

E. Medicinal Plants

4.6.10. Objective: To preserve knowledge on the use and management of medicinal plants and to strengthen the culture of traditional healing through formal education.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Develop and introduce a medicinal plant syllabus into the curriculum of primary, secondary and tertiary schools.	Management of Schools, Ministry of Education, THF & TH Association, Forest Department, NGOs, DBMK, Ixchel	✓	✓	\$21,000
b. Continue and expand special presentations on medicinal plants in schools, namely visits by traditional healers, production of colouring books, lectures, slide and video presentations.	Principals & Teachers, THF & TH Association, NGOs and International Institutions, Forest Department, Ixchel, DBMK	✓	✓	\$5,000/yr.
c. Continue and expand schools' visitation to Medicinal Trails.	Principals & Teachers, Management of Trails, Private Sector	✓	✓	\$30,000/yr.
d. Continue and expand competition between schools in activities involving medicinal plants.	Principals & Teachers, THF & TH Association Ixchel, DBMK, Ixchel	✓	✓	\$30,000/yr.
e. Encourage and support Belizean students to study natural healing as a profession.	Principals & Teachers, Ethnobotanists, Ministry of Education, Ixchel	✓	✓	\$60,000/yr.
f. Encourage and contribute to the introduction of ethnobotany/healing studies in regional universities.	Ministry of Education, Faculty of Sixth Forms and UCB	✓	✓	\$1,000/yr.

g. Develop and conduct a part-time organized course of study on ethnobotany/natural healing at one of Belize's tertiary institution.	Belize College of Agriculture, University College of Belize, Ministry of Education, THF & TH Association, Ixchel, DBMK	✓	✓	\$5,000/yr.
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4.6.11. Objective: To improve the general public's awareness and knowledge on the use of plants as medicine.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Broadcast and publish special programmes on medicinal plants through the media.	THF & TH Association, DBMK, Ixchel, NGOs, NBO, Forest Department, Media	✓	✓	\$5,060/yr.
b. Organize and conduct public displays and exhibits on medicinal plants.	Schools & Colleges, Agricultural Show Committees, Town Boards, THF & TH Association, NGOs, Ixchel, DBMK	✓	✓	\$12,000/yr.
c. Encourage and strengthen the publication and circulation of newsletters, pamphlets, reports, etc. on medicinal plants.	THF & TH Association, Ixchel, DBMK, NGOs, NBO, International (Research) Institutions.	✓	✓	\$10,000/yr.
d. Produce a series of stamps on important and/or threatened medicinal plants.	Postal Agency, Forest Department (National Herbarium), NBO, THF & TH Association, DBMK, Ixchel,	✓		\$4,000

**4.7. INSTITUTIONAL COLLABORATION AND COORDINATION (NATIONAL, REGIONAL, AND INTERNATIONAL)(Article 17 and 18)**

**A. Environmental and Land Use Planning**

**4.7.1. Objective:** To establish tighter integration between the Physical Planning Unit and the Geographical Information System (GIS) Section of the Land Information Center LIC).

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget
		1-5 years	> 5 years	
a. Establish a small internal committee including, but not limited to, staff from the LIC and the Physical Planning Unit to conduct regular meetings to evaluate and chart the direction of the LIC-GIS sector in serving the needs of Land Use and Physical Planning for the country.	MNR&E	✓	✓	N/A

**4.7.2. Objective:** To develop mechanisms for inter-agency coordination and collaboration.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget
		1-5 years	> 5 years	
a. Establish mechanisms to share GIS resources with institutions and organizations involved in the conservation of biological resources.	LIC, CEDS Members and Physical Planning Unit, DOE-NEAC, CGA	✓	✓	N/A
b. The National Biodiversity Office to ensure information exchange, dissemination and coordination among relevant agencies.	NBO, LIC, CEDS Members and Physical Planning Unit, DOE-NEAC, CGA	✓	✓	N/A

B. Fisheries, Coastal and Marine Resources

4.7.3. Objective: To strengthen collaboration with countries that have similar biological and cultural resources, to exchange experiences on approaches to management, implementation constraints and successes.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Broaden the Belize-Mexico Technical Cooperation Programme to include target projects for the conservation of coastal and marine biodiversity in the Border Zone.	Ministries of Foreign Affairs & Finance, Environment, Fisheries & Forest Departments	✓	✓	\$80,000
b. Initiate bilateral and multinational negotiations with suitable institutions in Mexico, Cuba, Honduras, Guatemala and Jamaica to obtain access to technology, infrastructure, training and funding necessary for the development and management of Belize's biodiversity.	NBO, Ministry of Foreign Affairs, Fisheries Department, CZMP/A	✓	✓	\$80,000/yr.
c. Conduct workshops with competent personnel from neighboring countries, with the intention of harmonizing management measures for trans-border biological resources such as the lobster and Nassau grouper.	Ministry of Foreign Affairs, NBO, Environment & Fisheries Departments	✓	✓	\$60,000
d. Initiate negotiations with the competent authorities in Mexico and Guatemala to address the problems associated with trans-border pollutants from municipal waste, industry and maritime traffic.	Ministry of Foreign Affairs, DOE, Solid Waste Management Authority and Fisheries Department	✓	✓	\$100,000

C. Forest and Wildlife Management

4.7.4. Objective: To continue and expand collaboration with local and foreign institutions to conduct research on forest and wildlife resources.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Continue and expand current research collaboration with foreign institutions to include population and habitat distribution of forest and wildlife resources.				
1. York University – work on the Mountain Pine Ridge Forest Reserve.	Forest Department, York University	✓	✓	\$10,000/yr
2. Colorado State University – courses for forestry staff.	Forest Department, Colorado State University	✓	✓	\$10,000/yr
3. Las Cuevas Research Station – document biodiversity of Chiquibul Forest Reserve and other areas.	Forest Department, Natural History Museum, AFFWCR	✓	✓	\$5,000/yr
4. World Wildlife Fund – Conservation	Forest Department & WWF	✓	✓	\$10,000/yr
5. RARE – conservation of all parrots trails design and environmental education.	Forest Department, RARE	✓	✓	\$5,000/yr
6. Edinburgh University – studies on biodiversity conservation.	Forest Department, Wild Tracks, AFFWCR	✓	✓	\$5,000/yr
7. Others – WCS on biodiversity studies in other areas of Belize.	Forest Department, AFFWCR, Wildtracks, Research Partners	✓	✓	\$10,000/yr

<p>b. Strengthen collaboration with local institutions to address forestry and wildlife issues of mutual interest.</p> <ol style="list-style-type: none"> <li>1. Belize Audubon Society – co-management of protected areas.</li> <li>2. Programme for Belize – carbon sink possibilities.</li> <li>3. TIDE – co-manage protected areas.</li> <li>4. BEST – agro forestry.</li> <li>5. Help for Progress – working with communities in forestry and wildlife.</li> <li>6. UCB – terrestrial areas, forestry and wildlife.</li> <li>7. BCA – medicinal plants, forestry and wildlife.</li> <li>8. BWB-ASF Avifaunal research. Birds as conservation tools. Survival studies on migrants and reproductive success of residents.</li> </ol>	<p>Forest Department, BAS</p> <p>Forest Department, PFB</p> <p>Forest Department, TIDE</p> <p>BEST</p> <p>Forest Department, Help for Progress</p> <p>Forest Department, UCB</p> <p>Forest Department, BCA</p> <p>BAS, PFB and BWB</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>\$5,000/yr</p> <p>\$2,500/yr</p> <p>\$5,000/yr</p> <p>\$2,000/yr</p> <p>\$2,000/yr</p> <p>\$5,000/yr</p> <p>\$5,000/yr</p> <p>n/a</p>
<p>c. Increase technical meetings with personnel from Mexico and Guatemala on monitoring and relocation of persons intruding protected areas and the monitoring of illegal logging on the borders.</p> <ol style="list-style-type: none"> <li>1. Continue monitoring and relocation of persons intruding in protected areas.</li> <li>2. Monitor logging activities on the borders with Guatemala and Mexico.</li> <li>3. Continue regular meetings/dialogue with technical personnel from Mexico and Guatemala on forestry and wildlife. This will be done in 3 out of the 5 years.</li> </ol>	<p>Forest Department, Ministry of Foreign Affairs, BDF and Guatemalan and, Mexican relevant officials.</p>	<p>✓</p> <p>✓</p> <p>✓</p>	<p>✓</p> <p>✓</p> <p>✓</p>	<p>\$100,000/yr</p> <p>\$50,000/yr</p> <p>\$50,000/yr</p>

D. Agriculture

4.7.5. Objective: To improve collaboration with international research and development organizations in the agriculture sector, to improve efficiency of production and to diversify agricultural production.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget
		1-5 years	> 5 years	
a. Establish closer links with international agencies in countries with similar crops and climatic conditions.	Ministry of Agriculture, CARDI, CIAT, CATIE, CIMMYT, IIRRI, IICA, ZAMORANO, FAO, CGA & AFFILIATES Government supported initiatives - e.g. Taiwan	✓		\$50,000/yr.

4.7.6. Objective: To increase collaboration with existing seed and gene banks in other countries.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget
		1-5 years	> 5 years	
a. Establish closer links with international seed and gene banks.	Ministry of Agriculture, CIMMYT, CIAT, IIRRI, SAC and CATIE, CGA & AFFILIATES	✓		N/A
b. Collect and supply material to appropriate international seed and gene banks.	Ministry of Agriculture, Growers Association, NGOs working in the sector, CGA & AFFILIATES	✓		\$50,000

**E. Tourism**

4.7.7. Objective: To strengthen and participate fully in regional tourism development, promotion and marketing programmes.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Establish closer links with international agencies involved in the tourism sector and participate fully in regional tourism development and marketing programmes.	Ministry of Tourism, Belize Tourist Board, BTIA, Regional Tourism Agencies	✓		\$250,000/yr.

**F. Medicinal Plants**

4.7.8. Objective: To strengthen institutional and cross-sectoral collaboration to conserve medicinal plants.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Establish and maintain a National Traditional Healers Association consisting of regional associations from all districts, to encourage collaboration between healers on a national level.	THF & TH Associations	✓	✓	\$20,000/yr
b. Establish and develop a National Bioprospecting Committee under the NBO to oversee the conservation and use of medicinal plants.	Ministry of Natural Resources and the Environment	✓	✓	Capital -\$100,000 Recurrent - \$106,000
c. Clarify the role of NGOs and Government Departments in the management and conservation of medicinal Plants.	ANDA, Government of Belize, THF, BACONGO	✓	✓	\$5,000



4.7.9. Objective: To participate in regional initiatives and strengthen collaboration with international organizations involved with the management and conservation of medicinal plants.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Continue participation in TRAMIL workshops and conferences.	BEST, Help for Progress & Other NGOs, TRAMIL	✓	✓	\$12,500/yr
b. Improve and increase collaboration with NYBG.	Ixchel, THF, BCA, MNR&E, NYBG	✓	✓	\$10,000/yr
c. Participate in the development and implementation of joint research programmes with international research institutions and pharmaceutical companies.	THF & TH Associations, DBMK, NGOs, Ixchel	✓	✓	\$4,500/yr

**G. Legal and Policy Framework**

4.7.10 Objective: To build coordination mechanisms between all agencies involved in Protected Areas management.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Develop inter-ministerial committees with representatives from the Ministry of Natural Resources and the Environment, Ministry of Agriculture, Fisheries, Cooperatives and Archaeology Department to promote collaboration.	Fisheries, Forest, Lands & Archaeology Departments, BAS, PFB, & relevant communities	✓	✓	\$12,000
b. Conduct training workshops on institutional collaboration and Conflict Resolution for agencies and stakeholders involved in Protected Areas management.	Fisheries, Forest, Lands & Archaeology Departments, BAS, PFB, & relevant communities	✓	✓	\$12,000

**4.8. INFORMATION MANAGEMENT (Article 12, Article 17 and Article 18)**

**A. Environmental and Land Use Planning**

4.8.1. Objective: To ensure the timely organization and distribution of information to assist in the planning and management of biological resources.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Integrate the CSO socio-economic data and the BBIS biodiversity data into the GIS at the LIC in an effort to improve land use planning.	CSO, LIC, Physical Planning-MNRE, Wildlife Conservation Society/BBIS	✓		\$32,000
b. Develop and distribute a GIS planning database complete with metadata, to all planning institutions in Belize having GIS access.	LIC, Physical Planning-MNRE	✓		\$48,000

**B. Information and Geographical Information System (GIS)**

4.8.2. Objective: To improve the development of the CEDS as a central clearing house for information relating to biological resource management.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Improve the functioning of the Belize Biodiversity Information System (BBIS) as a separate but complimentary component under CEDS.	Conservation and Environment Data System (CEDS)	✓		N/A
b. Identify and access additional funding for the functioning of the BBIS under the CEDS to provide the data necessary for the proposed National Biodiversity Monitoring Program.	CEDS	✓		\$10,000

c. Conduct an assessment of CEDS to identify gaps and loopholes, and to make recommendations for their correction.	CEDS	✓		\$40,000
d. Allow the CEDS organizational structure to function and ensure the sustainability of the CEDS, including the enhanced input from inactive members.	CEDS	✓		\$40,000
e. Amend, where possible, the CEDS data exchange policy to ensure easy access to information.	CEDS	✓		\$52,000/yr
f. Develop and implement a system of incentives for CEDS members.	CEDS	✓	✓	\$46,000/yr

4.8.3. Objective: To facilitate access and appropriate use of data relevant to the management of biological resources.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. The Environmental Statistics Section at the CSO to conduct periodic synthesis of existing biodiversity information and the dissemination of the results to interested and affected groups.	CSO	✓		N/A
b. Conduct training on the standards and documentation of metadata.	CEDS	✓		\$26,000
c. Ensure that accuracy assessment and reporting are key factors in determining metadata standards.	CEDS	✓		\$10,000
d. Develop guidelines for the use of metadata.	CEDS	✓		N/A

C. Agriculture

4.8.4. Objective: To develop and continuously update an accurate database on agricultural land use.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Obtain latest aerial photography and conduct analysis with ground-truthing to prepare detailed maps of current land use.	LIC/GIS, Ministry of Agriculture, Banana/Citrus/Sugar Growers Associations and Belize Sugar Industries	✓		\$400,000

4.8.5. Objective: To develop a statistically accurate crop information database.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Prepare statistically accurate sample surveys for the collection of crop data to be stored in a national database.	Ministry of Agriculture, CSO, Growers Associations, BSI, CGA	✓		\$150,000 \$25,000/yr.

4.8.6. Objective: To develop a database on the in-country genetic stock of agricultural crops and livestock, including location and "ownership" of the genetic material.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Compile a database of in-country genetic stock through field surveys.	Ministry of Agriculture, CGA, Growers/Producers Associations, NGOs in the Agriculture Sector	✓		\$100,000

D. Medicinal Plants

4.8.7. Objective: To document and catalogue data obtained from the study of medicinal plants.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Establish at least one (1) center in each district where information on medicinal plants can be stored and accessed.	THF & TH Associations, Ixchel, DBMK, NGOs, Forest Department, NBO, Schools and Colleges, District Libraries and National Herbarium	✓		Capital - \$18,000 Recurrent - \$1,500/yr
b. Continue the preparation, storage and cataloguing of herbarium specimens of medicinal plants.	Forest Department, Ixchel, International Research Institutions, Pharmaceutical Companies and Herbarium	✓	✓	N/A

c. Document and disseminate the outputs of research conducted.	Forest Department, International Research Institution, NGOs, Ixchel, BCA, NBO, THF & TH Associations and National Herbarium	✓	✓	N/A
d. Develop, maintain, publish and distribute the database of plants used as medicine and their active ingredients.	National Herbarium, CEDS, NBO, NYBG	✓	✓	\$26,000
e. Develop and maintain a comprehensive database on plant diversity in Belize and the status of medicinal plants.	National Herbarium, CEDS, NBO, NYBG	✓	✓	\$26,000
f. Maintain computerized databases of all records and maintain an international format to facilitate data sharing and transfer.	National Herbarium, CEDS, NBO, NYBG	✓	✓	\$26,000

#### 4.9. ACCESS TO GENETIC RESOURCES (Article 15)

##### General

4.9.1. Objective: To provide guidelines for controlling access to genetic resources.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget
		1-5 years	> 5 years	
a. Identify and access information from other countries with successful policies and mechanisms for controlling the exploitation of genetic resources.	NBO, Ixchel, CGA, Help for Progress, BEST and THF	✓	✓	(BZD) \$54,000
b. Develop the policies, laws, enforcement mechanisms and institutional framework necessary to regulate access to genetic resources and traditional knowledge, including a strict screening mechanism for access to organisms with known pharmaceutical or other industrial value.	Attorney General's Office, NBO, Ixchel, Help for Progress, BEST and THF, Civil Society, CGA	✓	✓	\$35,000

c. Ensure that access agreements do not over-exploit genetic resources and include technology transfer for local people.	Attorney General's Office, NBO, Ixchel, Help for Progress, BEST, THF and Civil Society, CGA	✓	✓	\$12,000
d. Establish incentives to maximize local participation in the access to genetic resources.	Attorney General's Office, NBO, Ixchel, Help for Progress, BEST, THF and Civil Society, CGA	✓	✓	\$22,00
e. Conduct the research/inventory necessary to identify areas with high concentrations of organisms with known of potential pharmaceutical value.	NBO, Ixchel, CGA, Help for Progress, BEST, THF, UCB, WCS, NHM-Las Cuevas and International Partners such as NYBG, NCI, Shaman Pharmaceuticals	✓	✓	\$2.5m
f. Contribute to the development of international protocols/mechanisms for access to genetic resources and indigenous knowledge.	Attorney General's Office, NBO, Ixchel, CGA, Help for Progress, BEST, THF and Civil Society	✓	✓	\$63,000

4.9.2. Objective: To regulate bio-prospecting in all its forms.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Conduct consultations to sensitize the public on issues related to bioprospecting.	Attorney General's Office, NBO, Ixchel, Help for Progress, BEST, THF and Civil Society	✓	✓	\$30,000
b. Develop and implement legislation to monitor and control bio-prospecting.	Attorney General's Office, NBO, Ixchel, Help for Progress, BEST, THF and Civil Society, CZMP/A	✓	✓	\$22,000

4.9.3. Objective: To ensure robust inspections of applications for permits to conduct bioprospecting.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Establish a committee with wide cross sectorial representation to evaluate applications for permits.	Attorney General's Office, NBO, Ixchei, Help for Progress, BEST, THF and Civil Society	✓	✓	N/A

4.9.4. Objective: To address the new areas of Intellectual Property Rights defined by the Convention on Biodiversity.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Develop legislation and regulations, inclusive of enforcement mechanisms, to address Intellectual Property Rights.	Attorney General's Office, NBO, Ixchei, Help for Progress, BEST, THF & TH Association and Civil Society	✓	✓	\$32,000
b. Conduct consultations with Private Sector, rural communities, indigenous groups and NGOs.	Attorney General's Office, NBO, Ixchei, Help for Progress, BEST, THF & TH Association, Belize Chamber of Commerce and Industry, Indigenous People Associations and Civil Society	✓	✓	\$18,000



c. Develop media campaign to sensitize the public on Intellectual Property Rights issues.	Attorney General's Office, NBO, Ixchel, Help for Progress, BEST, THF & TH Association, Belize Chamber of Commerce and Industry, Indigenous People Associations and Civil Society	✓		\$75,000
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**4.10. EQUITY AND BENEFIT SHARING (Article 8,10,15,16, 20)**

4.10.1. Objective: To develop the legal and institutional framework necessary to ensure that maximum benefits accrue to Belize from the exploitation of its biological resources.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Conduct consultations with competent authorities in countries with similar biological resources, on successful policies and mechanisms being used to ensure maximum benefits from the exploitation of those resources.	NBO, THF, BEST Ixchel, HELP, CZMP/A	✓		32,000
b. Seek advice from the public, the judiciary and the community at large on possible ways to ensure equitable distribution of benefits derived from the use of biological resources, cultural resources and traditional knowledge, at the national and local level.	NBO, THF and NGOs such as BEST, Ixchel, HELP and the Private Sector, Ministry of Rural Development and Culture, CZMP/A	✓	✓	20,000
c. Develop Regulations to ensure that some of the benefits derived from the exploitation of biological resources are invested in conserving the integrity of critical habitats and ecosystems.	NBO, MNRE, Solicitor General's Office, THF, BEST Ixchel, HELP, CZMP/A	✓	✓	16,000
d. Develop the legal and institutional framework for the equitable distribution of benefits derived from the exploitation of biological and cultural resources.	NBC, NBO, MNRE, and Solicitor General Office, CZMP/A	✓		16,000

e. Contribute to the re-examination of international policies on intellectual property protection and incorporate mechanisms to protect traditional knowledge.	NBC, NBO, MNR&E and Solicitor General Office, CZMP/A	✓	✓	32,000
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**4.11. POPULATION AND BIODIVERSITY (Article 10, Article 13)**

4.11.1. Objective: To develop, adopt and implement a National Population Policy that is cognizant of poverty, human settlement, economic factors and biodiversity conservation.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget
		1-5 years	> 5 years	
a. Include poverty and biodiversity conservation issues in Human Settlement Planning.	Housing and Planning Department, DOE and LUA	✓		N/A
b. Include wide stakeholder participation in the planning processes for human settlements.	Housing and Planning Department, DOE and LUA	✓		54,000
c. Ensure that Human Settlement Planning is included in the National Population Policy being prepared by the Ministry of Human Resources.	Population Unit, Housing and Planning Department, DOE and LUA	✓		N/A
d. Submit the National Population Policy to Cabinet for adoption.	Population Unit and CSO	✓		N/A
e. Develop and implement an Action Plan for the said policy as it relates to biodiversity.	Population Unit and CSO	✓		3,000

**4.12. BIOSAFETY ACTION PLAN(Article 19)**

4.12.1. Objective: To establish a National Biosafety Committee.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Conduct a series of consultations with Government, NGOs, CBOs and the community at large, to deliberate on the justification of a National Biosafety Committee, its possible membership, functions, organizational structure and operational framework.	NBO and National Biosafety Commission, CGA	✓		50,000
b. Conduct a legislative review of existing laws and amend them as appropriate to legalize the operation of a National Biosafety Committee.	NBO and National Biosafety Commission, CGA	✓		150,000

4.12.2. Objective: To develop guidelines for laboratory and field handling of living modified organisms (LMOs).

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Conduct a detailed study to determine potential risks of LMOs to Belize's biodiversity.	NBO and National Biosafety Commission, CGA	✓		100,000
b. Establish a <b>competent regulatory authority(CRA)</b> to govern all aspects of LMOs in Belize, including the certification of individuals, laboratories and institutions proposing to use or handle LMOs.	NBO, National Biosafety Commission, and CRA, CGA	✓		560,000

# ANNEX

4.12.3. Objective: To participate in the UNEP/GEF Pilot Biosafety Enabling Activity Project.

Action/Activity	Proposed Responsible Agency	Time Frame		Approx. Budget (BZD)
		1-5 years	> 5 years	
a. Identify and access technical and financial assistance for the preparation of a National Biosafety Framework	NBO, National Biosafety Commission, and CRA	✓		250,000
b. Attend Regional Workshops on Biosafety in an effort to improve Belize's human capacity in this discipline.	NBO, National Biosafety Commission, and CRA	✓		100,000

**ANNEX 1: Explanatory Notes for Cost Estimates used in the Development of Action Plan (1998-2003)**

**4.1. IN-SITU AND EX-SITU CONSERVATION (Article 8 and Article 9)**

**A. Fisheries, Coastal and Marine Resources**

4.1.1. Objective: To maintain and enhance coastal and marine biodiversity through the establishment of protected areas, captive breeding and research.

Actions:

a. Biological inventory of proposed site	\$ 20,000
Comprehensive socio-economic survey	\$ 8,000
Report writing/maps/photographs	\$ 10,000
Four Public consultations	\$ 12,000
<b>Total</b>	<b>\$ 50,000/site</b>
b. Building and furnished offices to house framework operations: \$150,000	
Six months consultancy to develop organizational and operational structure of framework:	
6 months @ \$8,000/month	\$ 48,000
<b>Total</b>	<b>\$198,000</b>
c. One short- term consultancy to prepare justified proposal to acquire funding:	\$ 10,000
<b>Total</b>	<b>\$ 10,000/site</b>
d. Small-scale focused research on developing the culture technology of native species:	
Salaries for two technicians @ \$15,000	\$ 30,000/yr
Seedstock/feed/chemicals	\$ 50,000
Laboratory equipments/utilities	\$ 70,000
<b>Total</b>	<b>\$150,000/yr/species</b>

**B. Forest and Wildlife Management**

4.1.2. Objective: To develop the National Botanical Garden and assist in the development of private Botanical Gardens, as an *ex-situ* conservation measure.

Actions:

a. Consultant / project manager	\$ 60,000/yr
Construction of buildings and infrastructure including water bodies	
Collection and establishment of the different habitats	
Equipment and machinery	
<b>Total</b>	<b>\$ 60,000/yr</b>
b. Annual maintenance cost	
Personnel	\$120,000
Recurrent inputs	\$ 90,000

Repairs and maintenance	\$ 40,000
One national consultant for 3 months to prepare feasibility of National Conservation Trust @ \$4,000	\$ 12,000
<b>Total to Establish botanical garden</b>	<b>\$1.5 m + \$262,000 /yr</b>

4.1.3. Objective: To implement the National Protected Areas System (NPASP) as an *in-situ* conservation measure.

Actions:

a. Allocation is a nominal sum to cover incidental expenses in following this activity.

<b>Total</b>	<b>\$ 1,000</b>
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b. Allocations to cover costs of implementing the Minimum Conservation System being \$2,124,062 per year for investment needs and \$2,832,786 per year for running costs of recurrent costs. The Forest Department to cover recurrent costs by local budgetary allocations mostly obtained from charges collected from the various protected areas.

<b>Total investment</b>	<b>\$2,124,062</b>
<b>Total operating cost</b>	<b>\$2,832,786</b>

c. Allocation to cover incidental expenses in implementing this activity.

<b>Total</b>	<b>\$ 2,000</b>
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d. Allocation is intended to cover incidental costs involved such as traveling in revisiting the bird sanctuaries in implementing this activity. Bird sanctuaries are not part of the MICOSYS covered above.

<b>Total</b>	<b>\$ 4,000</b>
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4.1.4. Objective: To complete the development of management plans for all Protected Areas, in accordance with the sustainable use of such areas.

Actions:

a. Allocation to cover cost of preparing a project for financing the objective

	\$ 20,000
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<b>Total</b>	<b>\$ 20,000</b>
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4.1.5. Objective: To expand the existing collection at the National Herbarium and initiate a National Faunal Collection.

Actions:

a. Cost: The allocation is to cover construction of separate building to house the herbarium

	\$ 60,000
train an assistant and obtain additional storage equipment	\$ 20,000

<b>Total</b>	<b>\$ 80,000</b>
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b. Cost: Identify and access funding to initiate a National Faunal Collection

<b>Total</b>	<b>\$200,000/yr</b>
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4.1.6. Objective: To implement the Biological Corridors System as a complementary in-situ conservation measure to the NPSAP.

Actions:

a. The allocation covers 3 regional consultations to get inputs on types of mechanisms and incentive's appropriate to achieve the objective.

<b>Total</b>	<b>\$ 12,000</b>
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b. The figure indicated is to cover 3 regional consultations to get inputs on the legal status of the Biological Corridors.

<b>Total</b>	<b>\$ 12,000</b>
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c. Nominal sum to cover incidental expenses in implementing this action.

<b>Total</b>	<b>\$ 12,000</b>
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C. Agriculture

4.1.7. Objective: To establish seed and gene banks to maintain material of rare or uncommon species or varieties, not already collected and stored at any of the international seed and gene banks.

Actions:

a. Cost: identification of financing, location and operational procedures, requirements and management

Consultant 6 months @ \$5,000 per month	\$ 30,000
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Travel including visits to operating gene and seed banks	\$ 15,000
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Local contribution to establishment - land etc	\$ 55,000
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<b>Total</b>	<b>\$100,000</b>
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D. Tourism

4.1.8. Objective: To improve infrastructure at tourism sites within and outside Protected Areas.

Actions:

Consultant to develop detailed requirements - 12

months @ \$5,000 per month	\$ 60,000
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Capital cost of improvements - initial budget	\$440,000
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and annual budget	\$250,000
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<b>Total</b>	<b>\$500,000 + \$250,000 /yr</b>
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E. Medicinal Plants

4.1.9. Objective: To conserve medicinal plants in their natural habitat.

Actions

a. The cost for developing the Terranova medicinal forest reserve was calculated from the some of the programmes proposed in the Management plan completed in 1998 is as follows:

Capital costs