom he had regular discussions. This approach helped the consultant with his evaluation of various aspects of project implementation, management, policy integration and technical issues in order to meet the requirements of the terms of reference of the evaluation.

## **II. Findings of the evaluation**

### **A. Assistance provided by the project to the Comoros for the implementation of the subproject**

Following the ratification of the Framework Convention on Climate Change by the Government of the Comoros on 31 October 1994 and the entry into force of the Convention, the project was designed to assist these fragile island ecosystems that are so highly vulnerable to the adverse effects of climate change. The project made available the amount of \$310,000 to the Department of the Environment, the national implementing agency, to be paid over a period of two years, for the purpose of enabling Comoros to meet its reporting requirements under the Convention. On signing of the project document by the Ministry of Production and the Environment on 13 January 1999, and prior to implementation, arrangements were made for direct disbursement of funds to the national implementing agency in the Comoros through the Central Bank of the Comoros. The funds allocated to the project during the implementation of this phase were made available to the Project Coordinator through the Ministry of Production and the Environment. In addition, technical assistance was provided to the country upon request. The Task Manager at UNEP was at the disposal of the project management team for back-up. The project management team and the national implementing agency, however, had full control over the implementation of the project.

Some of the activities depended directly or indirectly on the timely assistance of the Task Manager. These included provision of the documentation necessary for activities such as the IPCC/UNEP recommendations, methodologies and guidelines for the various studies and the national green-house gas inventory. In addition, the UNEP Task Manager was responsible for the hiring of the international consultants for training, policy analysis and the development and organization of workshops.

### **B. Relevance of the project to the objectives of the Convention, UNEP and GEF**

According to article 2 of the Framework Convention on Climate Change, the Convention's ultimate objective is the stabilization of the concentration of greenhouse gases in the atmosphere at a level that "would prevent continued dangerous anthropogenic interference with the climate system." The focal areas of GEF, namely, biological diversity, international waters, climate change and protection of the ozone layer, constitute some of the subprogramme elements of UNEP, which is itself one of the main bodies of IPCC. The UNEP/GEF enabling activities project, which is housed within the UNEP Division of Policy Development and Law, deals with issues pertaining to the preparation of the national communications to the Framework Convention on Climate Change and is very much part of the UNEP subprogramme on climate change. Some of the project outputs will be incorporated into the deliberations of IPCC on impacts, adaptation and vulnerability.

The activities conducted by the Comoros within the framework of the project included the development of a national green-house gas inventory and an assessment of the vulnerability of certain sectors. These activities helped the country make a start on identifying and evaluating mitigation and adaptation measures that could form the foundation for future strategies and action plans. They generated data concerning the various sectors being studied and, most important, helped to identify major data issues.

For the benefit of the national experts and the consultants that had been recruited, the project facilitated the organization of technical training workshops to help inform and demonstrate the use of the analytical tools and methodologies developed and described in the IPCC/UNEP handbooks on methods, climate change impact assessment and adaptation strategies. These methodologies were particularly useful in preparing the green-house gas inventories. This was consistent with the mandate of UNEP for the provision of technical assistance and scientific information which could form the basis for decision-making by countries, particularly non-Annex I Parties to the Convention, could base their decision-making on issues requiring urgent environmental intervention, as is the case with the Comoros. The scientific and technical expertise thus gained by nationals would enable them to give relevant advice to policy makers. The project in the Comoros was relevant to the programme and mandate of UNEP and contributed a good deal to the objectives of the Convention and of GEF.

## **C. Comparison between expected results and actual results**

The project undertook the following nine activities.

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

This activity did not go completely according to the original plan. The Government of the Comoros was to establish a national coordination committee on sustainable development, to be chaired by the Director General of the Department of the Environment. The committee was to include representatives of the departments of the environment, the national meteorological services, transport, tourism, planning, energy, public works and urban development. The Directorate General of Agriculture and Fisheries and the National Centre for Documentation and Scientific Research were also to be part of the national coordination committee. The Director General of the Environment was named as Project Coordinator.

During the first half of 1999, the Project Coordinator recruited 17 national consultants from various government departments to form the national study teams, and terms of reference were drafted for them. They undertook to carry out various studies, a list of which is attached as annex VI of the present report. The project management team was to be formed under the chairmanship of the Director General of the Environment, as project coordinator, together with the heads of the study teams.

In addition to the national consultants there were four international consultants involved in the implementation of the project. The national coordination committee and the project management team did not, however, become fully operational, leaving the Director General of the Environment/Project Coordinator to manage the project alone.

### **Activity 2: National greenhouse gas inventory**

The most important activity of this phase was the work of six consultants, who investigated green-house gas emissions from certain processes and sources within five sectors, namely: agriculture, energy, forestry, land-use changes, wastes and industries, on the basis of the revised version of the IPCC methodologies of 1996.

The following results were obtained:

- A greenhouse gas inventory based on 1994 emissions was drawn up to form the basis for mitigation options;
- Some limitations were identified in the application of IPCC methodologies and guidelines to the island conditions in the Comoros;
- Major data gaps were identified in all the sectors investigated;
- Suggestions were made for research to be conducted to improve future inventories, although no monitoring system was proposed for regular update;
- The inventory study group underwent two training courses, which were conducted by two international consultants from Nairobi and the UNEP Collaborative Centre on Energy in Denmark .

These results generally matched what had been expected, and suggested that, in global terms, the Comoros was not a source of greenhouse gas emissions, but a sink. At the end of this activity, a validation workshop was set up to synchronize the findings.

### **Activity 3: Identification of mitigation options and enhancement of sinks**

The following results were obtained:

- Reduction options were identified and assessed for each of the sectors investigated, namely, energy, agriculture, forestry, land use, wastes and industries;
- Recommendations were made for the reduction of emissions and for the enhanced performance of the existing sinks;
- National mitigation strategies were proposed;

- Options were assessed, and some environmental programmes and projects were identified that might be of economic benefit to Comoros; (Annex to the national communication)

The cost of energy is too high for the economic capacity of the country, leading to power rationing throughout the country. It was suggested, in this regard, that the potential uses of geothermal, solar and other renewable energy sources should be examined, and the reforestation of various parts of the country, especially on the islands of Moheli and Anjouan, was discussed.

It was recognized that there was a need for capacity-building and the launching of public awareness campaigns. This was emphasized during the training workshop organized to validate this activity, which also served to introduce issues concerning vulnerability to climate change and possible adaptation measures.

#### **Activity 4: Policy options for monitoring systems and response strategies to climatic change impacts**

Studies on vulnerability to climatic change were initiated during the period November 2001–2002 with regard to the Comoros' agricultural sector, coastal area, drinking water resources and the health sector. The study teams assessed the potential impacts of climate change on these four sectors, using scenarios to predict the future climate in the Comoros. The vulnerability of the various sectors and their specific resources was also assessed. The studies revealed that the coastal area and the availability of drinking water were the two sectors that would experience the most dramatic impacts. It was discovered that about 734 hectares might be submerged because of the 22 cm rise in sea level by 2050. An increase in temperature could lead to the demise of the coral belt around the islands, a reduction in fishery resources and a possible increase in the poisoning of sea food.

The islands will experience an increase in the occurrence of such natural phenomena as cyclones and violent winds. The supply of drinking water will diminish drastically due to seepage of salt water into the groundwater system.

One major result of this activity was the production of important primary data needed to make a comprehensive vulnerability and impacts assessment that would lead to the development of policy options. Biological diversity conservation and restoration activities figured prominently in the response strategy for adaptation to climate change, especially in the forestry sector.

The national consultants associated with this project were given training as part of two workshops on vulnerability studies and the use of models and scenarios, conducted by the international consultant from the University of Dakar.

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

For each of the sectors investigated, a range of potential adaptation options (stage I) were identified and assessed. Some programme or project concepts were proposed for the compilation of a list of national strategies to reduce the impacts of climate change on the various sectors (see end of initial national communication). In the agricultural sector, for example, the following mitigation options were proposed: the introduction of high-yield varieties adapted to the specific conditions in the Comoros; intensification of production; improved cultivation and soil fertility practices; and erosion management to help avoid further deforestation and other negative impacts.

In the energy sector it was proposed that existing power stations should be improved, and renewable energy sources such as wind, solar and geothermal energy should be used, in addition to the use of energy-saving stoves. The use of gas for the distillation of ylang-ylang products was also suggested.

It should be noted that most of these proposals appeared in the country's 2000 national strategy and action plan for biodiversity conservation and its national report for the World Summit on Sustainable Development (2002). A validation workshop was organized to finalize this activity.

### **Activity 6: Capacity-building to integrate climate concerns into planning**

During the various training sessions and workshops, in particular the workshop on the validation of the initial national communications held in March 2003, the relevant institutions and government departments, together with certain stakeholders from the private sector, were invited to join the consultants and the Project Coordinator as participants in the deliberations. The impact assessments revealed the high vulnerability of certain sectors in the Comoros. The proposed strategies and adaptation measures were noted and will be used by the representatives of the planning department to finalize the national paper and strategic plan for the reduction of poverty.

### **Activity 7: Programmes related to sustainable development research and public awareness**

During the early stages of this phase of the project, a number of activities were initiated by the Project Coordinator to form a base for educating the public and heightening public awareness. During the workshops press releases, radio and television programmes and newspaper articles were prepared and issued.

The project failed, however, to develop strong links with other programmes and projects contributing to sustainable development, such as the national programme to combat desertification, the national biological diversity conservation programme and the national action plan for the environment. Pursuant to the implementation of other projects, the Ministry of Education had already made a start on incorporating environmental issues and concerns into the curricula of schools and teacher training colleges, but given that the aim of these project activities is to create environmental awareness at all levels of society, a great deal remains to be done before this can be achieved. The educational programmes, for example, need to be intensified and made more widely available so that parents and the public in general can benefit from them.

### **Activity 8: Provision of additional information**

During this initial phase, there were difficulties in the provision of additional information on all project activities; the current political environment was partly to blame, but there were also worrying data gaps in all the sectors looked at. As an alternative, use was made of relevant information from current or completed projects such as the national report for the World Summit on Sustainable Development. It was notable that, in the energy sector, even when information was available it was not made accessible during the initial phase of the project.

### **Activity 9: Preparation of the initial national communication**

Some study team members contributed to the preparation of sections of the draft of the initial national communication. This draft was then discussed during the national validation workshop, which took place in March 2003. The recommendations made during that meeting were incorporated in the final version, which was drawn up by an international consultant.

## **D. Assessment of the quality and usefulness of the project outputs**

At the outset, the project was meant to set up whatever institutional arrangements would be necessary to enable it to deliver technical outputs and provide a framework for the initial national communication to the Convention secretariat.

### **1. Institutional arrangements**

The project failed to set up a proper project management team, and the planned national coordination committee for sustainable development – a body designed to oversee the smooth development of the project by facilitating the mobilization and participation of key institutions and sectors involved in climate change related activities, such as agriculture and forestry, water resources, health, energy and meteorology – was never actually established. A project management committee was set up at the outset of the project, but it was rendered totally ineffectual by lack of participation.

The Project Coordinator was also the Director General of the Environment. He established national study teams by recruiting 17 national consultants and organizing them in pairs, assigning each of them to a specific

issue or sector. Despite the high profile given to the Department of the Environment within the Ministry of Development, Infrastructure, Posts and Telecommunications and International Transport, with the aim of enabling it to deal with crucial issues affecting the development of the Comoros, no collaboration was achieved between organizations from the various sectors and the Department of the Environment itself.

The degree of commitment of the various bodies involved varied greatly according to the level of responsibility.

## **2. Capacity-building**

Most of the national consultants were professionals with an “Ingénieur” or master’s degree in natural sciences mainly from French universities, while very few had doctorates. The training courses and workshops organized during the project development phase helped them and the other professionals participating in the project to upgrade their scientific and technical knowledge base with regard to topics related to climate change.

There is a need for additional training and the use of additional consultants for future studies, if all regions are to be involved. What the project achieved at this stage was to enable the various participating stakeholders to learn more about the importance of climate change and its impact on their specific sector of development. The project also exposed the shortcomings of the documentation prepared by IPCC on the geographical situation of the Comoros and there were problems with the language as well.

## **3. Technical outputs**

As a result of the various investigations that took place during this phase of the project, a number of interim reports were produced, including: the national green-house gas inventory; the reports on mitigation options; the studies on vulnerability and adaptation to climate change in the Comoros and the initial national communication. Several newspaper articles on the project’s activities were also published. Most of the reports and documents produced were the first of their kind and, as consolidated environmental information, proved very useful with regard to national development plans. That these were only preliminary findings was clearly reflected, however, in the reports as a consequence of the data gaps and other problems encountered during the preparation of the various studies.

With regard to the energy sector, it was recommended that dependence on fossil fuel could be reduced through the development of hydroelectricity and the use of geothermal sources and other renewable sources of energy. With regard to forest and land use, emphasis was placed on the importance of the reforestation programme and the necessity of using energy-saving appliances such as cooking stoves and the use of gas in the ylang-ylang distillation process. The vulnerability of the coastal area was also clearly identified and stressed.

The results indicated the major sources and sinks of green-house gas emissions in the Comoros and established that the Comoros is a net sink country, given the generally low level of emissions. These were very useful in terms of future development and the strategies to be put in place. The results of some of the studies were subjected to a validation workshop before being incorporated into the initial national communication. The project contributed to the achievement of preliminary results and to meeting the overall objectives of the Convention.

The lack of data for detailed assessment and analysis led to the use of qualitative parameters or approximations and, as a consequence, further studies will have to be carried out during the second phase of the project. Generally, however, the quality and usefulness of the technical outputs at this initial phase were of a high level.

## **E. Impact of the results of activity 1 on the preparation of the initial national communication**

The first activity of the project involved the establishment of a project management team and national study teams responsible for writing the initial national communication. Given the composition of the Comoros – which, albeit small, comprises three separate islands – this process was crucial for the smooth and timely implementation of the rest of the activities.

The national executing agency of the project was the Directorate General of the Environment within the Ministry of Development, Infrastructure, Posts and Telecommunications and International Transport. According to the plan, the Government was to establish the national coordination committee on sustainable development, consisting in principle of nine representatives of government institutions, under the chairmanship of the Director General of the Environment.

The national study teams were made up of four working groups of consultants, and the project management team was to be made up of the leaders of each group, together with the Project Coordinator.

The project did not get off to a smooth start, and the activities did not proceed entirely according to expectations. This is attributable partly to the fact that the Director General of the Environment also served as the Project Coordinator, and partly to technical problems and delays in other activities.

The national coordination committee on sustainable development, which was meant to supervise implementation of the project, was never actually established, nor did the project management team ever play the role it was meant to play. The only supervisor of the implementation of the project's activities was the Project Manager. The leadership provided by the Project Coordinator, who was to be employed on a full-time basis and play the most active role in project implementation, was crucial to the success of the project. Because of his high profile as Director General of the Environment, however, he was kept very busy with other matters in one way or another connected with the Directorate and this had a negative effect on the smooth running of the project. It also did not help that he had only an administrative secretary and no assistant. The leadership provided by the Project Coordinator, who was to be employed on a full-time basis and play the most active role in project implementation, was crucial to the success of the project and he needed an assistant to help in the monitoring of project activities, although it is also true that no provision was made in the original project document for an assistant. Failure to adhere to the planned institutional arrangements was a contributory factor in the delays that occurred during the implementation of the project.

## **F. Effectiveness of the organizational structure and the management and financial systems**

The implementing agency for the project was UNEP, while, as stated earlier, the national executing agency was the Directorate General of the Environment within the Ministry of Development. Both played an active role in drawing up the country's proposal for the enabling activities. The Directorate General of the Environment provided working space for the Project Coordinator and the secretariat, although the Project Coordinator had sole responsibility for the supervision of the project, which was to be entrusted to the national coordinating committee on sustainable development. The project management team and the study teams were placed under the auspices of the Directorate General of the Environment.

UNEP played an important advisory role and provided technical support. The Task Manager in the UNEP Division of Policy Development and Law provided advice, responded to queries and requests for technical support and served as a financial intermediary between the project and the Fund Management and Budget Section of UNEP. The Fund Manager and Task Manager, with the Budget and Financial Management Service of UNEP, were able to make financial arrangements in collaboration with the Directorate General of the Environment of the Comoros, for funds to be transferred through the Central Bank to the project account. Cash transactions were dealt with quickly, although other transactions experienced delays due to the fact that funds had to be transferred through the Banque de France before arriving at the Central Bank of the Comoros.

The Project Coordinator had full responsibility both for the technical aspects of the project and for all financial matters. The local consultants, whose contracts were drawn up by the Project Coordinator, conducted the studies, drew up the inventories, wrote the reports and prepared sections of the Initial National Communication. Payments and purchase orders were prepared by the Project Coordinator and approved by the senior official (the "Délégué" – equivalent of Permanent Secretary) at the Ministry. The Project Coordinator, who is co-signatory on the project account with the Finance and Administrative Officer of the Ministry, effected all payments. A computer, a printer and a telephone line were procured through the budget.

The assistance provided by the four international consultants hired by the Task Manager at UNEP greatly facilitated the implementation process. The first three were instrumental in the training and capacity-building of the national consultants and also in the revision of certain technical data used for some of the studies. The other consultant assisted in the writing up of the national communication.

## **G. Involvement of the stakeholders**

The issue of climate change affects various areas of the national economy, within both the private and public sectors. Almost all government departments are involved, although most of the current participants are government officials. There were not many participating institutions in the Comoros and all of these were from the national Government. Although much of the first phase was more research-oriented, there was a notable lack of participation on the part of the private sector, which is not yet very developed.

Government institutions were not well represented either. The projected national coordination committee on sustainable development did not get off the ground, although some of its member institutions were represented at the various project workshops or participated in the study teams. As in most small, developing countries, representatives of the various ministries and institutions preferred to work as national consultants. This grew into an informal network of technocrats and consultants, which may lead to a more efficient exchange of information and data in the future.

Very few policy makers and community representatives were directly involved in the project, and there was very limited participation on the part of non-governmental organizations. This was quite unusual for the Comoros, where several non-governmental organizations are involved in environmental awareness activities, and where there are active and well organized grassroots organizations such as the Ulangas at village level.

## **H. Capacity-building**

The need for capacity-building, an integral obligation of the parties to the Convention, includes, among other things, strengthening of institutions, development of human resources, increased access to information and enhanced public awareness raising skills.

Where institutional strengthening is concerned, the main mechanism employed was the establishment of a multidisciplinary and multi-sectoral country team. Emphasis was put on the need to draw from the available expertise within the country, but the main source was the public sector.

Where training and education are concerned, the project's budget allowed for the provision of training to the national experts in various climate change issues. The project started by using existing expertise, which enabled the researchers to apply or to develop their skills in the new science of climate change. A total of eleven workshops and training courses were organized in the Comoros during the project implementation period. The three visiting international consultants from Denmark, Kenya and Senegal conducted three short group-training courses. In addition, some of the national consultants participated in the training courses organized outside the country: Kenya had three participants; Cameroon two; Côte d'Ivoire one; Italy two and Seychelles two. Participants representing other public institutions also attended the workshops organized for the national consultants. These included policy makers, especially those from the planning department, who attended the validation workshops.

The preparation of inventories and assessments has revealed serious information and data gaps in various sectors related to climatic change and impact assessment, particularly in the energy sector and in the field of meteorological data collection.

Although detailed research was not carried out during this phase of the project, it should be possible to undertake independent studies in the future that would be more focused. The technical teams did, however, produce results which provided sufficient evidence that the Comoros possesses a fairly adequate basic expertise in the different areas related to climate change, and that the capacity-building process matched national needs.

As mentioned earlier, two local consultants attended the workshop on the preparation of the initial national communication in Cameroon in 2000 and assisted in the preparation of the final document. The Comoros initial national communication was then finalized with the assistance of an international consultant, who brought together all the interim reports and incorporated the recommendations of the validation workshop.

## **I. Qualifications of the consultants used for the project**

At the national level, a multidisciplinary team of national experts, selected on the basis of their scientific and technical expertise (most of them heads of government departments) was involved in the implementation of the project, under the guidance of the Director General of the Environment.

Emphasis was placed on using national as well as foreign expertise; consequently, 17 national consultants, a list of whom is attached to the report in annex V, were recruited by the Directorate General of the Environment to make up the national study teams.

It is worthy of note that none of these recruits were from non-governmental organizations; most of the national consultants held the academic qualification of “Ingénieur” – equivalent to a masters’ degree – in a specialized field or a “doctorat de troisième cycle” from a university in France. Although the core group was quite knowledgeable, it was clear from the outset that the teams needed a certain amount of training in issues related to climate change, as well as additional technical training on IPCC methodologies and guidelines, as these would have to be modified for application to small islands.

External expertise was provided by UNEP in the form of an international consultant from Nairobi for the preparation of inventories and mitigation options, and two others from the University of Dakar and from the UNEP Collaborative Centre on Energy and the Environment in Denmark for vulnerability, impact assessment and adaptation studies. These were dedicated and professional in their training of the consultants and in their reviewing of various documents related to technical studies.

The project was effective in its efforts to build on the existing body of expertise and it enabled most of the consultants to develop their skills in the area of climate change. The use of 17 national consultants and four international consultants stretched cost-effectiveness to the limit. The various consultants worked as individuals, without regard to any correlation between the size of their country or their level of responsibility, operating for the most part in isolation, without any relationship with consultants in other sectors.

## **J. Integration of the result into national policy-making and planning**

The various investigations, from the green-house gas inventory to the identification of possible adaptations and strategies for mitigation of the impact of climate change in the Comoros, must be seen as preliminary. They are the first of their kind to be carried out in the country and need a great deal of refining before the results can be properly analysed with a view to developing measures and strategic action plans that will culminate in policies capable of sustaining sound social and economic development.

Although it is too early to determine to what extent and how effectively the results are currently being integrated into national planning, there are a number of indicators that suggest that the project has responded to some of the specific concerns and needs of the Comoros.

The Director General of the Planning Department was one of the national consultants on the project. Senior staff members from the Planning Department attended the various seminars and workshops organized within the framework of the project, particularly the workshop on the validation of the initial communication.

The medium term document on poverty alleviation to be submitted in April or May 2003 to the World Bank by the Comoros is being revised in the light of the findings of the project. The final document, the strategic plan for sustainable development in the Comoros, will be finalized in December, likewise incorporating the conclusions of the various social, economic and sectoral studies.

One of the objectives of the project was to strengthen the national capacity to integrate climate concerns into development planning through the education and training of policy and decision makers. For the project’s results to be swiftly integrated into Comorian national planning, it was recognized that high-ranking government officials, as well as policy and decision makers, would have to be made more aware of the issues at stake. To help bring this about, some of these policy makers and high-ranking government officials were invited to the various workshops organized within the framework of the project, thus providing a good

opportunity for some of the results of the initial national communication to be integrated into the national strategic plan for the sustainable development of the Comoros.

Links with UNDP, which provides coordination and helps to integrate the various national development programmes, could help to move things forward and be of benefit in the search for external funds. The National Agricultural, Fisheries and Environmental Research Institute (INRAPE), one of the Comoros' scientific research centres, whose deputy director general was involved in the initial national communication as a consultant, proposed that a public awareness campaign be initiated and extended to all sectors of Comorian society, thereby helping to identify the relevant stakeholders and priorities for minimizing the impacts of foreseeable climate change.

#### **K. Assistance provided by UNEP to help the Comoros meet its commitments**

UNEP made available a Task Manager, based at UNEP headquarters, to provide guidance and technical assistance to Comoros in formulating a project for GEF funding. The project team was given guidelines and advice, as well being provided with documentation to help it carry out the various activities. The Fund Manager disbursed funds on a regular basis through the Budget and Financial Management Service of UNEP.

The Task Manager ensured that there was no delay in acquiring the software and equipment needed for the work of the Project Coordinator. Regular reports had to be provided by the Project Coordinator so that the implementation of the project could be monitored and guidance given to the team, when necessary, to maintain the right course.

The Task Manager smoothed the way for the involvement of the consultants, whose role was to provide expert training and to revise the technical documents and the writing up of the final document.

#### **L. Gender considerations in the implementation of the project**

There was some gender imbalance in the implementation of the project in that only one of the national consultants was female. She was a member of the team involved in the studies on wastes for the green-house gas inventory, and compiled the interim report on the inventory of green-house gas emissions in the Comoros. In addition, two of the international consultants involved in the vulnerability and adaptation studies and the final writing up of the initial communication were female.

In general, women were considerably under-represented in the implementation of the project. This was not surprising, in view of the fact that the team members were selected on merit, and the number of qualified female research workers in the Comoros is very limited. Other contributory factors could be the nature of society in the Comoros and the small numbers of people.

Women, however, are integrally involved in the options to reduce greenhouse gas emissions and the response measures relating to vulnerability assessment. One response measure, for example, entails a shift from the use of wood as fuel or energy to the use of new, improved energy-saving stoves, or even more advanced technology which is completely free of emissions. The role of women in collecting wood for household cooking and domestic energy and in designing energy-saving cooking systems such as the new, improved stoves, needs to be taken into consideration.

#### **M. Effectiveness of the monitoring and evaluation systems developed by the project**

The project document stipulated that monthly progress reports should be submitted by the study teams to the project management team, the Directorate General of the Environment and UNEP. These reports were provided, but not as regularly as stipulated. Quarterly financial reports were also to be provided by the Project Coordinator, but these too were not submitted promptly. Because of the scarcity of climate change experts in the country, the national consultants were, for the most part, high-ranking government employees in full time employment, who had to continue performing their normal duties. As a result, the study teams rarely managed to meet their deadlines and, as there was no project management team to supervise the timetable and make sure it was strictly enforced, the monitoring process was not as effective as had been expected.

## **N. Extent to which the project contributed to furthering the objectives of environmental assessment**

The main objective of the project was to enable the country to fulfil its commitments and obligations as required by articles 4.1 and 12.1 of the Framework Convention on Climate Change, particularly regarding the preparation and submission of its initial national communication, as required by article 12.1 (a), (b) and (c) of the Convention, based on the guidelines and format recommended for non-Annex 1 Parties by the Conference of the Parties at its second meeting. Through this process, it was expected that the country would be able to raise its scientific and technical capacity to a level that would enable it to sustain all the activities related to the initial national communication and the implementation of the Framework Convention on Climate Change. As most of the activities and outputs of the project were designed to contribute to the achievement of this objective, it is an issue that is integral to the whole evaluation, and most of the completed activities did indeed contribute to the objectives of environmental assessment.

## **O. Major constraints to project implementation**

### **1. Documentation**

At first, the majority of the documents, including the IPCC methodologies and the UNEP guidelines, that were made available to the Project Coordinator and the participants in the project, were in English. When the project was already under way, arrangements were made for the 1996 version of the methodologies that had been sent to the Comoros to be translated into French, which helped the consultants considerably.

### **2. Data issues**

There were often problems with the availability of important data in the various sectors. Either there was nothing at all available, or very little, and even that little contained serious gaps. This was particularly true of the National Meteorology Department, which only operates at the airport and is very much oriented towards aeronautical weather forecasting. Moreover, for the first six years after independence the meteorological services had been interrupted and no data had been collected during that period. In all, there were only four functioning meteorological stations on all three islands, and these were located by the sea, at the airport.

In addition to the lack of data, there were great problems with access to the information that was actually available. Although each island did possess some data on each of the sectors being studied, the prevailing social and economic situation meant that this was not always readily accessible. The way in which the data were collected also affected their quality; most of the time they were either outdated or incompatible with the models proposed. On many occasions recourse was had to IPCC guidelines, rather than each situation being assessed on its own merits. In the preparation of inventories, there was so little data available on the agriculture and energy sectors that it became necessary to extrapolate.

### **3. Political, social and economic context**

Although the political situation was not referred to in any of the documentation, outside of the national press, it is important to realize that for the last seven years the Comoros has been in a state of political instability, dogged by civil and military unrest. Since 1998 alone there have been six ministers of the environment. Moreover the donor situation is at a standstill, with no bilateral official development assistance (ODA) projects being run. The European Union is awaiting the results of a feasibility study before deciding whether or not they will get involved in any projects.

It was against this highly volatile background that the project was implemented. Since then the social and economic situation has greatly improved, although there are still serious problems. During the project evaluation visit, one person died and several were injured during civil unrest in Ngazidja. The frequent and extensive power cuts and water shortages in this place were largely responsible for the delays in the project's activities.

#### **4. Three different islands**

The three islands differ in many aspects and need to be studied carefully as separate entities before being analysed as a national group. Information concerning each of the islands was not always available or accessible and communications were a problem. The involvement of locals in the project was minimal.

#### **5. Transport links within the Comoros**

The consultants had problems commuting from one island to the other to collect the data that they needed for their investigations. They mostly had to fly, although this had not been anticipated in the project's expenses. This must be taken into account in future phases and a travel budget should be worked out.

#### **6. Delays in transfer of funds**

Funds for project activities were released swiftly within UNEP in Nairobi but they then had to be transferred through the Banque de France to the Central Bank of the Comoros before finally reaching the project. This led to long delays before the funds could actually be used.

#### **7. Delays in the arrival of international experts**

According to the Project Coordinator, there were delays in finding and recruiting international consultants and then further delays, for various reasons, in getting them to Comoros, which meant that the schedule had to be changed. This was said to be even more detrimental to the project's activities than the delays in the transfer of funds. The evaluation mission was planned to coincide with the validation workshop, but because of the transportation problems between the islands, neither the evaluation team nor the international consultant who finalized the national communication could attend the workshop.

### **III. Lessons learned**

The implementation of this first phase has been a learning process for all the participants. The following are a few of the lessons learned, which may have an impact on future activities.

#### **A. Representation and gender balance**

The implementation of the project at this phase was characterized by gender imbalance and a total lack of representation from the private sector and civil society. This was despite the fact that there were at the time several non-governmental organizations involved in environment development activities throughout the Comoros. These included the Development and Environment Action Association (AIDE); the Development Action Group (GAD); COMORE FLORA and the National Women and Development Network (RNFD), often acting in partnership with the grass-roots organizations known as Ulangas. In view of the importance of the investigations for the sustainable development of the Comoros and in order to ensure the participation of all stakeholders and to highlight the local and national nature of the project, subsequent phases must make an effort to become inclusive, making use of all the expertise available. Activities should be tailored to appeal to the members of this target group, they should be invited to the meetings and their participation should be encouraged as much as possible.

At the initial stage, the methodologies and guidelines proposed by IPCC for the calculation of the various greenhouse gas emissions as well as the different models, scenarios and simulations, were not fully understood by the national consultants. Because of the diversity of the three islands, several of the IPCC models were not appropriate to local conditions and so were of no use to the consultants. This was exacerbated by the inadequacy of the material available in French.

#### **B. Training needs**

It is crucial that training sessions be held early on and that literature should be translated into the appropriate language and made available at the very outset of the project. The one-week training workshops

were well received, but they were too short and too wide-ranging to be effective in resolving all the issues, including the study of the IPCC methodologies with the aim of adapting them to the context of the Comoros. Future training courses should be longer (two weeks) and more focused on specific issues. A course on green-house gas inventory methodologies, for example, or a course on scenarios and models would be very helpful to the national consultants.

### **C. Monitoring and evaluation systems and recruitment of consultants**

The monitoring and evaluation systems developed for the supervision of the project were not fully adhered to. The progress and financial reports were not submitted on time. Major delays in the development of the project, particularly in the completion of investigations and the submission of reports by several of the study teams led to the implementation period being extended to 31 December 2002. Even with this extension, however, the evaluators did not receive a draft of the initial national communication until March 2003.

The choice of participating individuals and institutions is crucial to the pace at which the project progresses. Although the national consultants recruited were well-qualified individuals holding very senior positions in government departments, they did not relinquish those positions while working on the project. Obviously this limited the time they had available to undertake the research studies needed for the project, and contributed greatly to the delays that occurred.

Consequently, in the recruitment of consultants for future phases it would be wise to take careful note of their other commitments, if any, and the extent of their availability. Specialists should be recruited mainly from the Department of the Environment, where they are plentiful, and this would encourage smoother coordination and fewer delays in the promotion of activities. Several key institutions such as the National Scientific Research Centre (CNRS), the National Infrastructure Laboratory and INRAPE were not part of the picture at all.

### **D. Synergies with other processes**

While the project was being implemented there a number of other climate change related activities going on simultaneously; these included preparation of a national environmental action plan, the biodiversity conservation strategy, a project on coral conservation and many others in the areas of health, water resources and energy and, most recently, the assessments of impacts and adaptations to climate change in multiple regions and sectors (AIACC) programme, to measure the impact of climate change on tourism.

The information, documentation and data generated by some of these studies were of benefit to the study teams, although greater synergy could have been created between the studies and the enabling activities project. This could be improved in future phases by holding regular consultations and briefings between the coordinators of the various projects, most of which fall under the umbrella of the Directorate of the Environment.

### **E. Role of the Project Coordinator and staffing of the project**

The Project Coordinator, who was the Director General of the Environment, was put on full salary by the project to ensure his total commitment to the project's activities. He was in charge of four units: those of management of natural resources; oversight and regulations; territorial development; and communication, environmental education and information. In addition, he had to supervise several other projects and travel all over the world to represent the country at international events to do with environmental issues.

It was obvious that he could not devote his full time and attention to the project's activities. Moreover, the institutional framework that was meant to assist him in carrying out his duties was not functional, leaving the project dependent on him alone.

The level of assistance provided to the project teams by UNEP was rated as adequate. The fact that the Directorate General had full control of project implementation was much appreciated by the senior official (the "Délégué") at the Public Service Ministry on behalf of the country. The project budget, however, only made provision for one staff member together with a secretary.

In this case, the provision of extra staff would have ensured increased commitment to the project and with more experts on hand it would have been possible to ensure the smooth running of the activities and the prompt delivery of the various products. The whole area of project staffing should be reexamined with a view to achieving maximum efficiency, which could probably be brought about through re-organizing the budget allocation.

#### IV. Achievement rating of results and objectives

Adherence to deadlines was rated as unsatisfactory; this was mainly because the Coordinator was unable to give his full time and attention to project management and coordination, and the institutional set-up was poorly implemented.

The impact of the project was rated as high; quite apart from the way in which they were implemented, the project outputs benefited greatly from the activities of the UNDP project to finalize the national strategy and action plan for the conservation of biological diversity, part of which is being carried out by the IUCN group. This helped in creating a greater impact.

The project was given a good overall rating, given the context within which it was implemented and taking into consideration the potential of the Comoros for the development of future phases.

Table 1 below summarizes the achievement rating of the results and objectives of the project.

**Table 1: Achievement rates**

	1	2	3	4	5
Adherence to deadlines					x
Attainment of objectives			x		
Completion of activities			x		
Adherence to budget		x			
Impact of project		x			
Sustainability			x		
Resolution of serious problems			x		
Overall score			x		

#### Key

Excellent	1	(90%-100%)
Very good	2	(75%-89% )
Good	3	(60%-74%)
Satisfactory	4	(50%-59%)
Unsatisfactory	5	(40% and below)

#### V. Recommendations

Despite the delays, and bearing in mind that the main benefits are yet to be felt, it must be said that the project has established a firm foundation for the creation of national responses to climate change. The following recommendations are a result of valuable discussions held with all the parties involved in the project, as well as perusal of the documents made available for the evaluation.

## **A. Priority studies during phase II**

The studies in phase I were the first of those leading to the initial national communication and, as such, were a learning process for all those involved. They exposed serious gaps in the basic information available on the various sectors. On the basis of these observations, the following recommendations are made:

- (a) During subsequent phases, comprehensive studies should be conducted in the following priority areas: the coast; waste disposal; water availability; alternative sources of energy (renewable energy sources such as geothermal, solar and wind resources). It is further recommended that these and subsequent studies should pay more attention to social and economic factors and analysis and should draw where possible on the help of the budding private sector and the Ulangas, with the help of trainees to collect data;
- (b) A portfolio of projects for implementation during phase II has been included at the end of the national communication. It is suggested that an evaluation of the most vulnerable sectors should be conducted with the aim of selecting which proposals should have priority. The aim of these proposals will be to reduce greenhouse gas emissions, to make the islands less vulnerable, to lessen their dependence on fossil fuel and to help combat poverty in the Comoros.

## **B. Strengthening of the acquired capacity**

There is a need to continue with capacity building. The Comoros still lacks specialists in many of the areas directly related to climate change, so, to ensure sustainability, phase II will have to be based on the capacity built to date. Although some of the consultants have already left the country, there are still specialists available who did not participate in phase I. These are the recommendations:

- (a) Training courses that are slightly longer and that deal with specific issues should be organized, not only for the consultants who have already participated in the project but for new participants, particularly those from non-governmental organizations and the private sector; the relevant institutions should be encouraged to send their staff on these training courses, thereby making themselves better equipped to be of use in subsequent phases;
- (b) Training should be targeted at young scientists from all three islands and from the various key sectors, and more women should be involved;
- (c) UNEP/GEF should encourage the Government of the Comoros to reorganize and equip the national Department of Meteorology, which currently has only four operational stations on the three islands, and is mainly involved in aeronautical meteorology. This is a matter of extreme urgency in view of the importance of this institution in the monitoring of climate change patterns and the vulnerability of the islands;
- (d) To ensure sustainability and to become more credible in the future, the project should seek to involve institutions that are more relevant to its aims, starting with the various units grouped under the Directorate General of the Environment, INRAPE and CNRS, instead of relying solely on the consultants. Staff members from these institutes should also be involved in assisting the chief investigators.

## **C. Need for improved project management and coordination at the national level**

There is a need for more active and dynamic coordination to encourage the involvement of relevant institutions and specialists. It is therefore recommended that:

- (a) The national coordination committee on sustainable development should finally be established and enabled to perform its supervisory role under well-defined terms of reference. A steering committee should be formed, consisting of various members of the national coordination committee, managers of environment-related projects and a representative of the national planning office (Commissariat au Plan). This committee should not be headed by the Project Coordinator;
- (b) The role and responsibilities of the Project Coordinator should be redefined to emphasize that aspect of his job which concerns facilitating the exchange of information among project stakeholders;
- (c) An assistant should be recruited, using the funds allocated, to assist the Project Coordinator in the day-to-day running of the project and with terms of reference still to be defined;

- (d) The project management team should be effectively established with terms of reference, centred on the Project Coordinator and his assistant, together with the leaders of the future study teams. The terms of reference should include exchange of information and development materials and maintenance of an appropriate database;
- (e) The co-signatories of the project account should be the Minister and the Project Coordinator, as in the other projects at the Directorate General of the Environment. The Directorate General should assume a stronger coordination and leadership role to bring all the participants together and facilitate links with all sectors.

#### **D. Availability of data**

There were serious data problems in all the sectors investigated (energy, wastes, agriculture, forestry, water etc.) in terms of availability, accuracy, quality, consistency and access. On the basis of this, the following recommendations were made:

- (a) Primary data should be collected in the various sectors investigated with a view to filling information gaps, so that accurate, comprehensive and up-to-date databases can be built up for use in future inventories, assessments or updates;
- (b) Training should be provided to technicians in the various sectors and, where necessary, links developed with the UNEP Division for Early Warning and Assessment to liaise with the appropriate collaborative centres for such training;
- (c) A comprehensive documentation and information section should be established in the Project Coordinator's office at the Directorate General of the Environment for the use of all the parties concerned.

#### **E. Involvement of stakeholders**

Efforts should be made to foster the active involvement of all interested stakeholders from within both the public sector and civil society, especially in view of the fact that there are several non-governmental organizations and grass-roots organizations active in the Comoros. All the relevant specialists available should be invited, with participation being based on merit rather than seniority, and with the aim of facilitating and consolidating multidisciplinary teams.

#### **F. Public awareness campaign**

To increase awareness of the impact of climate change on the lives of people on the islands, and to facilitate the speedy completion of project activities, the following recommendations are made:

The Directorate should launch, in association with INRAPE, non-governmental organizations and the Ulangas, an extensive and hard-hitting public awareness campaign, targeting policy makers, planners, children and the general public. Over and above the basic materials required for use in the campaign, illustrated versions of the various reports produced for the initial national communication should be made, and other materials such as newspaper articles, radio and television programmes (including educational programmes) and teaching aids should be prepared and distributed to the three islands. The sectors that are most vulnerable (forest areas, water, wastes, the coastal zone, coral reefs etc.) should figure prominently in the campaign. Briefing sessions with journalists should be held before each meeting and fact sheets should be handed out to them.

### **VI. Conclusions**

Bearing in mind the size of the Comoros, the limited expertise available and the country's difficult social and economic situation, the project can be considered a success. Data already in existence, together with data generated during the implementation of the project, were drawn on to complete the initial national communication. In fact, with the support of the national authorities and UNEP/GEF, and despite the difficult political situation, the scarcity of institutions and the fact that the project research consultants were overworked, useful scientific data and technical information have already been generated on the potential impact of climate change on the islands. The project has already stimulated reflection on possible measures and

strategies that would make policy makers and planners more aware of the need to reduce poverty on the islands, take appropriate measures to mitigate the impact of climate change and ensure the sustainable development of the country, while at the same time complying with the requirements of the Framework Convention on Climate Change.

There is still work to be done, however, on consolidating these initial gains, especially in the areas of capacity-building and coordination of action, with a view to increasing awareness of the need for effective and efficient action and the achievement of the objectives of the Framework Convention on Climate Change.

## **Annex I**

### **Terms of reference**

#### **Evaluation of the UNEP/GEF sub-project GF/2200-97-56 on enabling activities for the preparation of the initial national communication related to the United Nations Framework Convention on Climate Change – Comoros**

Under the guidance of the Chief of the Evaluation and Oversight Unit (EOU) and in close collaboration with the UNEP Task Manager for Climate Change Enabling Activities (CCEA), the evaluator shall undertake an evaluation of the UNEP/GEF sub-project *Comoros: Enabling Activities for the Preparation of Initial National Communications Related to the UN Framework Convention on Climate Change (UNFCCC) GF/2200-97-56*. This evaluation will be conducted by a consultant and EOU during the period of 17 March 2003 to 28 April 2003 (2 weeks spread over 6 weeks).

### **I. Background**

1. The project to be evaluated is being implemented internally by the UNEP Task Manager for Climate Change Enabling Activities, currently located in the Division for Policy Development and Law of UNEP. At national level the project is being implemented by the Project Co-ordinator at the Comoros Ministry of Production and the Environment. The project provided the financial assistance necessary for the following activities:

- (a) Preparation of the green-house gas inventory for the year 1994;
- (b) Identification and assessment of mitigation options;
- (c) Development of a comprehensive assessment of the vulnerability of the various sectors;
- (d) Identification of Stage I adaptation options;
- (e) Capacity-building for the integration of climate change concerns into planning;
- (f) Raising of public awareness and dissemination of information.

### **II. Scope of monitoring and evaluation**

2. The evaluation will cover the activity undertaken by UNEP in implementing the project and the Ministry of Production and the Environment in executing it at national level.

- (a) The consultant will compare the anticipated outputs of the project with the actual outputs and assess the follow-up steps taken in the country to ensure that the capacity already built is maintained.
- (b) The consultant will also identify the lessons learned from the implementation of climate change activities and assess the extent to which the project will be helpful in meeting the longer term objectives of the Comoros, UNEP, GEF and the United Nations Framework Convention on Climate Change (UNFCCC).
- (c) The consultant will review the national institutional and technical capacity built by the UNEP/GEF project and the links established with current or projected activities within the country that are of relevance, such as the National Biodiversity Strategy and Action plan (already completed), the additional Biodiversity Enabling Activity, the Assessment of National Capacity Needs and the National Adaptation Programmes of Action (NAPAs).
- (d) The consultant will recommend corrective measures and other practical steps to strengthen and improve the institutional framework with the objective of ensuring the successful implementation of the following activities:
  - (i) Official submission of the Initial National Communication to the UNFCCC;
  - (ii) Setting up of phase II climate change enabling activities for the assessment of technology needs;
  - (iii) Participation in regional climate change projects such as capacity building for systematic observation systems and development of local emission factors
  - (iv) Preparation of the National Adaptation Programmes of Action (NAPAs).

### **III. Terms of reference for the evaluator**

The evaluator shall:

3. Analyse the quality and usefulness of current and anticipated project outputs, and determine to what extent these contribute to gaining results, to attaining the overall objectives identified in the approved project proposal and to meeting its UNFCCC commitments. The analysis should also determine whether the project has been able to answer the identified needs and problems of the Comoros.
4. Measure the impact of the current and anticipated results of the activities to help prepare the Initial National Communication for the UNFCCC. To this end the consultant will have briefings with the majority of the participants in the national seminar on the Initial National Communication concerning climate change in the Comoros, to be held in Moroni, Comoros.
5. Assess the decision-making process and the incentives used to attract qualified consultants to work on the different sectors of the project, identify the lessons learned from this and provide recommendations as to how such involvement could be improved.
6. Assess the role played by the project in building the capacity of the participating national institutions in the area of reporting to the UNFCCC and evaluate the long-term sustainability of the benefits of this capacity building.
7. Determine what assistance would be needed in the future from UNEP and GEF, specifically in ensuring the successful implementation of the future GEF-funded projects referred to in para 2(d). Identify the lessons learned and provide recommendations that might improve the flow of similar assistance in similar projects.
8. Review the adequacy of the national and international monitoring and evaluation systems that were developed to help with the supervision and implementation of the project and use the lessons thus learned to provide recommendations for the improvement of the current procedures governing monitoring and evaluation.
9. Examine the effectiveness of the whole institutional structure, including the management and financial systems, both of which played an important role in the implementation of the project, paying particular attention to the administration, staffing arrangements and operational mechanisms, and emphasizing coordination with UNEP, both inside and outside of the project. In this exercise the evaluator will seek the views of relevant UNEP staff members on the usefulness of the project in enhancing the work of both UNEP and the GEF in the area of climate change.
10. Identify any technical or operational constraints encountered during project implementation, especially any that contributed to the delays in carrying out the approved work plan. Decide on measures to be taken by UNEP and the national executing agency to overcome these constraints.
11. Identify and assess any measures initiated by national institutions to integrate the results and recommendations of the Initial National Communication into national policy-making or planning. The evaluator should also make recommendations regarding specific follow-up measures to be taken that would produce greater long-term benefits and sustainability of project activities.
12. Establish the cost-effectiveness of the public awareness programme, together with the training and research activities and determine to what extent public participation was increased.
13. Identify ways in which the project can help further the objectives of the related global, regional, and national environmental assessments, policy frameworks and action plans, and strengthen the United Nations Framework Convention on Climate Change.
14. Compare the actual results with the long-term and short-term results anticipated by the project document and identify what needs to be done to narrow the gap between them.

15. Determine the extent to which gender considerations were incorporated into the various technical and operational aspects of the project.
16. Make concrete proposals or recommendations to the Ministry of Production and the Environment, Comoros and UNEP and, where appropriate, make suggestions on how best to implement them.

#### **IV. Format of the evaluation report**

17. The Evaluator will have wide-ranging consultations with the Ministry of Production and the Environment and UNEP in preparing the report, which will be in the form of:
  - (a) A concise, four page summary;
  - (b) A section on the lessons learnt;
  - (c) A section on the recommendations to be made;
  - (d) A detailed assessment around thirty pages in length of sections II and III;
  - (e) A rating of the success level of the project, based on a scale of 1 to 5 from highest to lowest, using the following criteria:
    - (i) Promptitude: to what extent the project adhered to the schedule and timetable laid out in the project document;
    - (ii) Achievement of results and objectives;
    - (iii) Attainment of outputs;
    - (iv) Completion of activities;
    - (v) Extent to which the project kept within its budget;
    - (vi) Impact of the project;
    - (vii) Sustainability.

Each section should first be rated separately, and then an overall rating given, using the following system:

1 = Excellent	<i>(90% -100% achievement)</i>
2 = Very Good	<i>(75% - 89% " " " )</i>
3 = Good	<i>(60% to 74% " " " )</i>
4 = Satisfactory	<i>(50% to 59% " " " )</i>
5 = Unsatisfactory	<i>(49% and below " " )</i>

#### **V. Schedule of the evaluation**

18. The evaluation will begin on 17 March 2003 and should take approximately two weeks within a six week period. While conducting the evaluation, the consultant should communicate by telephone or e-mail with the relevant staff in UNEP, i.e. the Division for Policy Development and Law and the UNEP Evaluation and Oversight Unit (EU).
19. The consultant will discuss aspects of the project with the national Project Co-ordinator and selected members of the Comoros Climate Change Country Team and the staff of the Ministry of Production and the Environment in the Comoros.
20. The consultant will complete the draft evaluation report by 7 April 2003. The UNEP Climate Change Enabling Activities in the Division of Policy Development and Law will provide the consultant with a written commentary on the draft through UNEP/EU by 21 April 2003.
20. The consultant will incorporate responses to the commentary in the report and present a final version to UNEP, in English, by 28 April 2003. The report should be presented in written form and in electronic (MSWord) format and should not exceed 30 pages. All annexes should be typed.

## **VI. Consultant**

21. It is preferable that the consultant should be chosen from the GEF/STAP roster of experts, be the holder of an advanced university degree in a relevant discipline and possess demonstrable expertise in the area of climate change and GEF projects. Previous experience in the evaluation of UN programmes will be an advantage. The candidate should have at least ten years experience in the area of climate change or in a related environmental field.

### **Key contacts at UNEP-Gigiri, Nairobi:**

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## **Annex II**

### **Documents provided for the evaluation**

Project progress reports: Activities and financial report

Project revisions I-IV

Comoros/UNEP/GEF subproject GF/2200-97-56. Project document

Comoros initial national communication

Union des Comores: Renforcement de capacités nationales pour le développement

Union des Comores: Recommendations du séminaire de validation de la communication nationale, 19-20 mars 2003

Union des Comores: Rapport national. Sommet Mondial sur le Développement Durable, Johannesburg, du 26 août au 4 septembre 2002

Contrat: Consultant national

Comores stratégie nationale et plan d'action pour la conservation de la diversité biologique. Moroni, décembre 2000

Systeme de Coordination Résident PNUD: Analyse commune de la solution de développement de l'Union des Comores

Union des Comores PNUD. Plan cadre pour l'assistance des agences du système des Nations Unies au développement des Comores

## Annex III

### Contacts made in the Comoros

Youssef Hamadi	Project Coordinator. Director General of the Environment
Ismael Bachirou	Deputy Director General of the Environment
Ahmed Abdallah	Deputy Director General, INRAPE
Babacar Dossar	Agronomist
Mohamed El Habib Bourhane	
Mohamed Youssef Oumari	Former Director General of the Environment, GEF national focal point
Abubacar Allaoui	Director General, INRAPE
Ali Mohamed	Forester, Secretary-General, Comore Flora
Ms Said Abdallah Batouli	Chemist
Naoildine Houmadi	Meteorological engineer
Abdou Ahmed	Meteorological engineer
Marouf Mohamed	World Bank community development support fund (FADC)
Mahabati Bornali	Director General of Water Resources
Said Ben Imani	Energy engineer
Soalihy Hamadi	Development Director, Central Planning Office
Fatouma Abdallah	Director, Natural Resource Management Service
Benjamin Landreau	Consultant, Trust Funds Biodiversity team
Hassan Mgomri	National trust funds expert
Michel Vely	IUCN Technical Counsellor, Biodiversity team
Laura Addati	UNDP Programme officer
Hamadi Idaroussi	Public Service Ministry in charge of Development and Environment
Suzie Le Blanc	International consultant

## **Annex IV**

### **List of national consultants in the Comoros**

#### **Inventory team:**

Said Hassani Mohamed  
Melle Said Abdallah Batouli  
Mohamed Bacar Dossar  
Ibrahim Kassim  
Ahamed Yassain

#### **Mitigation team:**

Said ben Imani  
Naoldine Houmadi  
Yassian Ahamed  
Youssouf Hamadi

#### **Climate scenario team**

Abdou Ahmed  
Naoldine Houmadi

#### **Social and economic scenario team**

Younoussa Ben Imani  
Said Youssouf Mondoha

#### **Vulnerability and adaptation team:**

Mohamed Bacar Dossar  
Dr. Mbae Toyb  
Mohamed El Habib Bourhane  
Foud Abdou Rabi  
Mohamed Maarouf  
Said Ahmed Othman