UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION

NATIONAL CAPACITY SELF ASSESSMENT

Stock-Take

OF

BELIZE

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LIST OF ACRONYMS

BAHA	Belize Agricultural Health Authority.
BAS	Belize Audubon Society
BECOL	Belize Electric Company Limited
BEL	Belize Electricity Limited
BEST	Belize Enterprise for Sustainable Technology
BIARD	Belize Institute for Agricultural Research and Development.
CARD	Community-initiated Agriculture and Rural Development Project
CARDI	Caribbean Agricultural Research and Development Institute.
CARICOM	Caribbean Community
CATIE	Center for Tropical Agriculture Research and Higher Learning.
CEDS	Conservation and Environmental Data Systems
CFE	Comission Federal de Electricidad
CHM	Clearing House Mechanism
CITES	Convention on International Trade in Endangered Species
CORECA	Central American Agricultural Council.
CREI	Citrus Research and Education Institute.
CSO	Central Statistical Office
DOE	Department of the Environment
GEF	Global Environmental Facility
GIS	Geographic Information System
IICA	Inter-American Institute of Cooperation for Agriculture
LDC	Low Development Country
LIC	Land Information Center
LMP	Land Management Programme
NAP	National Action Programme
NARMAP	Natural Resources Management Project
NAS	National Awareness Seminar
NFP	National Focal Point.
NMS	National Meteorological Service

OIRSA	International Regional Organization for Health in Agriculture.
PACT	Protected Areas Conservation Trust
PfB	Programme for Belize
PMU	Project Management Unit.
RAMOS	Remote Automatic Meteorological Observation Station
SATIIM	Sarstoon-Temash Institute for Indigenous Management
SIAM	Meso-American Environmental Information System
SICA	Central American Integration System
SIDS	Small Island Developing States
SIF	Social Investment Fund
TIDE	Toledo Institute for Development and Environment
UNCCD	United Nations Convention to Combat Desertification.
UNEP	United Nations Environmental Programme.

EXECUTIVE SUMMARY

Belize signed the United Nations Convention to Combat Desertification (Land Degradation and Drought) in July 1998.

The Stock-take review revealed that there were a number of institutions sharing the responsibility for management of land and water resources in Belize.

Those departments and agencies within the public and private sector in Belize have completed, participated in, or are involved in activities that meet the requirements of the Articles of the Convention. Institutions involved include: the Forest and Lands and Surveys Departments, the Department of the Environment, Geology and Petroleum Department, and the National Meteorological Service/Hydrology Unit, all presently housed within the Ministry of Natural Resources and the Environment. Others are the Ministry of Agriculture and Fisheries, Ministry of Human Development, town and village councils, local Water Boards and non-government organizations such as Belize Enterprise for Sustained Technology, Toledo Institute for Development and Environment, and Programme for Belize.

While the first National Awareness Seminar has been completed, a gap analysis helped to identify certain priority needs which include: the launch of a sustained public education and outreach campaign that would sensitize the population to the causes and impacts of land degradation; a national survey to determine the extent of land degradation and drought situations in Belize; and the formulation and implementation of the projects under a National Action Programme. The National Action Programme would serve as the framework for activities that would address poverty and socio-economic issues that ultimately lead to land degradation and exacerbate recurrent drought.

1. INTRODUCTION

The Stocktaking exercise is a review of those current and historical activities that Belize has completed or is carrying out in order to meet the requirements of the United Nations Convention on Desertification (Land Degradation and Drought) (UNCCD). It is one of the stages of the National Capacity Self Assessment that is conducted to determine the country's capacity to implement the Convention. The outputs of this exercise will serve as the basis for the follow-up UNCCD Thematic Assessment.

2. SUMMARY STAKEHOLDER ANALYSIS

A number of departments and agencies within the public and private sector in Belize are crucial to the execution of requirements under the UNCCD. These institutions whose activities all tend to have impacts on the management of land and water resources include the Forest and Lands and Surveys Departments, the Department of the Environment, Geology and Petroleum Department, and the National Meteorological Service/Hydrology Unit, all presently housed within the Ministry of Natural Resources and the Environment. Other stakeholders include the Ministry of Agriculture and Fisheries, Ministry of Human Development, town and village councils, local Water Boards and non-government organizations.

The Forest Department has the mandate to manage the national forest resources in order to make the best use of the inherent goods and services while ensuring that the resources are conservatively utilized. This is achieved through the designation of the forest resources into different categories such as forest reserves and other national parks, based on the potential use of the area. The formulation and application of laws and regulations are some of the tools used to this end. The Department utilizes a licensing system and a variety of rules and regulations to control and monitor extractive use of the forest resources. These tools also allow the determination of national revenue that is generated through such harvesting activities. The authority of the Department extends, to a limited level, to the natural forest resources on privately owned land.

In 2003, the Forest Department (FD) was reorganized into management by programme areas as part of the ongoing effort to increase the efficiency of this department in its delivery of services, and to respond to the changing needs and priorities within the global and national forestry sector. Until recently, in early 2005, the FD was responsible for the implementation of the UNCCD. It also shares responsibility with the Fisheries Department as a member of the National Management Authority for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The Lands and Surveys Department comprises several sections dedicated to specific tasks. The National Estates Section, Physical Planning Section, Surveys and Mapping Section, Lands Registry, the Land Information Center, and the Valuation Section of this department all together enable the Ministry of Natural Resources to manage the nation's land resources. The Ministry's Land Utilization Authority provides technical support for land development to ensure promotion of the National Land Use Planning Framework. A major function is the facilitation of secure tenure of land parcels and plots to stakeholders as part of the effort to reduce or eliminate poverty.

The Land Information Center (LIC) manages a Geographic Information System (GIS) that is utilized in the preparation of land resource maps. The National Estate and the Valuation Sections serve to facilitate the process of land transactions and security of title. The Physical Planning Section ensures that establishment of new infrastructure like roads networks, new or expansion of existing residential and industrial subdivisions conform to established or introduced standards.

A draft National Planning Bill, one of the deliverables of the Land Management Programme, has been produced. The proposed Act makes provision for "the orderly and progressive use and development of land in Belize in the interest of sustainable development practices; for public health and safety; for the preservation and improvement of amenities thereof; the granting of permission to use and develop land; for other powers to use and regulate the use of land" and addresses other issues presently

raised by the multiple responsibility for land matters. Once adopted, the National Planning Act would be part of a *Decentralized Land Use Planning Framework*.

The Department of the Environment (DOE) has the responsibility to monitor the use and management of natural resources. This department seeks to ensure that economic development is not achieved at the cost of environmental degradation. Specifically DOE is charged with enforcing the provisions of the Environmental Protection Act (EPA), and advising government on the formulation of resource management policies. DOE must undertake investigations, compliance inspection, identify general areas for active research and development.

The National Meteorological Service (NMS) provides weather information and forecasts for agricultural, forestry, marine, military, and tourism applications. Specifically NMS provides hydrological/meteorological information and warnings for the protection of life and property. The NMS also collects, analyzes, and exchanges information for effective early warning for droughts and advance planning for food production. Earlier this year, the National Focal Point (NFP) responsibility for UNCCD was transferred from the Forest Department to the NMS. Functions of the NFP include Chairing the NCB, coordinating the formulation and implementation of the National Action Program (NAP), collaborating with other Focal Points to achieve synergy, and sensitizing stakeholders about the UNCCD.

The University Of Belize (UB) addresses academic and technical training needs at the tertiary level. This is accomplished through collaboration with other universities in research programs for the improvement or implementation of appropriate technologies. UB has cultivated and signed technical and scientific cooperation agreements with many international universities and agencies.

The Ministry of Agriculture and Fisheries is responsible for the improvement of the productivity of agricultural systems to ensure national food security. Specifically the Ministry provides technical services to farmers through research, extension, and training.

Opportunities to adopt technologies in irrigation, improved crop management, and access to improved or more suitable varieties of grains are facilitated by the Agriculture Department and its associated agencies such as the Belize Agricultural Health Authority (BAHA) and the Caribbean Agricultural Research and Development Institute (CARDI).

The National Emergency Management Organization (NEMO) is responsible for the mitigation of impacts of floods, fires, oil spills, epidemics, and mass casualty accidents. Preservation of life and property in times of emergency, and advance planning for periods of adverse climatic conditions is also within NEMO's mandate.

Several NGOs also contribute to conservation and prudent land management efforts in Belize. The Belize Enterprise of Sustainable Technologies (BEST) targets low income entrepreneurs, farmers, women, and youths in a strategy aimed at empowerment through self-help. Specific mechanisms employed by BEST include training, technical assistance, and credit facilitation. The principal philosophy of BEST is the acquisition, adaptation, and development of economically, socially and environmentally appropriate technology.

The Belize Electricity Limited (BEL) is responsible for the distribution of electrical power. BEL is involved in the investigation of technologies for alternative renewable energy.

The Belize Audubon Society (BAS) promotes the sustainable management of natural resources through strong advocacy and environmental education programs. BAS has a mandate from the Government of Belize (GOB) to manage eight Protected Areas.

The Protected Areas Conservation Trust (PACT) is a funding mechanism for environmental conservation efforts in Belize. PACT has a mandate for the promotion, conservation, and sustainable development of protected areas. It is actively involved in public awareness and funding for relevant research programs.

The Toledo Institute of Development and the Environment (TIDE) promotes sustainable environmental management practices. Signature accomplishments of TIDE include reduction of Manatee poaching, illegal fishing and logging, and destructive land management practices. Specifically TIDE has a mandate to safeguard the integrity of the environment and ensure sustainable development of the Toledo District.

The Sarstoon-Temash Institute for Indigenous Management (SATIIM) is a conservation NGO targeting poverty in the Toledo District. SATIIM promotes sustainable environmental management practices, environmental education, alternative livelihoods, and skills training.

The Ya' axché Conservation Trust promotes biodiversity, alternative livelihoods and sustainable management of the Golden Stream Corridor Preserve.

The Community-initiated Agriculture and Rural Development (CARD) project is aimed at increasing capacity of community-based organizations in southern Belize. Its objectives are to increase local capacity to formulate and implement small-scale projects to increase personal income, and ultimately reduce poverty.

The Social Investment Fund (SIF) addresses the basic needs of poor communities through facilitation of dialogue and collaboration among the Government, community, and organizations (regional, national, and international). The primary objective is to provide community-based sustainable solutions to the social and economic problems of the poor with the special needs of women, children, and youth (Press release 2/2/04: belize.gov.bz.).

Programme for Belize (PfB) manages 105,219 hectares of forested land in northwestern Belize. In addition to promoting conservation and sustainable land use, PfB also facilitates scientific research, environmental education, professional training and environmental awareness programs. Specific research projects include ecotourism and, sustainable timber extraction of non-timber products such as chicle, thatch, and palm.

The Northern Belize Biological Corridor and Agro forestry projects facilitate the creation of a biological corridor within Belize's protected area network (www.Pfbelize.org). They are linked to the Mesoamerican Biological Corridor Project.

The Caribbean Community Climate Change Centre (CCCCC) was created by the governments of the region to enhance regional institutional capabilities for coordination of national responses to the adverse effects of climate change, and to provide comprehensive policy and technical support in the area of climate change and related issues. In addition the Centre serves as the executing agency for regional environmental projects and is responsible for the promotion of education and public awareness on climate change issues (www.caribbeanclimate.org).

3 STOCK-TAKE

3.1 Education and Public Awareness.

A national public awareness campaign directly related to land use was launched under the MNRE's Land Management Programme. The objective of this particular campaign was to sensitize the public and creating awareness of a decentralized national planning framework and how it would work. Country-wide public consultations occurred at the district, community, and technical levels during a year-long period.

Additional public awareness in the area of land management is accomplished through the activities of Extension Officers of the Ministry of Agriculture and Fisheries, Forest Officers, Field Technicians, and Public Officers within relevant government departments. Promotional pamphlets are produced, and websites are maintained by GOB and NGOs. Awareness campaigns are also conducted through scholarships for education, and sponsorship of sporting events[1].

The University of Belize (UB) currently offers associate degrees in Natural Resources Management (NRM) and Agriculture. In 2005 UB will initiate a B.Sc. program in NRM.

[1] Personal Communication, Senior Official, Forest Department

The Agriculture and Natural Resources Institute, Sacred Heart College, and Muffles College offer courses in environmental science or natural resources management. Officials of the Ministry of Agriculture and Fisheries contend that the students trained at these institutions have a very good theoretical background but little practical experience[2].

Some non-government organizations such as Programme for Belize, Belize Audubon Society, Friends of Nature, Friends of the Valley, Toledo Institute for Sustained Development, and others all conduct educational programme in local communities focused on natural resources conservation and protection. Such educational programmes can be specifically targeted on certain species like manatees, or on the ecosystems within in their area of influence.

3.2 The Transfer, Acquisition, Adaptation, and Development of Appropriate Technology.

The Belize Enterprise for Sustainable Technology (BEST) provides financial and technological assistance to low income entrepreneurs, farmers, women, and youths. BEST has successfully supported initiatives such as basket weaving, poultry farming, sewing, and initiatives related to the tourism industry. Small loans have been awarded to farmers for capacity building workshops, a corn mill in Santa Anna (Toledo District), integrated agricultural development, youth enterprise schemes, cacao farms, honey projects, and an informal study of the Guatemalan market. Sustainable energy technologies such as Lorena Stoves (clean burning wood stove), solar cookers, solar heaters, and wind turbines are actively supported by BEST. The introduction of these technologies are important as statistics obtained in a 2000 census show that 16% of households in Belize use wood as the primary source of cooking fuel. Data also show that 92% of these households are located in rural areas (Abstract of Statistics, 2004).

[2] Comments from Senior Agricultural Officers.

3.3 Alternative Renewable Energy.

Belize's peak demand for electricity is 61 MW which is met by Mollejon and diesel-powered generators (Belize Electricity Limited Annual Report, 2004). However BEL faces an imminent challenge when the 25 MW "firm power purchase agreement" with "Comission Federal de Electricidad" of Mexico ends in August, 2006. In anticipation of the need for increased generation capacity, BECOL has commenced construction of a second hydro-dam at Chalillo on the Macal River, and studies for a third facility to be located near Vaca Falls on the Macal River which could add 15-20 MW of hydro capacity by 2008 (BEL Annual Report, 2004). These three were all part of the original concept for hydro-electric power for Belize. In addition "Hydro Maya", an independent power producer, is scheduled to deliver power by mid 2006 from a proposed 2.8 MW hydro plant to be constructed in Southern Belize (BEL Annual Report, 2004). Increased capacity will also be realized, since in December, 2004, a 15 year power purchase agreement was signed with "Belize Cogeneration Energy Ltd.", (a subsidiary of Belize Sugar Industries) for the supply of 13.5 MW from a baggasse fired plant to be commissioned by late 2007 (BEL Annual Report, 2004).

3.4 Alternative Livelihoods.

Poverty alleviation in Belize is targeted through the Basic Needs Trust Fund/Social Investment Fund. The Fifth Program for Belize attempts to reduce poverty through skills training, basic infrastructure projects and community development programs. Specific activities include potable water projects in remote villages, training for employment and self-employment, construction or rehabilitation of the physical environment for the elderly and improved facilities for health and education (Government Press Release 2/2/04).

BEST, SATIIM, TIDE, Ya' axché Conservation Trust are NGOs that promote alternative livelihoods through support for appropriate technologies initiated from the identified needs of "grass roots" individuals and communities. The Meso-American Barrier Reef System Programme, in which Belize participates, includes a component for Sustainable Livelihoods through the conservative use of the coastal/marine resources.

3.5 Early Warning Information Systems for Drought and Food Production.

Crop forecasting is crucial for the agricultural sector as it enables farmers to be proactive in land resource management. Currently very limited crop forecasting is conducted by the Ministry of Agriculture.

The National Meteorological Service prepares drought alerts, fire forecasts, and flood forecasts. The Hydrology Unit is responsible for collection and analysis of data on the quantity, quality and variability of Belize's water resources. The Unit is also responsible for publication, dissemination of information, dissemination of early warning for floods, dam regulations, and dam breaks (http://www.hydromet-gov.bz.). The Unit maintains 27 hydrological observation sites at 16 of 18 major watersheds. Only the Sarstoon and Temash watersheds remain unmonitored (R. Frutos, 2003).

Coordinated management of Belize's water resources has been advanced through reactivation of the National Pro-tem Water Commission by the Ministry of Natural Resources and the Environment (R. Frutos, 2003). This Commission is presently reviewing draft legislation intended to improve the management of water resources.

3.6 Information Systems.

The Land Information Center (LIC) has a database for land management and allocation (Lands and Surveys Department, Information Booklet). LIC compiles a database of natural resources and environmental information. The National Meteorological Service has a database for rainfall, temperature, and discharge. A Remote Automatic Meteorological Observation Station (RAMOS) provides continuous information on air temperature, sea temperature, wind, and wave height (http://www.hydromet-gov.bz.). The Forest Department has initiated a needs survey to assist is the establishment of a Biodiversity Clearing House Mechanism. This mechanism is expected to assist with the management of data and information related to biological diversity and environment, and allows monitoring of changes caused by nature and human activity. Similarly the Mesoamerican Environmental Information System (SIAM) is a component of the

Mesoamerican Biological Corridor Project. This requires the selection of an institution to serve as the national hub for a system that would evolve into a regional (Central American) environmental information network system. Both the Forest and the Lands and Surveys Departments have been involved in the development of the SIAM over the last two years.

3.7 Planning for Adverse Climatic Conditions.

Belize's response to national emergencies is coordinated through the National Emergency Management Organization (NEMO). The NEMO comprises Government and private sector representatives who are organized to respond before, during, and after a natural disaster. Members include: the entire Cabinet, the NEMO Secretariat, The Police Department, Chief Meteorological Officer, the Belize Defense Force, and twelve operational Committees.

NEMO's mandate is the preservation of life and property in times of national emergency and the coordination of international assistance. Currently there are emergency plans for hurricanes, floods, fires, and oil spills. Future planning includes mitigation methods for epidemics, mass casualty accidents, and other hazards (http://www.nemo.org.bz).

Belize requested inclusion in the Low Development Countries of the Small Island Developing States (LDC SIDS) Initiative in May 2004. Belize is listed as a SIDS member state in the Project Document. The first National Awareness Seminar (NAS) has been completed and the National Action Program (NAP) is being elaborated. The NAS identified a number of Land Degradation issues that require attention by national policy and decision makers. Issues included limited national capacity and the absence of a national land policy and land management plan. Another problem is the absence of land degradation statistics since the phenomenon has never been assessed at a national level. With the GEF support, Belize will be able to strengthen its institutional and human resource capacity to improve sustainable land management planning and implementation.

3.8 Systems for Research and Development.

The regional organization for agricultural research and development CARDI (Caribbean Agricultural Research and Development Institute) and several national institutions including the Belize Agricultural Health Authority (BAHA), and the Citrus Research and Education Institute (CREI), are engaged in research and development projects aimed at improving the productivity of the agricultural sector.

The Caribbean Agricultural Research and Development Institute (CARDI) conducted legume research projects which focused on the preliminary evaluation of legume varieties to identify and improve varieties for local conditions. CARDI has also been instrumental in research to develop improved production technologies for farmers. Additionally CARDI has provided logistical support in organizing research and development committees for sugar, citrus, and banana. At present there is an "Advisory Committee of the Sugar Industry Research and Development".

BAHA was established by Act 47, 1999 through funding from the Government of Belize and the Inter-American Development Bank. It is responsible for animal health, plant health, quarantine, and general food safety. Services offered include field diagnostics of pests, laboratory diagnostics, import/export certification and permits.

The Citrus Research and Education Institute (CREI) specifically focus on citrus research and conducts research on biological indexing to detect the Citrus Tristeza Virus, Exocortis, and Blight. Soil and leaf nutrient analyses are conducted to recommend to farmers application rates for fertilizers. CREI also conducts annual production forecasts based on 10-year trends, and a telephone poll of estimates from the large growers.

The MAFC rice project focused on the production of high quality seeds, the transfer of seed multiplication technology, and the improvement of production systems.

The Extension Service remains the only avenue for the Ministry of Agriculture to educate small farmers. Agricultural research is conducted at the Ministry's Central Farm facility

as small plot trials. Experimentation with irrigation includes a micro-dam with a capacity of 60 million gallons constructed in Selena. This reservoir is currently being used to irrigate 30 acres of land and has a water capacity of three months. Specific research projects conducted by the Ministry of Agriculture include a coconut hybridization project in response to the "Lethal Yellowing" disease, a fruit tree project, a root crop project, and a hot pepper seed propagation project.

3.9 Technical and Scientific Cooperation

There is regional cooperation in agricultural research activities through "The Central American Agricultural Council" (CORECA). Belize became a member of the International Regional Organization for Health in Agriculture" (OIRSA) in 1996. The mission of OIRSA is to facilitate the social and economic development of the region through sound and healthy agricultural production which is environmentally acceptable.

Other international organization such as the Inter-American Institute of Cooperation for Agriculture (IICA) and the Center for Tropical Agriculture Research and Higher Learning (CATIE) offer technical assistance and field training to Belizean farmers. Membership in SICA (Central American Integration System) and CARICOM, enables Belize to participate in regional efforts to manage water resources (R. Frutos, 2003).

4 SYNTHESIS OF THE STOCK-TAKE

4.1 Capacity Development Efforts for UNCCD

Table 1. Summary of the status of those Articles of the Convention relevant to Belize.

Convention Requirements	Status
Article 2: Objective To combat desertification and mitigate the effects of drought. -Adopt long-term integrated strategies that focus	No specific strategy to combat land degradation and drought has been formulated for Belize. However, certain sectoral policies and strategies that would mitigate the impacts of land degradation and drought have been drafted.

simultaneously, in affected areas, on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions, in particular at the community level.	Examples are the Agricultural Sectoral Strategy policy document 1998-2020 and Sectoral Strategy 5-year plan which seek to improve agricultural practices; and the National Land Policy Framework that is one of the expected outputs of the Land Management Programme currently being implemented by the Ministry of Natural Resources and the Environment.
Article 5: Obligations of affected country Parties Prioritize combating desertification and mitigating the effects of drought, and allocate adequate resources. -Establish strategies and priorities, within the framework of sustainable development. -Address the underlying causes of desertification and pay special attention to the socio-economic factors. -Promote awareness and facilitate the participation of local populations, particularly women and youth, with the support of NGO's. -Strengthen relevant existing legislation, enact laws, and establish long-term policies and action programs.	The results of the NAS indicated that there is a lack of knowledge about land degradation. A national survey to determine the level and/or extent of land degradation or drought situations has not yet been conducted. Therefore, a prioritized list of strategies or programmes to resolve the issues cannot be identified at this time.
Article 8: Relationship with other conventions Encourage the coordination of activities under other relevant international agreements, particularly the UNFCC and the UNCBD.	Belize's membership in the CCAD enables Belize to take advantage of the sub-regional Technical Committee for Synergies Initiative. The ongoing National Capacity Self Assessment Project is expected to further the analysis of this requirement.
Article 10: National Action Programmes NAP will identify factors contributing to desertification and practical measures necessary to combat desertification and mitigate the effects of drought.	Belize completed its first National Awareness Seminar in October 2004. A consultancy is being advertised for the preparation of the National Action Programme. The NAP will be based on the output of the NCSA and the NAS.
Article 11: Sub-regional and regional action programmes Consult and cooperate to prepare action programs to complement and increase the efficiency.	Belize would be able to participate in sub-regional and regional Action Programmes (under the UNCCD) through its membership in the Central American Council for Environment and Development (CCAD) and CARICOM.
Article 12: International cooperation Cooperate to ensure the promotion of an enabling international environment in the implementation of the Convention. Such cooperation should also cover fields of technology transfer as well as scientific research and development, information collection and dissemination and financial resources.	Belize has been represented in a number of regional and international meetings related to the Convention, such as the meetings on Benchmarks and Indicators in Chile and St. Lucia, and the COP 6 in La Havana, Cuba. Attendance in these workshop means that Belize is contributing to the development (including sharing traditional knowledge and experiences) and adoption of a regional set of B & I instead of trying to create its own.

Article 13: Support for the elaboration and implementation of action programmes Financial cooperation to provide predictability for NAP, allowing for long-term planning.	This has not been achieved since the NAP has not yet been prepared.
Article 14: Coordination in the elaboration and implementation of action programmes Cooperate in the elaboration and implementation of NAP.	Activity to prepare the NAP has just been initiated, but its preparation is expected to have national participation through the public consultation process.
Article 16: Information collection, analysis and exchange Integrate and coordinate the collection, analysis and exchange of relevant short term and long term data and information to ensure systematic observation of land degradation in affected areas and to understand better and assess the processes and effects of drought and desertification.	Data and information related to Land Degradation are currently not available since a national survey to determine the status of the phenomenon has not been completed. At the national level, the Central Statistical Office of the Ministry of National Development, collects and disseminates all types of data including that on the environment. An Environmental Statistics section has been established in the LIC of the MNRE. Belize is involved in a number of regional cooperation mechanisms such as the CCCCC, MACC, SIAM, IABIN, MBRS, and MBC which provide opportunities to share, exchange, and access relevant data and information as needs arise.
Article 17: Research and development Promote technical and scientific cooperation in the fields of combating desertification and mitigating the effects of drought through appropriate national, sub-regional, regional and international institutions.	Belize is not implementing any of activities related to this Article.
Article 18: Transfer, acquisition, adaptation and development of technology -Promote, finance and/or facilitate the financing of the transfer, acquisition, adaptation and development of environmentally sound, economically viable and socially acceptable technologies relevant to combating desertification and/or mitigating the effects of drought, with a view to contributing to the achievement of sustainable development in affected areas. Such cooperation shall be conducted bilaterally or	Even in the absence of a national programme designed to combat desertification and mitigate the impacts of drought, Belize contributes to the development of regional Benchmarks and Indicators through participation in the sub-regional and regional meetings. **Belize Enterprise for Sustained Technology (BEST**), and **Help For Progress** are two NGOs that have spearheaded technology transfer efforts in alternate energy (biogas, solar-box cookers) that help to reduce land

multilaterally, as appropriate, making full use of the expertise of intergovernmental and non-governmental organizations.	degradation (through deforestation).
Article 19: Capacity building, education and public awareness -Emphasize capacity building, institution building, training and development of relevant local and national capacities.	A number of the staff of the Forest and Lands and Surveys Departments, the Department of the Environment, and one local consultant have had opportunities to build capacity in relation to the Convention through participation in the sub-regional, regional, and international workshops and meetings. Except for the first NAS, no integrated public education and awareness campaign on the UNCCD has been launched.
Article 20: Financial resources Make every effort to ensure that adequate financial resources are available for programs. -Mobilize adequate financial resources for the implementation of NAP. -Utilize and continue qualitative improvement of all national, bilateral and multilateral funding sources and mechanisms, using consortia, joint programs and parallel financing, and shall seek to involve private sector funding sources and mechanisms, including those of non-governmental organizations.	To date financial resources for UNCCD activities have been provided by the Secretariat through UNDP country office (preparation of the first and second National Reports, the NAS, and participation in meetings/workshops. National funding could not be made available in the absence of a national programme.
Article 26: Communication of information Communicate to the COP through the Permanent Secretariat, reports on the measures which it has taken for the implementation of the Convention.	Belize drafted the First National Report on the status of implementation of the Convention in 2001, and submitted a draft Second National Report in 2003.

4.2 UNCCD Requirement Gaps (Needs and Challenges)

The most critical issue identified by participants of the "First National Capacity Self-Assessment Workshop on the UNFCCC, UNCBD, and UNCCD (5-6, May 2005) was the need to prepare a National Action Program (NAP). The NAP will identify factors contributing to desertification, practical measures necessary to combat desertification, and mitigate the effects of drought (UNCCD, Art. 10). In addition, the NAP will specify the roles of government, local communities and land users, and the resources available

and needed (UNCCD, Art. 10). Other requirement gaps were identified based on group discussions at the "First National Workshop (5-6, May 2005)", subsequent discussions with stakeholders, and responses to prioritization matrices that were circulated. Requirements for the UNCCD are derived from five general areas. These include:

1. acquisition and adaptation of technology
2. research and education
3. community awareness
4. early warning systems
5. alternative livelihoods

Table 2 summarizes the specific issues that should be addressed and suggests the Government Ministries that should be the lead agencies in directing the necessary efforts and resources for the accomplishment of specific objectives.

Table 2: Current gaps in the implementation of the UNCCD stipulations that the NAP will address.

General Area	Specific Limitation	Responsible Agency(ies)
Acquisition and adaptation of technology.	Policies and strategies have been drafted to guide activities of certain agencies, but a coordination mechanism to guide implementation at a national level is not in place.	Ministry of National Development in collaboration with MAF, BELTRADE, Belize Marketing Board, BEST, HFP, and others.
Research and education	Baseline data on land degradation and drought in Belize is not available. The research and education needs related to these phenomena are not identified.	MNRE (DOE, LSD, FD, GPD), Ministry of Human Development, UB, MND, Ministry of Education, BEST, HFP, CARDI, NMS.
Community awareness	A national sustained public education and awareness programme is needed to enable people and institutions at all levels to recognize that they contribute to the problem of land degradation. Drought situations need to be recognized and measures introduced to reduce the impact.	NPF, NCB, UB, UNCCD Secretariat NFP, NCB, NMS, MNR, MAF, in collaboration with BWSL, Pro Tem Water Commission, PUC.

Early warning systems	Improved weather data collection systems, combined with utilization of models (adapt if necessary), and appropriate means of dissemination of information to the public.	NMS, MAF, MNRE, NEMO, media organizations
Alternative livelihoods	An assessment to identify the sectors of the population which are the most vulnerable and the potential activities that could contribute to improvement of the situation. Programmes, including training for capacity building, for sustainable income generating activities designed based on the needs assessment.	NCB, public representation, MND, NEMO, NGOs. NCB, public representation, MND, NGOs, and international donor agencies.

RESOURCE PERSONS

NAME	TITLE	AGENCY/DEPARTMENT
Mrs. Noreen Fairweather	Head	Land Information Center
Mr. Solis	Land Information Officer	GIS
Ms. Ivis Chan	Forest Officer	Clearing House Mechanism
Mr. Earl Green	National Consultant	Independent
Ms. Tanya Santos	Forest Officer	Forest Revenue, Forest Dept.
Mr. M. Trujillo	Crop Coordinator	MAF
Mr. R. Thompson	Extension Coordinator	MAF
Mr. Barry Palacio	DAC, Toledo	MAF
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Mr. Joseph Villafranco	Freshwater Specialist	TIDE
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