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**BELIZE'S FIRST NATIONAL REPORT ON THE
IMPLEMENTATION OF THE UNITED NATIONS CONVENTION
TO COMBAT DESERTIFICATION (UNCCD) 2000**

**FOREST DEPARTMENT
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ACRONYMS

BAS	Belize Audubon Society
BCB	Banana Control Board
BSI	Belize Sugar Industry
CBO	Community Based Organization
CCB	Citrus Company of Belize
CDB	Caribbean Development Bank
CGA	Citrus Grower's Association
CIARMP	Community Initiated Agricultural Resources Management Project
CPACC	Caribbean Planning for Adaptation to Climate Change
CZMA	Coastal Zone Management Authority
CZMI	Coastal Zone Management Institute
DfID	Department for International Development (formerly ODA)
FD	Forest Department
FFWCFR	Friends of Freshwater Creek Forest reserve
FFBL	Friends of Five Blues Lakes
FPMP	Forest Planning and Management Project
GEF	Global Environmental Facility
KCB	The Ke'kchi Council of Belize
MED	Ministry of Economic Development
MNREI	Ministry of Natural Resources, Environment and Industry
MPUC	Ministry of Public Utilities and Communication
NARMAP	Natural Resources Management and Protection Project
NBSAP	National Biodiversity Strategy and Action Plan
NCB	National Coordinating Body
NFP	National Focal Point
NGO	Non-Government Organization
ODA	Overseas Development Administration
PFB	Programme for Belize
SWA	Sibun Watershed Association
TFAP	Tropical Forestry Action Plan
TMCC	The Toledo Maya Cultural Council
UNCBD	United Nations Convention on Biological Diversity
UNDP	United Nations Development Project
UNFCCC	United Nations Framework Convention on Climate Change
UNCCD	United Nations Convention to Combat Desertification
USAID	United States Agency for International Development
WASA	Water and Sewage Authority

FOREWORD

Remarks expressed by the Honourable John Briceno, Minister of Natural Resources, Environment, and Industry, on the occasion of the inaugural ceremony to launch the UNCCD in Belize.

“ Thank you very much Mr. Sabido, for inviting me to express a few thoughts at this meeting aimed at improving awareness about the issue of desertification.

There are two points I’d like to make.

One: I think it is fair to say that the average Belizean hardly, if ever, thinks about desertification. If they hear the term they might immediately begin to wonder whose wife or husband left whom; after all, juicy gossip is always more interesting than boring scientific discourse.

Having tried a light touch, I hasten to assure you that I am not disparaging my fellow Belizeans. After all, look at the crowd here. You’re interested in desertification.

But you’re the exception rather than the norm. I think unless one lives on the Saharan littoral or other areas with great, arid stretched of desert, hardly anyone ever thinks about desertification. Belizeans may be forgiven for not thinking about it because our country is still pretty much blessed with vast areas of rain forest, sweeping pine ridges, grassy savannas and long stretches of mangrove forests. The only “burning sands” we are likely to encounter is when we walk on the beach at high noon.

That of course, leads to my second point.

It is precisely because we are so blessed that we should be thinking about desertification. It is precisely because we are so blessed that we need to spark awareness about the subject so we will never need a workshop about “rolling back” the Belizean desert.

Those of us familiar with environmentalism are aware that desertification, as being addressed by the United Nations Convention to Combat Desertification (UNCCD), takes many forms. There is creeping desertification that is natural, such as that occurring in areas bordering the Sahara, the Gobi, the Namibian and the Sonoran deserts. Vast windstorms whip up particles of sand and steadily eat away at the edges of these deserts making them even larger, even more threatening to environmental diversity.

There is desertification caused by human need. This is the case in Haiti and other impoverished countries where poverty and lack of resources drive inhabitants to cut down ever larger areas of forests for firewood or subsistence farming.

Then there is the worst kind, desertification caused by human greed. This is the case where logging interests denude country-sized areas of timber. Hundreds of thousands of acres of denuded hills, valleys and plains march as far as the eye can see. This happens when vast areas are set afire for development schemes that often prove incompatible with the, by then, despoiled areas.

When should we be alerted to this? It is never too early.

When should we start taking precautionary measures? It is never too early.

Sometimes desertification creeps up on a country without its being aware of what is happening. A good case in point is in our northern districts where the sugar industry requires vast acreages of land. We have about 60,000 acres planted in sugar cane. While sugar cane is vegetation, think about the number of broadleaf trees that were sacrificed to clear land for sugar cane. If some drastic climate change or insect infestation were to wipe out our sugar cane, what would happen to that flat, parched land? Would it become the nucleus of a northern desert?

Even as we speak there are developers bulldozing other areas of our country to plant citrus, vegetables, or for cattle ranching. Could they in aggregate lead to Belize's desertification?

Please be clear about this. I didn't mention any of the industries to put them in a negative light. They are all aiding in our national, economic development. I merely mention them as examples that if let run amok can cause problems. But even so, there is an obvious dilemma. To what extent does any country pursue certain types of development before alarm bells go off? Beyond that, what kind of international help is there as substitutes for a specific kind of development that should be curtailed otherwise it would lead to desertification?

While those might not be part and parcel of your current deliberations, they should be kept in mind because somewhere down the line they will be important issues to tackle. One answer lurking in the back of my mind is that the carbon sequestration program should be hastened so that countries such as ours might study the tradeoffs between slashing forests for agricultural purposes or leaving them intact to generate carbon sequestration revenue. Perhaps that is another topic to go into at some other time.

Be that as it may, I assure you that the Ministry of Natural Resources, the Environment, and Industry has an open mind about the issue of desertification. You have our full support for what ever educational program is devised “

EXECUTIVE SUMMARY

Due to its location within the tropical region of the western hemisphere, no one in Belize considered the issue of desertification to be relevant to Belize. In fact, the almost unanimous reaction, when first made acquainted with the term, is “ Certainly not in Belize!” However, in interpreting Desertification to mean “ degradation of land ” and “development of drought situations”, there is general agreement that there are examples and instances of both problems in this country.

In order to determine the status of desertification in Belize, land degradation and drought situations were analyzed within certain non-exclusive development sectors. There were major groupings as follows: - Agriculture/Industrial, Economic, and Social (including Cultural). Such an approach opportunities to analyze the situation at local and regional levels while incorporating multidisciplinary input. The results have not been presented in any order of priority or critical impact / risk. No exercise designed specifically to determine the locality, extent, and severity of land degradation patterns has been conducted for Belize. No human or financial resources were made available to carry out such surveys, primarily because there was no awareness about this issue in Belize. The survey could not be carried out because there were no financial resources allocated to such an exercise. The National Meteorological Service and the Department of Agriculture have both noted instances of water shortages, but again no statistical records have been maintained for analysis. The NMS has maintained rainfall data for about thirty years for some parts of the country, so some data do exist to initiate the development of baseline data. No framework had been established to institutionalize the monitoring and recording of the occurrences of drought. A methodological approach utilizing collaboration and coordination between government, civil society, and community-based organizations needs to be established to observe, record and analyze all relevant information.

This process should evolve into the formulation of the National Action Plan to Combat Desertification.

Once the range and extent of land degradation and drought cases are evaluated, priorities can be placed on developing policies and action plans aimed at mitigating the impacts of desertification and droughts.

Land Degradation in Belize has resulted from a number of developmental activities within certain sectors. The most significant changes appear to be in the Agricultural/Industrial sector. The significance of changes in land quality is due to the area affected, or due to the actual and potential environmental damage which results or can result from the activity. Within the agricultural sector, the signs of land degradation is evident in the large scale operations and in the small farming and milpa systems. Belize’s economic development depends mainly on agricultural products. Sugar, citrus, and bananas are the three major crops that are cultivated. All of these are at risk of damage or unsustainability due to degradation of the land or drought. No survey has yet been conducted in order to determine the actual acreages of land that has been affected by the practices employed to obtain marketable products. Degradation in the agricultural sector can result from the repeated cultivation of one crop which depletes the nutrients, or from intensifying the use of the land beyond its

productive capacity. The first is the case with large scale cultivation of crops like citrus and sugar-cane. The latter case occurs in the milpa or slash-and-burn farming systems.

There are some cases where forestry activities have also resulted in land degradation, but again this has not been quantified and recorded, and similarly is not monitored on a continuous basis. Timber harvesting activities are known to result in soil compaction and erosion, both of which equate with land degradation. Although not considered a forestry activity, but can be a consequence of such, prescribed and wildfires contribute to land degradation. Nutrients are released too rapidly during combustion of the vegetation and are lost to the atmosphere or easily leached out of the soil before being recycled into the emergent vegetation.

Mining in Belize is primarily surface removal of gravel and other material used in the construction industry or for road construction. The methodology applied is either to first scrape off the topsoil, then dig out the gravels and sands for use in house, buildings, streets and road construction and landfills. There are no efforts to rehabilitate the extraction sites or pits by replacement of the topsoil or planting trees to replenish the nutrients that have been lost. The end result is land degradation.

Droughts and water shortages are increasingly common occurrences in Belize. The cases are not epidemic as yet, but increasing demands for potable water supplies will cause concurrent increases in these situations. The growing populations and continuing agricultural expansion place higher demands on surface and underground water supplies.

Although Belize signed the Convention to Combat Desertification almost three years ago, the public is mostly unaware of the phenomenon. Development of the country has been guided by the five-year plans that the various governments have proposed upon entering office. The lack of cohesiveness among the various policies has resulted in a similar situation with most of the laws and regulations utilized for the management of the natural resources. During the last ten years, Belize has benefitted from a number of bi-laterally and internationally funded projects. All have produced huge quantities of information suitable for development planning. Less than fifty percent of such information is put to use. Similarly most of the recommendations offered are ignored.

Fortunately improving technology in the media and communications is making the public increasingly aware of the issues affecting their future and even survival. Members of the public are organizing themselves into non-government and community based organizations, and making their wishes known by participation in the development and implementation of projects. These groups are able to influence policy and decision making at every level. There is increasing demand for government agencies to improve performance and to make more efficient use of the available resources. Government's activities prior to and after the launch of UNCCD is not much different. Considerable amounts of technical and financial assistance has been pumped into various sectors, but change is slow and difficult to achieve. The human resources base is also limited, so the same group of technicians and professionals tend to become involved repeatedly. This same group will again be called upon to help to develop the National Action Plan required for Belize to meet its obligations under the convention.

This process will have to continue after the submission of the Belize status report. Many recommendations have been offered to address a wide range of issues, but the main constraint is finance. Belize is a consumer and developing country, so does not generate great amounts of surplus revenue which could be channeled into the human development sector. It is only within the last two years that this sector has been given some priority. The alleviation or elimination of poverty is now of high priority for government's attention. Poverty has been determined to be the main cause of a number of the problems facing the population, including land degradation and drought. Improvements in this sector will symbiotically create improvements in other sectors. Once the basic needs are addressed, attention could be given to improving policies, laws, regulations, to reduce the duplication, and sometimes contradictory issues arising because of the interpretation of the laws.

1. SUSTAINABLE DEVELOPMENT POLICIES AND PLANS

1.1 Introduction

Belize is described as a developing country both in the Central American and Caribbean Regions. The major sectors in which changes are observed are in Agriculture and Eco-tourism. However, rapid changes in the landscape of the country are also being made as a result of establishment of new subdivisions for housing and the installation of the necessary complementary infrastructure of roads, and service facilities.

Unfortunately, some of this development is achieved at an environmental cost to the country. Quite often the environmental cost occurs in the form(s) of pollution, deforestation, land degradation, water shortage and loss of some biodiversity, and reduced quality of life.

The territory of Belize is divided into three general classes in terms of land tenure. Protected Areas account for about 42 % of the total at this time. This category covers Forest Reserves, National Parks, Nature Reserves, Wildlife Sanctuaries, Natural Monuments, Archeological Reserves, Marine Reserves, and Private Protected Areas. The greater portion of the lands categorized as protected areas is managed by the Forest Department. There are a number of partnerships between NGOs and the GOB to allow for better management of some of these sites/areas. For example, the Belize Audubon Society, Friends of Freshwater Creek, and Friends of Five Blues Lakes are a few of the NGO participating in the co-management of natural resources. One privately owned protected area of about 415 square miles (4.7 % of the territory), the Rio Bravo Conservation and Management Area located in the northwestern corner of the country, is managed by Programme for Belize. Other privately owned lands or private properties together comprise about 20 % of the nation. The remainder is classified as national lands.

The Protected Areas are at relatively low risk of land degradation and/or drought situations because very low-level human activity is allowed within such areas. Tourists and others engaged in research are facilitated in such a way that little or no permanent impact remains, except in the areas developed to accommodate those same activities. Social and environmental monitoring is easily accomplished and mechanisms (regulations and

strategies) are in place to control usage when or if it is observed that the quality of the habitat is deteriorating.

On the other hand, any portion or all of the remainder of the national and privately owned lands are at much higher risk of suffering from land degradation and drought. The main reason is that there are very few regulatory mechanisms in place to monitor or control what occurs on these lands. This is even more so on the privately owned lands. The use of the land remains at the whim and fancy of the land owner.

Lands at Risk of Degradation

Various Land Resource Assessments have been completed for Belize. One of the first such survey was completed by Charles Wright et al in 1959. Prior to 1959 there was little or no concern about soil quality and its potential because the economy of the colony depended almost entirely on forestry. Diversification in the achieved with the introduction of sugarcane in the early fifties. Agriculture began to play an increasingly important role in revenue generation. That first report was later updated by the ODA exercises which were conducted, with reports produced at the end of surveys, by NRI teams in 1976, 1986, 1989 and 1992. These surveys were required to provide a rapid appraisal of the nature, potential, and present use of the natural resources throughout the country in the light of local possibilities and development aims of the government of Belize. The surveys were to be done at a level of detail appropriate to assist the GOB in its general planning and development strategy. Another output of the latter exercises was to update the information on land potential published by Charles Wright in his 1959 report.

Land System classifications were first developed using remote imagery, then demarcated on maps. Fieldwork sessions were primarily to collect information about soil characteristics, but development opportunities, constraints, and environmental concerns were also identified during this phase. A final demarcation of land systems and their sub-units were put onto overlays along with additional information from other sources, in order to develop the final product, the land use maps. Two sets of maps were produced: those showing Land Use Potential based on land suitability, and the other set showing the extent of Current Land Use.

The document entitled “Agricultural Development Prospects in Belize” was another of the documents completing the land resources assessment undertaken by the NRI on behalf of the government of Belize. This particular report served to assess the entire agricultural resources of the country, to recommend how they could be used to the best effect (both in the short and long term), and presented a map showing the preferred use for each part of the country. Attention was placed on environmental protection. Each sub-unit of soil was classified according to a range of agriculturally important variables, so that all crop suitabilities could be considered, other than those considered in the earlier studies. Nine Land Systems were defined according to “recurring pattern of topography, soils, and vegetation”. Land systems are grouped into Land Regions according to similar characteristics. Land systems are further divided into sub-units depending on the soils displaying “uniform or near uniform agricultural potential”.

Five categories of agricultural value were attributed to soils, and the recommendations for use of the Belize landscape was based on the agricultural value of the soils. Agricultural values of the soils ranged from 1 to 5 with class I being the best quality and 5 being the poorest. These studies had been commissioned by the Ministry of Agriculture, but it appears that they were not used to guide agricultural development in Belize. The table below summarizes the land potential of Belize.

Summary of Land Potential (Agricultural Value)

Agricultural Value	Area (sq km.)	%	Characteristics	Economic Potential
1	990	4.3	Includes floodplain soils, generally acid but respond well to fertilizers.	High to very high income potential. Suitable for most crops.
2	2,790	12.1	Includes the undulating to flat well drained limestone land. Generally high fertility, but citrus should be avoided because of risk of lime chlorosis and droughtiness.	Good chance of financial success. Suitable for arable, pasture and sugar-cane.
3	4,480	19.5	On limestone but imperfectly drained, although some may suffer from moisture deficiency. Some soils are compacted or shallow.	Moderate chance of financial success with good management, unlikely to provide economic return under poor management.
4	4,670	20.3	These soils are really poorly drained, shallow, and droughty.	Marginal, even with skilled management and high inputs.
5	10,040	43.7	Mostly steep slopes of the Maya mountains and limestone karst.	Extremely small chance of financial success.

This demonstrates that only those soils of agricultural values 1 and 2, or about 16 percent of Belize's territory was determined to be suitable for agricultural production. Even so there were some constraints where class 2 was considered not very suitable for cultivation of citrus because of the risk of chlorosis. However the proportion of the country under agricultural cultivation of some kind exceeds the true potential. Much of the current agricultural development, including thousands of acres of citrus orchards, are being cultivated on marginal (sandy) soils requiring increasing inputs of fertilizers and management each year. Those soils categorized as marginal or third class have high risk of degradation, and this is already evident on some locations. Since the mainstay of the Belizean economy is agriculture, this situation poses a serious threat for the future of this country.

There are three primary crops contributing about 30 % of the Belizean economy. The sugar-cane, citrus, and banana industries together employ about 40 % of the labour force. Most of the better agricultural land has already been utilized, so all continuing expansion is on marginal soils. Other cash crops like red kidney beans, papayas, vegetables, corn, rice and fruits have since been introduced into the industry. These are being cultivated on soils which require good or intensive management to guarantee profitable returns. Global warming leading to climate change and natural phenomena like wildfires and disease infestations could result in disaster. If plans are not made for adaptation to other alternate methods, or varieties of crops this sector could be destroyed. The soils under the sugar-cane plantations

and the citrus orchards require continual input of fertilizers to control the degradation caused by the sustained monoculture. Those soils of the banana plantations are said to have little buffering capacity, and requires specialized management for sustained productivity. Another form of degradation occurring in this instance is the build up of exchangeable aluminum which affects the productive capacity of the soil.

Bananas are cultivated mostly in one of the southern districts and usually immediately adjacent to a river because of the irrigation needs. This crop is particularly susceptible to drought and therefore any human activity upstream (of the plantations) which impedes the water supply places these plantations at risk. This crop also requires frequent applications of pesticides in order that the fruit meet the standards for export. The frequent and continued application of these chemicals will accumulate in the soils and eventually result in degradation. It will also cause deterioration in the quality of water available for downstream users due to runoff.

Small scale farming operations also have a tendency to result inland degradation. The traditional milpa farming system used by both the indigenous Maya Indians and immigrant residents utilize the same parcels of land for several rotations. The entire holding is not in use all of the time since certain portions are allowed to lie fallow or rest after the crop of the season is harvested. With increasing populations, higher demands for food, there is increasing pressure on the land. Practices have to be intensified, so the fallow periods become shorter. The natural nutrient cycling process is compromised with the inevitable result: land degradation. This procession is now showing up in the southern region, mostly in the Toledo District. The increasing populations in the locality is the effect of immigrants from the neighbouring province of Peten, Guatemala. The villagers in Belize enjoy a thriving trade with their counterparts in Guatemala. The steep slopes and shallow soils prevent further land clearing to plant crops since economic returns, if any, would not continue past one or two seasons.

Both slash-and-burn and mechanized agriculture cause land degradation through nutrient loss. In tropical ecosystems, the nutrients are bound in the vegetation itself. At the same time, nutrients do not remain in the soils for long periods but are rapidly absorbed through symbiotic interactions. If organic material is allowed to decomposed naturally, the nutrients are released slowly and reenter the cycle to be absorbed by plants again. The high temperatures and rainfall of the Tropics encourage runoff or leaching of nutrients from the soil. Deforestation and degradation mean nutrient loss. Slash-and-burn or mechanical clearing causes rapid flushing of the nutrients from the soil, leading to early failure of any agricultural crop planted on the site.

The 1999 draft of the Environmental and Social Technical Assistance Project's (ESTAP) Regional Development Plan for southern Belize, deforestation was occurring at a rate of approximately 26,000 hectares or 98 square miles per year in 1996. The same study used satellite imagery, site inspections, and over-flights to assess the extent of vegetation that had been cleared in the Toledo District and in all of the country. ESTAP estimated that 117 square miles or 31,000 hectares of virgin forest had been cleared between 1984 and 1996. About 47 % of this vegetation had been cleared to make way for milpa cultivation or

subsistence farming. The expanding network of logging roads has helped to increase the rate of deforestation and subsequent land degradation.

Those lands supporting logging or timber harvesting activities are also at risk of land degradation. This is true throughout the country, whether in forest reserves or on national lands. The continual movement of heavy-duty logging equipment causes soil compaction, and in some cases increase the incidences of erosion. The selective harvesting method still generally practiced leaves the remaining forest depleted of prime timber species and specimens, and the land degraded.

Drought Situations

Intensive agricultural activity has also resulted in drought incidences or water shortage in certain parts of the country. The same situation results from high-density residential areas where the people have to depend on water stored in the underground aquifers.

A number of rivers and streams in the middle section of the country show signs of drying up. Several factors contribute to this effect. Many rural communities still depend on direct extraction from the rivers and streams for all their water uses. Much of the usage is wasteful probably because there is no monetary cost attached to this system. Long stretches of the river bank are now bare soils. During land clearing activities or because of a false sense of aesthetics, all vegetation on the banks have been removed. Removal of the natural vegetation has resulted in both the loss of the riparian forest and the loss of biodiversity. Increased water loss through evaporation is another negative effect, so the water table levels are lowered. Land degradation also results because of the loss of the upper shallow layer of fertile soil due to erosion. The cumulative effect of all this is drought. In this case the drought is the result of removal of natural vegetation and poor water management. This is the situation that is affecting several villages on the Sibun River.

A similar situation of drought occurs in the southern region of the country. The villages of Pueblo Viejo, Jalacte, San Vicente and Dolores among others suffer from a different set of circumstances. The agricultural land available to the villagers are limited due to the nature of the terrain. It is mostly steep slopes and shallow soils in this area. The villages are growing in size and demanding more food. The land has to be farmed more intensively, yielding decreasing productivity. Both problems are now being experienced. The land is degrading and water shortage is a recurring problem. Road access has been improved, so the problem will intensify in the absence of any mitigatory measures.

The National Meteorological Service (NMS) states that Belize has not adopted a definition for "drought". Rainfall in this country varies from about 55 inches (1,100 mm) in the north to about 200 inches (5,500 mm) in the south. The precipitation in the north is highly variable while that for the south is more dependable. Northern Belize is said to have a subtropical climate while that in the south is wet tropical. In Belize, droughts are extensions or intensifications of the dry seasons when rainfall is unusually low or delayed. The NMS

recalls the case of the 1975 drought when the dry season stretched on for an additional three months. That incident caused the loss of annual crops and pastures.

Drought is classified under three categories:

- (i) Atmospheric drought is a condition, occurring over a wide area, where there is a significant decrease of precipitation from the climatologically expected normal, such that natural vegetation does not flourish and agricultural crops fail (Shaw, 1994).
- (ii) Agricultural drought occurs when the available soil moisture at the root zone during the growing season is inadequate for healthy crop growth and causes extreme water stress. Non-irrigated crops decrease in yields.
- (iii) Hydrological drought is associated with long-duration periods of low discharge insufficient to meet the demand of specific users. This situation leads to water quality degradation.

Any one or all of the drought categories can affect Belize. The first two have affected agricultural production, and is especially stressful on small farmers since they could be destroyed by the failure or loss of one crop. Reduced production have been reported for corn, and some vegetables in the western district. Rice grown under irrigation conditions in the north have shown lower yields even with additional applications of water.

Moisture content of vegetation and soils is equally important in the forestry sector. Forest fire hazard rating is elevated when the moisture content of the vegetation and the atmospheric relative humidity are both low. During droughts there is additional fuel to support the wildfires. The country experiences an average of fifteen forest fires each dry season.

1.2 Pre-UNCCD Strategies

Agricultural development appears to have progressed with little or no guidance by the reports about the land use potential. While the guiding policy may have been one of self-sufficiency, there has been little technical input based on soil suitability. There has not been any cohesion between government agencies in ensuring that proper development would or has taken place. This is the direct result of the lack of a Comprehensive Land Use Policy and Regulations legislated and adopted at the political level.

There was little or no awareness of the phenomena of desertification occurring in Belize prior to the signing the articles of the Convention to Combat Desertification. The changes in land quality and shortage of water in certain localities were not acknowledged as something that required attention. All activities in the name of development were directed to the Five-year National development Plans designed by the successive governments. A Department of the Environment had been established since 1989, but the laws and regulations were mostly overlooked and unenforced. Land use planning was an exercise conducted on only a few of

the Neither the land use surveys reports nor those reports recommending appropriate agricultural practices were adopted.

Degradation of land was the result of practices other than those in the agricultural sector. There are instances where forestry activities can be blamed for land degradation. During the last ten to twelve years the rate of deforestation has increased considerably. A Texas University study completed in 1996, determined that forests were being lost between 10,000 to 12,000 hectares per year. Some of the forest loss was credited to changing land use during which the natural forest was replaced with agricultural crops. Expansions in towns and villages also contributed to deforestation. When the land-clearing was done on large scale, it was usually with the aid of machines. Much of the topsoils were lost in the roots of the uprooted vegetation resulting in degradation. Loss of vegetation also meant lowering of the water table in the affected area. Agricultural development was not restricted to companies or large farmers (those cultivating thousands of acres), but there were also hundreds of small farmers cultivating between ten and fifty acres. Many of these attempted to enter the field without benefit of resources such as technical assistance or financial support. This group exhibited a higher rate of failure to complete the development. Many such parcels are eventually abandoned after the natural vegetation was cleared and burnt. Site preparation was conducted by hand tools followed by burning of the debris. Such abandoned parcels of land grow back into “wahmil” but the quality has already been reduced.

Mining is another industrial activity which contributes to land degradation. The extraction of surface sands and gravel materials constitutes mining in this country. Sand and/or clays is/are usually extracted using heavy equipment for use as landfill in other low-lying areas, especially in the coastal areas during development of new subdivisions. Older lots in the easily flooded parts of the coastal towns and villages are also built up or improved using this method. The extraction of gravels and rocks from river beds is another common practice. Both methods are environmentally harmful, leaving behind water-filled barrow pits and changed landscapes. Another form of mining is the dynamiting and crushing of the large rocks removed from some limestone hills in the rural areas. This material is used in building construction and in road building. One special site in the Toledo District has gained international value because it is a source of Dolomite, and is presently being exported as Potassium rich fertilizer. All these examples of mining are examples of land degradation, because the topsoil with the nutrients is lost, and the parent material is also lost.

There have been a number of projects implemented (prior to UNCCD) with the goal of achieving sustainable development while protecting the environment. Two medium term, 5 and 7 year, projects were implemented during the nineties under the umbrella of the Belize Tropical Forestry Action plan. The Natural Resources Management and Protection Project (NARMAP) provided technical and financial support over a five-year period to government departments and non-government organizations involved with natural resources management. It provided for institutional strengthening and capacity building for the relevant agencies. This USAID funded grant project placed emphasis on protection of the environment, management of Protected Areas, Sustainable Agricultural Production, and institutional strengthening of non-government organizations. The complementary seven-year Forest Management and Land Use Planning Project similarly provided technical and financial support to the government agencies responsible for forest management and land use

planning. Training of staff, procurement of vehicles and electronic equipment (including Geographic Information Systems) were some of the benefits to the Forest And Lands and Surveys Departments.

The UNDP's Global Environmental Facility was already active at different levels in the Belizean community. The establishment of the Coastal Zone Management Authority and the CZM Institute as Statutory Bodies to Monitor and assist in managing the coastal zone were two of the major achievements of this International Partner. The UNDP also provided and continues to provide small grants to community based and non-government organizations for implementation of projects focusing on environmental protection, biodiversity protection and climate change. The UNDP also assisted Belize to develop and publish the National Biodiversity Strategy and Action Plan.

At the local or national level, each successive governments developed their five-year development plan to implement their policy upon assuming office. These plans were translated into action plans by the various ministries depending on their responsibilities.

1.3 Post-UNCCD Strategies

The Forest Department serves as the implementing agency for all matters relevant to the United Nations Convention to Combat Desertification (UNCCD). This same government department is responsible for the implementation of the Convention of Biological Diversity. More recently the United Nations Development Project (UNDP) has provided additional technical and financial assistance by sponsoring the National Liaison Officer for the Meso-American Biological Corridors Project. This officer also operates through the forest department and will be coordinating all national activities under this programme while providing the linkage to the larger regional project.

Belize has met its obligation under the United Nations Framework Convention on Climate Change (UNFCCC) when the first national communication to the conference to the parties was submitted to the secretariat in January 2000. The report had been drafted by local consultants working in the sectors applicable to Belize, then developed and improved by inputs obtained through the public consultation process. Although the first phase of the Belize Climate Change Project was implemented through the National Meteorological Service of the Ministry of Public Utilities and Communication, liaison is maintained with the national UNFCCC project through the Forest Department's representative who is a member of UNFCCC steering committee. The FD is also represented on the steering committee of the Belize Caribbean Preparedness for Adaptation to Climate Change (CPACC) project, which is lead by the CZM Authority and Institute. That exercise has produced baseline data about the quantities and sources of greenhouse gases emitted by Belize. Recommendations for mitigation and adaptation strategies and plans in response to climate change have been made. These need to be incorporated into the future macro-economic planning exercises conducted by the government.

The signing of the CCD has created some publicity about the dangers of desertification. It has served to focus some attention on the problems already being felt in some parts of the

country. It should also remove the sense of complacency that the situation in Belize cannot deteriorate to the stage where deserts can be formed. The increased awareness has instilled a feeling that there is a need to address the issue now. Greater publicity should be given to the situation and the implications. Strategies need to be adopted to coordinate those efforts aimed at eliminating poverty, and protecting people and the environment. The three related conventions dealing with Desertification, Climate Change and Biological Diversity have to be implemented jointly for maximum and effective delivery of outputs to achieve complementary objectives.

The Ministry responsible for Human Development, Women's Affairs, and Civil Society has drafted a five-year "National Poverty Elimination Strategy and Action Plan to cover the period 1998 to 2003 inclusive. Poverty and land degradation are closely linked, mitigating measures applied in one would also benefit the other. This strategy is in direct and immediate response to the 1995/1996 Country Poverty Assessment which was sponsored by the Caribbean Development Bank, the UK Department for International Development (DfID formerly ODA), and the Canadian International Development Agency. That study produced the most comprehensive perspective on poverty in Belize, and revealed how landownership problems and poor farming practices lead to poverty.

INSTITUTIONAL MEASURES TAKEN TO IMPLEMENT THE UNCCD

2.1 INTRODUCTION

Belize acceded to the United Nations Convention to Combat Desertification (UNCCD) when the pertinent documents were signed on 23rd July 1998. The conditions of the Convention entered into force for Belize ninety days later on the 21st October 1998. This report has been prepared in order to fulfill part of Belize's obligations in implementing the conditions of the Convention. It has been prepared with the input from a number of government and non-government institutions, as well as community-based organizations.

It is not generally appreciated that Belize could be experiencing land degradation or drought problems due to the country's location in the Tropic Zone. The large extent of vegetation cover, high average rainfall, and relatively low population density together combine to create a picture of a healthy environment. The common description of the country's Tropical Rainforest does not raise any awareness that Desertification might be an issue. At the political (decision-making), and at the technical level, there is only awakening awareness of the deterioration of land quality (suitability for certain agricultural applications) and land values. Even though they may not describe the phenomena in such terms, it is those of the farmers who face reducing returns from increasing inputs who recognize that there is some negative change in the land. At government level, the National Meteorological Service and the Agriculture Department are two public agencies who have analytical capability to recognize the incidences of land degradation and droughts.

The report also represents Belize's first effort to analyze the situation regarding Land Degradation that has occurred and continues to occur in this country. Drought-related issues

presently developing or which possess the potential to become greater problems are also discussed to some extent.

A Draft National Action Plan will be prepared with input from the reports from members of the National Coordinating Body. This will then be further developed through the public consultation process in order to make the Action Plan realistic and national in scope. The final version will be delivered to the Minister of Natural Resources, Environment and Industry in order that he could submit it to Cabinet for adoption. This should provide better opportunities for the NAP to be absorbed into National Development Planning at the policy level. The draft plan is derived from technical input in the form of the sector reports and has been developed based on the issues identified. This should serve as a tool during the process of accessing financial and / or technical assistance to implement mitigatory measures.

2. ESTABLISHMENT OF THE NATIONAL COORDINATING BODY

2.2.1 Legal Status

The Chief Forest Officer (CFO) of the Forest Department serves as the National Focal Point for the implementation of UNCCD. Recommendations have been made to appoint a twelve-member National Coordinating Body to provide technical and resource support to the National Focal Point for the implementation of the convention. Some funds have been identified and committed, from Government's internal sources, to finance local activities, such as consultative workshops, required to meet the obligations under the Convention.

The list below describes those persons who have been approached to become members of the NCB, but up to the time of writing, some have still not yet responded. The restructuring of some government departments continue, so it will be for several more weeks before the situation stabilizes and nominees can confirm their participation. This is the main reason for the poor turnout at the consultative meetings held to prepare this document. All the members are expected to volunteer their services, fitting this commitment into their normal schedules.

NAME	INTEREST/FIELD
Mr. Efrain Aldana	Agriculture
Mr. James Elijio	Human Development
Mr. Jose Mendoza	Environment
Mr. Gregorio Cho	The Ke'kchi Council of Belize
Mr. Pio Coc	The Toledo Maya Cultural Council
Mr. Oswald Arzu	Banana Industry
Mrs. Bridget Cullerton	Citrus Growers
Mr. Eduardo Zetina	Sugar Industry
Mr. Carlos Fuller	Meteorology/Hydrology
Mr. Patrick Scott Sr.	Sibun Watershed
Mr. Henry Usher	Economic Development
Mr. Armin Cansino	Lands & Surveys
Mr. Earl Green	Forestry
Mr. Oswaldo Sabido/NFP	Forestry

Mr. Anselmo Casteneda	Biodiversity
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Other persons form part of the team to provide additional technical assistance, primarily from the Forest Department, Ministry of Natural Resources, Environment and Industry. Following the submission of this report plans will be finalized to appoint the members of the NCB.

2.2.2 Resources

The Forest Department is located within the Ministry of Natural Resources, Environment, and Industry. This same ministry houses the Department of Environment, the Department of Geology and Petroleum, the Industry Office, and the Department of Lands and Surveys. The National Coordinating Body functions within the Forest department. The sources of funds required for this body has already been described. Additional Funds will probably be requested through project proposals. Every effort will be made to coordinate activities with those being implemented under the National Biodiversity Strategy and Action Plan and the Climate Change Project. Equipment such as computers and communication services are available in all of the offices of the members of the NCB. Office space has been provided within the offices of the FD. Linkages to international agencies have already been established via the internet.

2.2.3 Inter-sectoral and Multidisciplinary Characteristics

The composition of the NCB, although not yet finalized, is multidisciplinary. Several government departments in different ministries are represented. As a small country with limited human and economic resources, efforts have to be made to utilize the best resources in the most effective manner. Many of the members are senior level officers who sit on other committees, so a working relationship has already been established. The proposed members of the NCB are trained and experienced in a variety of fields as the table shows. Indigenous peoples’ input is provided by the representatives of the Toledo Maya Cultural Council and the Ke’kchi Council of Belize. Both of these community based organizations are comprised of a number of villages in the southern region who joined together for stronger representation in order to deal with cultural and social issues affecting them directly.

2.3 NAP AS PART OF THE NATIONAL ECONOMIC AND SOCIAL DEVELOPMENT PLAN

2.3.1 Linkages of NAP with national, inter-regional, and local approaches.

Belize has not yet developed a National Action Plan for the implementation of strategies and activities to reduce land degradation and drought to a minimum. Following the submission of this report, there will be additional consultative meetings and workshops to formulate such an action plan. The draft will receive public consultation to obtain local regional input and to make it a truly National Action Plan, before being presented to the minister for his submission to Cabinet. Acceptance or endorsement at cabinet level will promote commitment at the political level, and ensure that resources are allocated to this sector in the

future. Following Cabinet's endorsement, it is expected that this action plan will be incorporated into the country's long-term development plan.

It is anticipated the UNCCD Secretariat will continue to provide technical assistance during this process, and to facilitate the linkages with inter-regional approaches.

2.3.2 Government's Agreement/Commitment

In his remarks to inaugurate activities under the UNCCD in Belize, the Minister of Natural Resources, Environment, and Industry acknowledged the risk this country faces if agricultural/industrial development is allowed to proceed without any control. He hypothesized about the disaster which would occur if the cane fields in the two northern districts were to be wiped out because by natural phenomena such as fires, insect infestation, or climate change. The Minister also acknowledged the dilemma posed because of the need for continued development while attempting to safeguard against environmental degradation. The Minister urged that Belize had to adopt precautionary strategies or measures in order that the country's development is not achieved at the cost of the same resources which forms the basis of its development.

Government's commitment can thus be described as one of support to the process of determining the state of land degradation and drought in the country, and support to the process of developing a framework of collaboration between all relevant agencies to institute measures to minimize or reverse the trends where they are discovered.

2.4 LEGAL AND REGULATORY FRAMEWORK

2.4.1 Assessment of legislation on Environment and related fields.

Belize has enacted a number of laws and regulations for natural resources management and protection. Some of the laws and regulations have been revised to be more comprehensive in scope. It will be noted that the complement of laws and regulations are comprehensive. However there are cases of redundancy, duplication, overlapping responsibility, ambiguity, and loopholes. Several attempts have been made to revise the laws. The establishment of advisory and management bodies with multidisciplinary composition have helped to improve this situation, but there is still a lot of work to be done.

The selection described here is about twenty-five percent of current legislation, the same proportion is presently being revised or amended to deal with emerging issues.

Current legislation directly related to **Environmental Protection** include the following: -

- The *Environmental Protection Act (EPA)* established the Department of the Environment with the authority and responsibility to monitor and enforce the laws and regulations enacted for the prevention and control of environmental pollution, conservation, and management of natural resources, and environmental impact assessments.

- The *Effluent Limitation Regulations* guide and set the conditions for discharge of effluents.
- The *Pesticide Control Act* provides authority to control the manufacture, importation, sale, storage and use of pesticides.
- The *Solid Waste Management Authority Act (SWMA)* established an independent Solid Waste Management Authority with powers to provide for collection and disposal of solid waste in accordance with regulations established by the minister responsible.
- Under the *Littering Offences Regulations* an authorized officer who sees a person committing a littering offence may issue such a person with a violation ticket in the same instance or within forty-eight hours afterwards.

Some **Land Use Regulations** thought to be more relevant to Desertification are as follows: -

- The *Land Utilization Act (LUA)* requires that approval be obtained from government before any parcel of land is sub-divided. The act applies to urban land and land outside urban areas and seeks to ensure that the sub-divisions comply with proper planning procedures and environmental concerns.
- The *Belize Land Development Authority Act* is designed to encourage and facilitate agricultural development by means of acquiring and improving land, either in its own right or in partnership with other parties, and disposing of the land with such financial or other assistance to the private sector as is considered necessary.
- The *National Lands Act (NLA)* established a framework for the management of national lands. It applies to all lands not already leased or granted, including lands acquired by the government, and makes provision for the distribution of these lands.

Examples of the laws and regulations related to **Forests and Forest Related Matters** include: -

- The *Forest Act* provides the powers to declare forest reserves, to administer such reserves, set and collect royalties, and make regulations for the protection and disposal of forest produce. The *Forest Rules* are divided into eight sections covering (1) interpretation of the rules; (2) forest reserves; (3) regulation of the squatting, building, cultivation, grazing, hunting, and the control of forest fires in forest reserves. Sections (4) and (5) deal with the transport of timber by water and by road; (6) deals with forest roads, (7) describes which species are prohibited from felling; and the last section (8) prescribes the penalties for breaches of the forest rules.
- The *Forest (Protection of Mangroves) Regulations* prohibit any alteration of mangroves on any land except with a permit. The criteria for issuing or denying

permits is described, and the applications for permits must be given publicity through a local newspaper.

- The *Forests (Protection of Trees) Regulations* recognizes that trees are environmentally protective and form an important component of the natural vegetation of the country. This regulation prohibits the conversion of certain species of trees into lumber without a permit, or prohibits such conversion using a chain-saw or any of its adaptations without a permit.
- The *Forest Fire Protection Act* requires the preparation and implementation of a Fire Protection Plan considered necessary for the prevention of wildfires, the extinguishing of such fires on any class or ownership of land.
- The felling of any Mahogany or Cedar tree on any land without prior request for a permit from the CFO is prohibited under the *Private Forest (Conservation) Act*. Exception is made for such felling without permit if it is for agricultural purposes and the trees are under 60 cm girth at 30 cm above buttress height.

Some protection is allowed to biological diversity by managing protected areas through the **National Parks Systems** and the **Wildlife Protection Acts**.

- Four categories of Protected Areas are the responsibility of the Forest Department. Nature Reserves, National Parks, Natural Monuments, and Wildlife Sanctuaries can be declared under the *National Parks Systems Act* to preserve and protect certain highly important natural and cultural features. It regulates the scientific, educational, and recreational use of plant communities, ecosystems, and the inhabitants. They are utilized for preservation of species, for research, maintenance of biological diversity, biodiversity prospecting, and for eco-tourism. Sustainable multiple use is promoted in these areas, but extractive activities are prohibited. The Protected Areas Conservation Trust (PACT) was created to establish an independent source of revenue (apart from government's recurrent expenditure) for the management of protected areas. Marine areas can be included in any of the categories of National Parks. The Fisheries Department is empowered with the authority to declare marine parks for the same purposes of preservation and protection of species and their habitats.
- The *Wildlife Protection Act* provides for the regulation of hunting and the commercial dealing in wildlife. Certain species are protected from hunting, and "closed areas" can be declared to allow recovery through moratoria on hunting. Wildlife is defined as reptiles and undomesticated mammals, but exclude fishes.

The EPA and the LUA also make provisions for the management of protected areas.

The *Ancient Monument and Antiquities Act*, administered by the Archeological Department, is used to declare lands adjacent to or containing an ancient monument, or an ancient monument with the surrounding lands as archeological reserves.

The primary piece of legislation dealing with **Water Resources Legislation** is the ***Water and Sewage Act***. This act regulates the industrial use of water, and requires that all industrial users of water within water supply areas be licensed by the Water and Sewage Authority (WASA). The Minister is empowered to declare any area of the country, other than a town, to be a rural water supply area. A Board of management should be appointed who would be responsible for all operations and maintenance activities, ensure a constant water supply, and where necessary undertake expansion of the water supply system and collect user fees.

The Land Utilization, Forest, National Lands, Environmental Protection Acts, and the Forest Rules all include clauses related to management of water resources.

Legislation relating to **Mining and Petroleum** in Belize are :-

- The ***Mines and Minerals Act*** prohibits the granting of a mining license to an applicant unless the programme of proposed mining operations takes proper account of environmental and safety factors. Any application for the grant of a mining license should be accompanied by the proposals for the prevention of pollution, the treatment of wastes, the safeguarding of our natural resources, and the minimizing of the effects of mining on surface and underground water. The act provides for the reinstatement, levelling, regressing, reforesting and contouring of any part of a prospecting or mining area that may have been damaged by the operation.
- The ***Mines and Minerals Regulations*** allow implementation of the act, and cover a range of topics such as the scope of non-exclusive prospecting license, quarry permits, royalties and transfers of rights.
- The ***Petroleum Act*** seeks to regulate the exploration, development, and production of petroleum in Belize and for other related matters. No petroleum operations can be carried out unless persons or companies enter into the contractual arrangements provided for in the act. The contractor is obliged to control the flow and prevent the waste or escape of petroleum, water, drilling fluids, etc. The contractor is expected to adopt all necessary methods to protect flora, fauna, and other natural resources, avoid the pollution or contamination of water, and upon termination of the contract carry out clean-up operations.
- The relevant ***Petroleum Regulations*** governing the operations of the industry deals with topics including petroleum operations, returns, records, and plans and finances.

This sector also have overlapping legislation written into the EPA, the NLA, and the Environmental Protection Regulations.

3. PARTICIPATORY PROCESS IN THE PREPARATION AND IMPLEMENTATION OF THE NAP

Coinciding with the arrival of the Consultant from the UNCCD Secretariat, Mr. Erwin Ortiz, a Consultant employed in the Forest Department was assigned the responsibility of facilitating the drafting of the Belize status report on Desertification. Invitations were sent to many of the government departments, all non-government organizations involved in environmental matters, as well as a number of community-based organizations whom were determined to be stakeholders in land and resource issues. These persons were all provided with the schedule of meetings and invited to participate in all events beginning with the ceremony to launch activities under the convention in Belize. Public awareness about the Convention to Combat Desertification was initiated in coincidence with the ceremony to launch this project in Belize.

4. CONSULTATIVE PROCESS IN SUPPORT OF THE PREPARATION AND IMPLEMENTATION ON THE NAP, AND SUPPORT BY OTHER PARTIES

Efforts were made to hold at least two other consultative workshops within three weeks after the visit of the International Consultant. Please see Schedule of Activities at Appendix II. However these coincided with meetings and other workshops that had been planned well in advance of the UNCD meetings. Hence, participation was rather poor. Visits to the individual resource persons were chosen as the next alternative, the results of which are displayed by the reports attached as appendices. After the individuals submitted their sector reports, these were utilized as additional resource documents. Recommendations for action were extracted from these to form the basis of the Belize Action Plan to Combat Desertification. This draft action plan will be processed through public consultation in order to make it a national programme designed to address all the issues.

At this time Belize does not have partnership agreements with any international agencies or other developed countries intended to assist with desertification issues. However, completion and dissemination of the country's status report may provide opportunities to utilize such strategy.

5. MEASURES TAKEN OR PLANNED WITHIN THE FRAMEWORK OF THE NAP

5.1 Projects intended to achieve the objectives of the NAP

A Draft Action Plan has been developed from those recommendations offered by technical persons, or perceived as needs for action from the interviews or discussions with both technical and community groups during the preparation of this report. This draft plan will be developed further through the process of public and technical consultations.

While a National Action Plan has not been formulated as yet, certain ministries of government have proposed projects designed to resolve some of the same problems or issues contributing to land degradation. The Ministry of Economic development is responsible for the majority of development projects, and all bilateral or international projects are addressed to the GOB through this ministry. As part of the government's current strategy to combat poverty, while reducing the human impact on land degradation, the Public Sector Investment

Programme has been developed. Additional measures are also planned with the objective of contributing positively to the well-being of deprived people and communities. The GOB is currently implementing projects in four thematic areas, namely water, agriculture, land, and poverty elimination.

- The Southern Development Project funded by the Inter-American Development Bank, is designed to support economic, social, and physical planning activities. Investments will also be made in rural enterprise and sustainable farming techniques aimed at enhancing economic opportunity and social development in the region. Those traditional farming methods causing increased pressure on the land should eventually be phased out.
- The Land Administration project should lead to reform and regularization of land ownership. In addition the preparation of a comprehensive national land use plan will encourage development based on the sustainability of the natural resource, provide economic directives for rural land use and protect the environment.
- The Social Investment Fund with European Union funding provides funds for water and sanitation micro enterprises. The installation of rudimentary water systems will allow rural communities to obtain safe potable water on a sustained basis.
- The United Kingdom's Provision of Basic Needs similarly provided funding for rudimentary water systems. Poverty and sustainable land use issues are addressed with this kind of assistance.
- The Organization of American States funded the recently completed Sustainable Human Development Project which provided for the establishment and strengthening of participatory mechanisms for local government bodies. Greater local autonomy should contribute to sustainable development, due to the communities having control of their own resources.
- The Caribbean Development Bank (CDB) in conjunction with IFAD funds the Community Initiated Agricultural resources Management Project in the southern districts.
- The United Nations Development Programme's Global Environmental Facility (UNDP/GEF) Project provided financial support to the Coastal Zone Management Authority and Institute in implementing the Belize portion of the Caribbean Planning for Adaptation to Climate Change. The CPACC project monitors those changes in the coastal/marine areas caused by global warming (climate change) and develops measures to allow the country to mitigate and adapt to the impacts.

The table below summarizes the activities which need to be undertaken or completed in order to combat desertification and protect the environment during the process of sustainable development. This will be the subject of revision and improvement through the public consultation process, and eventually form the core of the National Action Plan to Combat Desertification..

ACTION OR ACTIVITY	RESPONSIBLE PERSON OR AGENCY	TIME FRAME FOR COMPLETION	ESTIMATED BUDGET (US \$)
Develop and Implement a National Land Use Policy with complementary regulations	MNREI, MoA, Civil Society	2 years	60,000.00
Development and Implementation of Water Resources Management Policy and Regulations	MPUC	1 year	30,000.00
Develop a strategy for Quick Response to Drought.	Hydrology Dept, NEMO, MNREI	6 months	6,000
Develop and implement Forest Management plans for all reserves.	FD(MNREI), CBO, NGO , International Funding Agencies	4 years	Approx. 1,500,000.00
Complete the development of the National Biodiversity Policy	FD, CBO, NGO, Civil Society	1 year	20,000.00
Implement the Mitigation and Adaptation Strategies recommended by the National Climate Change Project	NMS, CC Steering Committee, other government departments	3 years	
Conduct a survey to obtain baseline data on land degradation and drought sites/locations	MPUC, Hydrology Dept, Lands & Surveys Dept, Agriculture Dept., Public Health Dept, and WASA., International Funding Agency	2 years	500,000.00
Enforce the EIA process	DOE, GOB, Civil Society	Continuous	
Finalize and implement the CCD action plan with adequate financial support.	FD, NCB, Cabinet	3 months	4,000.00
Implement the National Biodiversity Action Plan.	MNREI	Continuous	
Strengthen the authority of the Land Utilization Authority in relation to the land subdivision process	MNREI	6 months	Done by legislation
Complete the revision of all laws and regulations that require updating or improvement.	Solicitor General, All relevant government departments.	4 years	120,000.00
Prioritize and implement those projects designed to alleviate or eliminate poverty.	GOB	4 years	1,200,000.00

6. FINANCIAL ALLOCATIONS FROM NATIONAL BUDGETS IN SUPPORT OF IMPLEMENTATION OF THE CCD

The Government of Belize carries out its business by utilizing three major sources of financing. The first is described as Recurrent Expenditures which covers all routine

responsibilities or obligations such as salaries and wages of all employees, maintenance and repairs to physical plant, vehicles, and equipment, and Social Security Benefits, etc. These funds are derived from taxes and other revenue producing activities occurring continuously. Implementation of activities under the UNCCD does not meet such criteria so none of these funds can be allocated to this new area of activity.

The second source of funding is that known as Capital II. This funding mechanism provides the government with the ability to implement Capital Projects using funds generated internally. Capital Projects include construction of new buildings or other facilities that had been identified during the previous year's planning exercise. These funds can also serve as counterpart contributions to meet requirements or local responsibilities under Bi-lateral Project Agreements. Government Departments are able to seek allocations under this head for activities which meet the described criteria. The Forest Department had been allocated some funds for the 2000/2001 fiscal year, and was able to commit the amount of Bz \$ 3,000.00 (US\$ 1,500.00) to carry out some of those activities required to meet the country's obligation under the Convention. It is planned that this amount will be used to facilitate the public consultation process required to complete the National Action Plan.

A third source of revenue is that provided through Bi-Lateral or Regional Projects funded by grants or loans. To date, Belize has not yet received any funds under the Convention to Combat Desertification. However, the UNCCD Secretariat (Programme Officer) has advised that the amount of about US \$ 5,000.00 can be made available to help with the preparation of the status report on desertification in Belize. .

7. REVIEW OF THE BENCHMARKS AND INDICATORS UTILIZED TO MEASURE PROGRESS IN IMPLEMENTING THE CCD

Belize is not yet at the stage where activities are being implemented to combat land degradation and mitigate against situations at this time. Benchmarks and indicators that will be compatible with the Belize context will be established and adopted during the public consultation process. The terms of reference of the survey to determine the status of land degradation and drought in Belize should include the identification of benchmarks and verifiable indicators to measure progress.

8. RECOMMENDATIONS

Belize should develop a National Land Use Policy statement. This policy should define land use based on the results of the studies which have been completed, and should be complemented by a set of regulations which would allow enforcement and mitigation (rehabilitation) where infractions have occurred. Reforestation, subdivisions, and additional agricultural development should be guided by this policy.

Belize does not have any formal compensation system in place to alleviate the adverse effect of drought. The agricultural sector has provided subsidies or soft loans to small farmers who lost their crops to drought in the past. This system needs to be institutionalized to provide the

farmers with a safety net. Government's feasibility study of introducing small-scale irrigation systems to alleviate rainfall shortages need to be completed, and if found to be viable, should be implemented where the most urgent need is demonstrated.

Greater efforts should be made to increase public awareness about land degradation and drought in this country.

9. CONTRIBUTORS

Contributions to this report have been made by the following persons:-

Mr. Patrick Scott Sr. of the Sibun Watershed Association
Mr. Ramon Frutus of the National Meteorological Service
Mr. Henry Usher of the Ministry of Economic Development

APPENDIX 1: Organizations participating in the Inaugural Ceremony of UNCCD in Belize.

ORGANIZATION	MEMBER
Meso-American Biological Corridors Project	Mr. Anselmo Castaneda
The Belize Times Newspaper	Ms. Norma Jean Pitts
UNCCD Secretariat	Mr. Erwin Ortiz
Ministry of Sugar Industry, Labour & Local Government	Mr. Vallan Hyde
Ministry of Natural Resources, Environment & Industry / Lands & Surveys Department	Mr. Armin Cansino
Programme For Belize	Dr. Vincent Palacio
Ministry of Economic Development	Ms. Nancy Namis
Amandala Press	Ms. Adele Ramos
Ministry of Human Development	Mr. James Elijio
Ministry of Foreign Affairs	Ms. Melanie Quigley
Ministry of Natural Resources, Environment & Industry / Forest Department	Ms. Natalie Rosado
Ministry of Natural Resources, Environment & Industry / Forest Department	Mr. Angel Chun
Ministry of Natural Resources, Environment & Industry / Lands & Surveys Department	Ms. Noreen Fairweather
Ministry of Natural Resources, Environment & Industry / Forest Department	Mr. Oscar Ulloa
Sibun Watershed Association	Mr. Patrick Scott Sr.
Help For Progress	Mr. Elias A. Awe
Channel 7 TV	Ms. Dawn Sampson
Ministry of Natural Resources, Environment & Industry / Environment Department	Mr. Martin Alegria
Ministry of Public Utilities & Communications / Hydrology Department	Mr. Ramon Frutos
Ministry of Natural Resources, Environment & Industry / Forest Department	Mr. Earl D. Green
Ministry of Natural Resources, Environment & Industry	Mr. Stafford Garbutt
Ministry of Natural Resources, Environment & Industry	Honourable John Briceno
Ministry of Natural Resources, Environment & Industry	Mr. Oswaldo Sabido
Belize Audubon Society	Mr. Valdemar Andrade

APPENDIX II: PROPOSED SCHEDULE OF WORK for PREPARATION OF COUNTRY REPORT ON THE UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION (UNCCD)

1

DATE	ACTIVITY	PARTICIPATION
9 th Feb., 2000	Official Launch of the Belize UNCCD programme :- Establishment of Working Groups (choose group leaders), provision of Terms Of Reference. Establishment of National Coordinating Body	Minister/National Focal Point/Core Team/UNCCD Consultant (Mr. E. Ortiz/Government & Non-government sector representatives.
10 th Feb.,	Prepare Information packages, etc..	NFP/Core Team
16 th Feb.,	Training Session for Team leaders/teams	NFP/Core Team
17 th February	Submit Statement on UNCCD (to MED) for inclusion in GOB Medium Term Development Strategy.	NFP/Core Team
10 th March	First National Workshop for public presentation and discussion of Draft sector Reports <i>(Copies of Drafts sent to Mr. E. Ortiz)</i>	NFP/Core Team/ Government & Non-government sector representatives.
30 th March	Second National Workshop for presentation of Final Sector Reports <i>(Copies of report sent to Mr. E. Ortiz)</i>	NFP/Core Team/ Government & Non-government sector representatives.
30 th Mar. to 5 th April	Compilation of Final Report	NFP/Core Team
6 th April	Preparation and Submission of Executive Summary to Minister, seeking Endorsement and Letter	NFP/Core Team
6 th to 19 th April	Completion of Final Report	NFP/Core Team
20 th April, 2000	Dispatch of Report to UNCCD Secretariat in fulfillment of Belize's obligation.	NFP

E. D. Green / 9th March, 2000

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