



**MINISTRY OF THE ENVIRONMENT AND NATURAL RESOURCES
NATIONAL CLIMATE CHANGE PROGRAMME
GUATEMALA**

Netherlands Climate Assistance Programme

**“Climate Change Studies in Guatemala with emphasis on Adaptation”
-edited summary-**

Guatemala, November 2004

The Republic of Guatemala is located in the Northern Region of the Central American Isthmus and has 14 living areas and a variety of climates which range from heat and humidity in its coastal areas, to cold on the plateau.

The Ministry of the Environment and Natural Resources, through the National Climate Change Programme, has just carried out a series of activities on the subject of climate change which include Inventories of Greenhouse Effect Gases, vulnerability studies, Mitigation (reduction in emissions) and Adaptation. The most important results of these studies were incorporated into the First National Paper on Climate Change.

In the First National Paper on Climate Change, it was emphasised that Guatemala is not only vulnerable to climate change but also to climate variability; by virtue of this, with the support of the GEF, the National Climate Change Programme undertook local studies of adaptation to climate change within the framework of the Central American Regional Project. This Project works in the Sub-basin of the San José River (East of the Country) to analyse the adaptation to drought and in the Basin of the El Naranjo River (West of the Country) to study Adaptation to floods.

The National Climate Change Programme, with the support of the Netherlands ETC Foundation, hopes to extend the coverage of its studies of adaptation to climate change to the most vulnerable regions of Guatemala through the “Climate Change Studies in Guatemala with Emphasis on Adaptation” Project. In particular, it has considered as priority areas of the project with the ETC Foundation, the dry region of the country, taking into account that these ecosystems are highly fragile and the variability and the climate change as a result of the increases in temperature and anomalies in rainfall, mainly droughts.

The focus of the project with the ETC Foundation will be highly participative and will continue to improve the ability of adaptation of the communities located in these dry regions of the country where, moreover, there are high indicators of poverty. For the approval of the project by community in the process of identifying and developing adaptation means, the project will rely on the full participation of all players, especially the local players who will give sustainability to the project over time.

In general, the objective of this initiative is to increase the ability of local, regional and national players to respond to the impacts of the variability and the climate change mainly in the dry region of the country. The specific objectives will be focussed on strengthening the key players (of the community) and the local and regional institutions, supporting the forestry and agroforestry projects with potential for removing carbon and incorporating the subject of climate change into the region's municipal and institutional agendas.

It is hoped that the project will be completed within 18 months (2005-2006) with a cost of €170,000, of which €150,000 are donated by the Government of the Netherlands through the ETC Foundation and the rest (€20,000) in cash from the MARN (Ministry of the Environment and Natural Resources) and the communities. The project will rely on the support of a Project

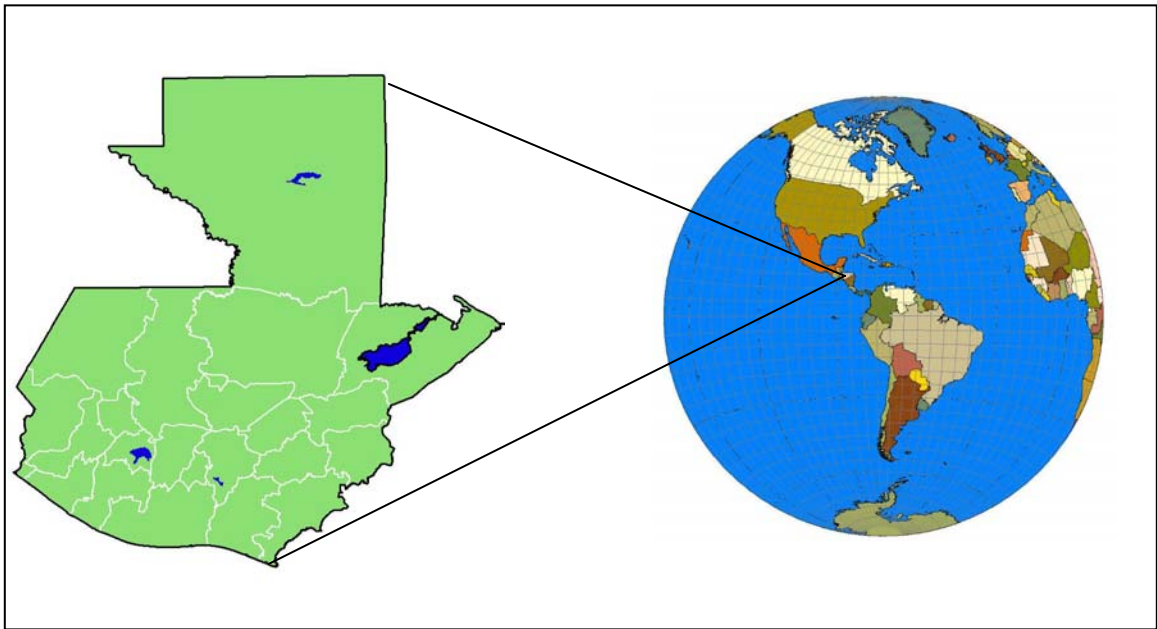
Management Committee which will provide assistance and management in the substantive activities and will be carried out by consultants and local and national NGO'S.

1. Title of the Project: **Climate Change Studies in Guatemala with Emphasis on Adaptation**

2. **Context and Justification of the Project**

The Republic of Guatemala is located in the Central American Isthmus between 13° 44' and 18° 30' latitudes North and the 87° 24' and 92° 14' latitudes West. The country has a variety of climates which range from heat and humidity in the coastal areas to cold on the plateau; the annual average temperatures are 26.7° for the Pacific area, 18.7° for the central area and 25.5° for the Atlantic area of the country. Rainfall fluctuates between 1000 and 1200mm annually whereas in the coastal areas, it reaches 4000mm annually.

Geographic Location of Guatemala



History

The Ministry of the Environment and Natural Resources (MARN), through the National Climate Change Programme (PNCC), has just developed a series of studies and substantive activities on the subject of climate change such as an inventory of greenhouse effect gases, studies of adaptation to climate change, mitigation (reduction in emissions) of greenhouse effect gases and public awareness.

The results of the inventory studies of greenhouse effect gases and the vulnerability and mitigation studies were presented in the First National Paper on Climate Change. The

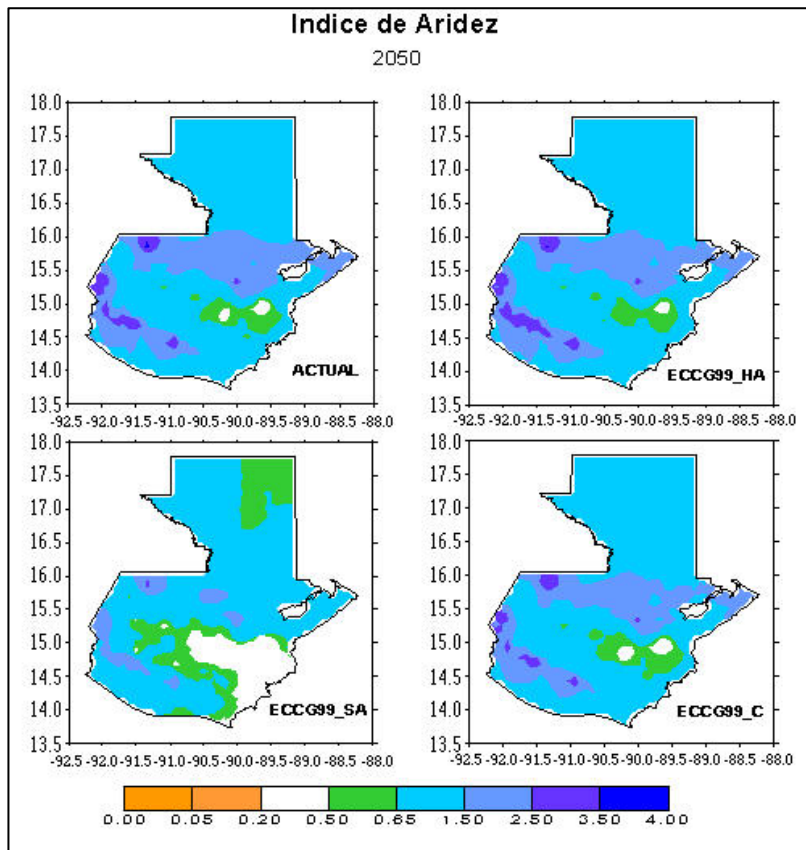
following groups will participate too accomplish the studies on climate change: academic and governmental institutions, non governmental organisations and independent national and international consultants which will compile and incorporate the existing information into the context of climate change, wishing to achieve from this an increase in the national ability with regard to the subject in the country.

In particular, the vulnerability studies are looked at from the national level, assessing the impacts of the variability and climate change on human health, on the forestry resources, on the production of basic cereals and water resources. For this activity, climate change models will be used, as well as emission scenarios and future concentrations of greenhouse effect gases, considering different hypotheses of population growth, production and consumption of energy and emission of greenhouse effect gases.

Priority Region of the Future Studies into Climate Change

The Eastern region of the country has areas with semi-arid or sub-humid and dry climates and the future climate scenarios for Guatemala show an increase in temperature and a reduction in rainfall and an intensification of midsummer heat. Therefore, the temperature rise and the reduction in rainfall will contribute to the territorial expansion of the semi-arid and sub-humid and dry climates.

Spatial Pattern of the Aridity Index according to the Climate Scenario



Source: First Paper on Climate Change

These studies into vulnerability to climate change, have enabled us to identify the Eastern area of Guatemala as the most vulnerable to the impacts of vulnerability and climate change, especially droughts.

Scope of the “Climate Change Studies with emphasis on Adaptation” Project

In November 2003, the Netherlands, through the ETC Foundation, carried out an assessment mission in Guatemala to identify the support requirements in climate change studies, interviewing different players at the national level who are involved in the subject of climate change.

From this assessment, Guatemala was supported by the Netherlands to carry out Climate Change Studies with emphasis on vulnerability within the framework of the NCCSAP programme (Netherlands Climate Change Studies Assistance Programme).

The “Climate Change Studies in Guatemala with emphasis on Adaptation” Project aims to develop an integral focus to reduce the vulnerability to the variability and climate change and to improve the ability of adaptation of the local communities in the Eastern region which, apart from being vulnerable to the climate phenomena, have high poverty indicators.

The “Climate Change Studies in Guatemala with emphasis on Adaptation” Project will also put emphasis on the semi-arid eco-regions of the country, without forgetting other regions where anomalies are found in the increase in rainfall (flooding) and which also are greatly affected by the growing climate variability, deterioration of the environment, and high levels of poverty in its population, which have negative effects for their health, their income and their basic food (production of basic cereals).

To identify and execute the adaptation means, we need to develop a process involving all players to protect the local communities from the environmental risks and avoid, where this is the case, these means changing their customs and habits and to ensure the solutions proposed are the most appropriate for the local reality.

In this sense, the necessity to improve the abilities of the local communities is obvious; to ensure that the vulnerable communities gain the maximum benefit from the interactions to reduce the risks and which include the local forms of adaptation and reduction of vulnerability which may be very important in the adaptation process and may help the success of additional recommended support actions.

The adaptation of the climate change and environmental impacts has often been managed by the communities themselves (autochthonous adaptation) which, in the case of countries such as Guatemala, include a significant number of indigenous communities which have a rich record of adaptation processes which have been developed throughout the centuries.

The project aims to operate as a catalyst and a facilitator of the adaptation process. Moreover, to increase the effect of these activities in the region, we will need to assess the traditional knowledge and the participation of the communities, taking into account that these will be players in the project planning and implementation process, and to integrate these activities identified as a positive tool into the local, regional and national planning.

Synergies with other Projects

The “Climate Change Studies in Guatemala with Emphasis on Adaptation” Project will establish strategic alliances with initiatives which are developed in the area. To begin with, the following projects have been identified:

- 1) Community Environmental Self-Management Project in the Chortí region
- 2) PESA I /FAO/Spain
- 3) Self-Assessment Project to Reinforce the requirements of National Abilities to implement the United Nations Agreements on Biological Diversity, Climate Change and the Combat of Drought Desertification
- 4) The “Increasing Abilities for stage II of Adaptation to Central American, Mexican and Cuban Climate Control” Regional Project
- 5) Reinforcing Multi-disciplinary Abilities for the Study of the Indigenous Related Institutions to Sustain Natural Resources.

3. General Objective, Specific Objectives, Expected Results and Substantive Activities:

“Climate Change Studies in Guatemala with emphasis on Adaptation” Project

For the Project to have a point of reference and a scope, we define below its general objective, its specific objectives, expected results; as well as the substantive activities to be developed.

General Objective

To increase the ability of the local, regional and national players to respond to the impacts of the variability and the climate change with emphasis on the dry region of the country.
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Specific Objectives	Results	Substantive Activities
<p>Specific Objective 1:</p> <p>To identify and to strengthen the abilities of the key players and the local, regional and national institutions to reduce vulnerability and adaptation to climate change.</p>	<p>Result 1.1:</p> <p>The autochthonous adaptation is encouraged and the ability of adaptation to variability and climate control of the players is increased, leading to a reduction in poverty.</p>	<p>1.1.1 Workshops to identify the key players</p> <p>1.1.2 Creation of baselines to assess the traditional knowledge and the local perception of the key players to climate change, as well as the local changes in adaptation.</p> <p>1.1.3 Workshops with key players to validate the results of the Diagnosis</p> <p>1.1.4 Assessment of the adaptation means implemented by different institutions and the communications in direct relation to climate change</p> <p>1.1.5 Coordination Visits with different institutions</p>
	<p>Result 1.2:</p> <p>The level of knowledge of the key players on the theme of climate change (science, mitigation, vulnerability and adaptation) is increased.</p>	<p>1.2.1 Training programmes on climate change, with emphasis on the adaptation component, with the key players, with regard to the impacts of the climate and the risk of events such as drought</p>
	<p>Result 1.3:</p> <p>The subject of climate change, with emphasis on adaptation, is incorporated and applied in the Consejos Municipales de Desarrollo (COMUDES - Municipal Development Councils) and in the Consejos de Comunitarios de Desarrollos (COCODES - Community Development Councils)</p>	<p>1.3.1 Coordination of activities for the conformation of Committees or the incorporation of the subject</p> <p>1.3.2 Conformation of Municipal Climate Change Committees or the subject is incorporated within the COMUDES and COCODES</p>
<p>Specific Objective 2:</p> <p>To identify and formulate the community projects relating to the forestry and agro-forestry activity and its potential for removing carbon.</p>	<p>Result 2.1:</p> <p>The appropriate and economically, socially and environmentally feasible forestry and agro-forestry projects are promoted for the communities of the dry region of the country.</p>	<p>2.1.1 Identification and reinforcement of appropriate forestry and agro-forestry projects for the communities of the project and which help to reduce the region's poverty.</p> <p>2.1.2 Training programmes on the implementation of the projects selected in the project's communities</p> <p>2.1.3 Coordination of activities with different sectors</p>
	<p>Result 2.2:</p> <p>The potential for removing carbon from the forestry and agro-forestry systems of the region is assessed</p>	<p>2.2.1 Identification, selection of priority climate change studies in the areas of the project.</p>

Specific Objective 3: To identify alternatives for improving the economic income for the population of the Dry region of the country.	Result 3.1: The identification of options for improving the income of the local populations is completed.	3.1.1	The selected climate change studies in the areas of the project are carried out.
	Result 3.2: Plans for implementing activities are drawn up, which help to increase the incomes of the local population	3.2.1	Working plans or draft projects are drawn up to improve the population's income

4. Methodology

The “Climate Change Studies in Guatemala with emphasis on Adaptation” Project will be developed by means of direct relations with the community (through key players), i.e. the activities will be developed through a participative and consultative process which will enable the incorporation and approval of the project by the community. The application of the methodology of the Adaptation Policy Framework (APF developed by the UNDP) signifies an active and decided participation of the population to oppose the impacts of Climate Change. It is hoped this will strengthen the practice of the knowledge they have gained.

The Ministry of the Environment and Natural Resources, through the National Climate Change Programme, will be the facilitating entity for the development of the Project, whereas the direct relations with the community will be the responsibility of the long-term consultants and the local NGOs who will work in coordination with the other initiatives which exist in the project's area.

In general terms, we want the substantive activities to have a local focus not only in the final formulation of the project, but also during the project decision-making and implementation stage. The studies identified and prioritised in this stage will be carried out by consultants and local NGOs, national consultants or academic research institutions specialised in the environment and with experience in this subject.

5. Substantive Activities

The main substantive activities to be carried out to achieve the expected objectives and results are described below:

- 4.1 Identification of key players
- 4.2 Creation of baselines to assess the traditional knowledge and the local perception of climate change, as well as the local changes in adaptation
- 4.3 Workshops with key players to validate the results of the participative Diagnosis
- 4.4 Assessment of the adaptation means implemented by different institutions and the communications in direct relation to climate change

- 4.5 Training programmes on climate change, with emphasis on the adaptation component, with the key players, with regard to the impacts of the climate and the risk of events such as drought
- 4.6 Technical support, awareness and encouragement to the Municipal Committees of COCODES
- 4.7 Identification and reinforcement of appropriate forestry and agro-forestry projects for the communities of the project and which help to reduce the region's poverty.
- 4.8 Training programmes on the implementation of the projects selected in the project's communities
- 4.9 Identification, selection of priority climate change studies in the areas of the project.
- 4.10 The selected climate change studies in the areas of the project are carried out.
- 4.11 Progress reports and presentation of results at the national and international level

6. Duration of the Project

The project will last 18 months, starting in the first quarter of 2005 and ending in the middle of 2006.

7. Cost of the Project (see table appendix 9.2)

The amount of the project is €170,000, with the Dutch Government contributing €150,000 through the ETC Foundation and €20,000 corresponding to cash from the communities and the MARN. (The details of this are presented in appendix 9.2)

8. Institutional Agreements

The political focal point in the development of the "Climate Change Studies in Guatemala with emphasis on Adaptation" Project is the Ministry of the Environment and Natural Resources (Ministerial Post) and the Technical-Operational Focal Point is the National Climate Change Programme. The direct-operational relations with the community will be the responsibility of the long-term consultants with experience in the subject and who will develop their activities under the supervision of the National Climate Change Programme.

An independent entity will be selected to administer the project's funds, which, at the same time, will produce reports to the donating bodies. This entity will be selected by a public appeal for tenders; the Management Committee will support the drawing up of selection criterion and bases.

A Management Committee will be set up whose functions are to assist the MARN and the PNCC in the drawing up and implementation of the project. It will also provide assistance during the execution of the project.

The communities of the study's region, as a priority subject in the development of the project, will participate, through their representatives in the project's Management Committee, in all the stages of the project.

Appendix Structure of the “Climate Change Studies in Guatemala with emphasis on Adaptation” Project

