Biodiversity Strategy & Action Plan

Trinidad and Tobago



Foreword

Trinidad and Tobago ratified the Convention on Biological Diversity on August 1, 1996, and in accordance with Article 6 of this Convention, engaged in a widespread national planning project for the conservation and sustainable use of the country's biodiversity resources. The Environmental Management Authority (EMA), and the local UNDP office collaborated in the preparation of the project document to access funding under the Global Environment Facility for enabling activities for Trinidad and Tobago. The project is currently being coordinated by the EMA.

This document, the National Biodiversity Strategy and Action Plan (NBSAP) for Trinidad and Tobago represents the culmination of the first phase of our planning under the CBD. This year-long project was characterized by numerous workshops, consultations, public meetings and sensitization sessions for selected groups. It has been a wide ranging participatory process that uncovered the weaknesses of our present management, the optimism of all our stakeholders, the opportunities for extensive collaboration and the enthusiasm of all concerned to contribute to the enhancement of biodiversity conservation.

Six sector studies were undertaken to investigate the state of the biodiversity resources in the country. The analysis of these reports revealed issues that cut across all sectors. This, therefore, pointed us to a holistic vision for biodiversity conservation, and the enhancement of collaborative and participatory mechanisms. As an island state, we can only improve management by supporting, training and providing opportunities for all stakeholders of biodiversity to participate, and by so doing build the country's capacity for enhanced management.

The NBSAP for Trinidad and Tobago brought to the fore a spectrum of management issues. This focus had at its core education and awareness at all levels of the society, to promote peoples empowerment and participation in all aspects of biodiversity management, sustainable development planning and implementation.

The challenges that our country faces in the sustainable use of biodiversity, are similiar to those faced by other countries. These challenges are magnified in Small Island Developing States (SIDS) due to our environmental and socio-economic vulnerabilities. In Trinidad and Tobago, however, we recognise the intimate relationship of biodiversity to the survival, lifestyles and economic possibilities of its citizens. This NBSAP is yet another step along the road of planning for the nations future, and contributing to the conservation and sustainable use of biodiversity on a global scale.

Environmental Management Authority

Acknowledgements

Coordinating the National Strategy and Action Plan for Trinidad and Tobago, has been a stimulating challenge. It has been particularly encouraging to observe the enthusiasm of people who hear of this critical information for the first time and who become fired up about the future of biodiversity management in the country, the needs of this sector and its importance to national life.

However, this awakening and optimism, is tempered by the cynicism and pessimism of stakeholders who have made various initiatives over time to the field of natural resources management. A common concern among this group, was 'how will the NBSAP be any different' to the numerous reports of this sector, for increasing management capability?

The answer to this lies in the commitment of the agencies, organizations and individuals involved in the process, and the sector, to make those changes

- within a framework to which they can all contribute
- with leadership that has vision and administrative support
- with leadership that can provide mediation, collaboration, and facilitation roles for continuing this process.

Biodiversity conservation in T&T today is in dire need of this collaborative and coordinated approach, to direct the diverse efforts towards an integrative whole, and to establish a framework within which this can be achieved. The NBSAP can be that framework. The stakeholders are looking towards the EMA for continued leadership in the implementation of the strategies and actions and for spearheading this collaborative approach.

It has been a pleasure for me, working with each member of the Project Team and the multisectoral Task Force, who have all been keen and very interested in the NBSAP and its process. Members of the Task Force have been involved in many practical aspects of the project lending their expertise and support all along the way.

Many thanks go to the Sector Specialists, Senator John Spence, Mrs. Jasmin Garraway, Mr. Irwin Joseph, Mr. Michael Harris, Mr. Howard Nelson and Dr. Indar Ramnarine for the information they uncovered and their contribution to the participatory component of this exercise.

The general administration and members of the EMA staff were extremely welcoming of the project's squatting existence, and extended all courtesies to Howard Nelson and myself. In particular, I would like to make specific mention of the continuous, enthusiastic and ace assistance of Aloma Scott-Burgin and Julius Smith in all facets of organization; Mr. Howard Nelson, Fauna specialist and Project Assistant, who maintained contact with stakeholder organizations, paying particular attention to Tobago, through the contact group workshops and facilitating the flow of information. His contributions and editorial critique have been extremely valuable in the writing of the final documents. Marva Salvador-Arthur whose total support and commitment to this project - vision, hardwork, editorial eye, expert management and inherent interest in the NBSAP, all of which have been responsible for getting this project to where it is today.

Finally, the UNDP office in Port of Spain has been instrumental in getting this project off the ground, not only as a local focal point for GEF funding, but through their interest, encouragement, assistance in writing the project proposal, and the unflagging commitment of Dr. Carol James. The facilitation which this institution has provided for this project at all stages has been *par excellence*.

Robyn Cross NBSAP Team Leader

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Abbreviations used in the text

CARICOM Caribbean Community

CBD Convention on Biological Diversity
CBO Community Based Organization

CITES Convention on International Trade of Endangered Species

EE Environmental Education

EMA Environmental Management Authority

GoRTT Government of the Republic of Trinidad and Tobago

IMA Institute of Marine Affairs
IUCN World Conservation Union

MALMR Ministry of Agriculture, Land and Marine Resources

MFAU Marine Fishery Analysis Unit

NBSAP National Biodiversity Strategy and Action Plan

NEP National Environment Policy
NGO Non-Governmental Organization
TAC Tourism Action Committee

TFAP Tropical Forestry Action Plan **THA** Tobago House of Assembly

TIDCO Tourism and Industrial Development Cooperation

UNDPUnited Nations Development ProgrammeUnited Nations Environment Programme

UWI University of the West Indies

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Executive Summary

The context of the NBSAP is established.
The main findings and recommendations of the NBSAP are presented.

INTRODUCTION

The National Biodiversity Strategy and Action Plan (NBSAP) project was formulated to provide support to the Government of the Republic of Trinidad and Tobago (GoRTT) to plan for the conservation and sustainable use of the country's biodiversity, within the context of its socio-economic development programmes.

Biodiversity or biological diversity refers to the variety of all living things and the habitats in which they live.

Although the NBSAP specifically addresses the biodiversity of Trinidad and Tobago, much of what is discussed and included in this report is relevant and is linked to broader environmental issues. It is almost impossible to alienate the two, as it is to conceive of life without breath, or forests without water; they are inseparable.

Today, every action we take in our lives, affects biodiversity either positively or negatively, directly or indirectly. This occurs at individual, community, national and international levels. The economic and development choices we make as a nation, our legal framework and our individual lifestyles all affect the individual and collective constituents of what is termed biodiversity. And in turn, the loss of biodiversity reduces our choices for future development.

A NATIONAL CONTEXT

This report highlights the key issues and contextual framework for development and management of the natural living resources of the country.

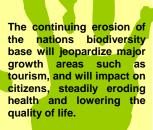
It notes that every citizen has experienced in his or her lifetime a creeping deterioration of our natural environment and a steady decrease in the abundance of plants and animals that make up the biodiversity of Trinidad and Tobago. Biodiversity planning has become a critical need, because this country, like others, falls victim to the global phenomenon of extinction of species which is at its highest rate in geological history. This time, however, the cause of these depletions and extinctions is our rapidly growing human populations and our unsustainable use of natural resources.

Severe depletion of fishing stocks, destruction and impoverishment of our tropical forests, erosion of our topsoil, degeneration of our water supplies,

Trinidad Tobago signed the Convention on Biological Diversity at the Earth Summit in 1992, and ratified it in August 1996. Ratification indicates Government approval of the spirit and aims of the convention, and agrees that the country will be guided by these ideas, and contribute to their development.

The continued depletion of biodiversity will lead to the increasing poverty of sectors of the population that depend economically on these resources for a livelihood and to supplement income and diets.

While the stakeholder workshops revealed the underlying causes of biodiversity degradation, public concerns were directly related to the direct effects that communities and individuals experienced.



increased pollution of land, sea and air, and an increase of the human population that will accelerate this environmental degradation is now an alarming situation nationally. Thus, planning with our collective voice and vision is critical, if we are to have the resources to weather the uncertainty and changes that will occur globally and locally.

The reports and the people told us this about the state of our biodiversity:

- We regard our biodiversity as unlimited, to be used at will.
- We are unaware of the present state of these resources, and therefore lack basic management information.
- We have no idea of the extent to which biodiversity contributes to the national economy and employment.
- We are unable to estimate the cost to the nation of biodiversity destruction, until it is reflected in "natural disasters" such as flooding.
- Widespread illegal activity contributes to the sharp drop in our animal and plant populations.
- People from all walks of life in Trinidad and Tobago are very concerned about the future of our biodiversity resources.
- Environmental and biodiversity issues are not reflected in national planning for the financial and economic development of the country.

In short, biodiversity resources are being used unsustainably throughout the country. This will severely compromise future options for the use of these resources and constrain developmental choices.

In Trinidad and Tobago, neither the direct users/exploiters of our biodiversity, nor those who indirectly degrade the resource base (e.g. by fire pollution, flooding) pay the direct costs of the use or misuse of these resources. The result being that the restoration, remediation, protection and other social and economic consequences of these actions devolve directly upon the state and its agencies. However, state agencies are ill-equipped to deal with these problems.

Conservation of biodiversity and the sustainable use of our species and ecosystems must be integral to planning in all sectors of national life. We need no longer talk about sustainable development for future generations. The future we speak of is alive today, and we are already engaging changing circumstances of biodiversity and the local environment.

The information gathered during this planning exercise, and the extensive public consultations, clearly illustrate that Trinidad and Tobago's biological resources are vital to our economic and social development, and that several rapidly developing trends are detrimental to the continued health of our environments, the biodiversity within, and to our own survival.

PARTICIPATION IN THE NBSAP

Hundreds of people all over the country, from all walks of life, actively participated in twelve workshops, thirteen public consultations and a national consultation.

Involvement of people in a shared universal vision for the wise use of biodiversity resources, is a central principle of the Convention on which the Trinidad and Tobago NBSAP focused. Stakeholders discussed findings of sector reports of independent consultants on:

- Agriculture
- Flora
- Fauna
- Coastal and marine biodiversity and fisheries
- Industry and environmental management
- Tourism

Community issues

Thirteen public consultations highlighted community concerns and shortcomings on the state of biodiversity management in the country:

- Lack of consultation during planning processes
- Disrespect for community knowledge and concerns
- Insensitivity of state institutions to communities
- Over exploitation of resources
- Habitat loss and fragmentation
- Pollution issues
- Resource management weaknesses

COMMON ISSUES

Each sector report analyzed the present state of our biodiversity in terms of programmes, policies, institutions users, and made recommendations for its sector. However, the stakeholders uncovered the common issues compromising sustainable management of biodiversity as:

- Education and awareness
- Policy, legislation and enforcement
- Data, information and research
- Communication and cooperation within and between agencies, and with their stakeholders
- Participation and consultation of civil society in planning and implementation of public policies and programmes
- Political commitment
- Capacity of Government institutions and Non-Governmental Organizations to manage the country's biodiversity resources
- Valuation and environmental accounting and the use of financial instruments for the conservation of biodiversity

Community concerns

Rural communities were concerned about increased hunting pressures by persons from outside of their districts. They understood that hunting was shifting to their areas due to game population declines in other parts of the country.

Community concerns

In every community there were clear statements that there had been significant losses of native habitats within the lifetimes of those present. They attributed this to illegal timber harvesting on state and private forests, ill-conceived development projects, oil exploration, quarrying, forest fires, development of utility corridors and widespread squatting.

Community concerns

We need moral and spiritual grounding on this issue.

We need action now or there will be nothing left to save

Stakeholder Workshop

There is inadequate communication between the managers of biodiversity in the country and the research institutions that could assist in providing information to increase management capability.

The issues:

The issues are all interrelated. To implement only the recommendations of one sector or of one issue, would be a mockery of planning and management of biodiversity. Education and awareness programmes depend on research findings to inform them, the participation of local communities can add to the information base and provide directions for research, the sensitization of the judiciary and law enforcement officers can lead to increased enforcement and sensitization, and by involving people and their organisations in management we will increase the capacity of both state and non-governmental institutions to manage biodiversity. So while we recognize the need to separate the issues for discussion, the reader will understand the inter-relatedness of managing the natural environment. The issue of participation was not addressed separately in the discussion. It was felt by stakeholders that this had to be fully integrated into all issues,, so that the idea of participation becomes institutionalized in all approaches to planning, implementation and management of biodiversity.

Education and awareness

There is a lack of appreciation by individuals and the national community of the need for biodiversity conservation, and its contribution to the quality of life in the country. This is illustrated by the lack of Education and Awareness programmes, and is responsible for the ignorance of the relationship between human activities and their impacts on biological diversity. Sustainable use of biodiversity should be accorded a national priority. From politicians and senior decision makers, law enforcers to children, the users and the managers of biodiversity, need to have more dialogue and opportunities for interfacing and sensitizing each other and exchanging information.

Research and Information

The management of biodiversity is fundamentally about people's utilization of these resources, and therefore requires an holistic approach. Stakeholders also identified access to information as a serious problem in the country.

Research must be applied to the challenges that managers face, and include socio-economic, as well as the environmental and biological information, population levels, the ecology of ecosystems, threats, users and uses of biodiversity. The value of biodiversity to the national economy, well-being and way of life of thousands of citizens must be quantified if biodiversity is to enter the psychic and economic mainstream.

The participation of local communities and stakeholders in setting the research agenda is necessary. It is mandatory to develop and improve linkages between academia, the private sector and government agencies.

Commitment and capacity:

Commitment was generally defined as political commitment to biodiversity conservation and interpreted by the relevant agencies in terms of allocation of resources, finances and manpower. The public's perception of political commitment issues were linked by participants to low political priority and lack of accountability, and continues to be negative, based on the poor performance of the sector, insensitivity of Government agencies to community concerns and the lack of law enforcement.

Although signatory to a number of international agreements of which environmental and biodiversity issues are the focus, we have not put the necessary resources in place to implement these agreements. Stakeholders expressed the view that unless there was external pressure related to funding or trade issues, there was little commitment to incorporate these trends and concepts into national programmes.

The greatest challenge to implementing any plan for the country's biodiversity is its people and capacity issues. There needs to be a genuine recognition of each organizations contribution and potential to address the biodiversity issues that we face.

Neither the state agencies nor the non-governmental organizations will ever have the resources to manage biodiversity independently. It requires the mutual respect, development and support of stakeholders and their institutions to build the country's capacity to manage biodiversity in its broadest sense.

Financial instruments

"Our biodiversity resources are seriously undervalued".

The use of financial instruments as management tools is an area in dire need of attention. Financial instruments can play a significant role in facilitating conservation efforts through demonstrating the monetary value of ecosystems and their components.

As the basis of life and the fundamental core of all economic activity, biodiversity is the essence of all human value systems: economic, spiritual, social, cultural, educational and environmental. It is therefore vital to quantify the contribution biodiversity makes to the national economy, if its management and sustainable use is to become a national priority. Our inability to value biodiversity at a macro-economic level, makes it a low priority when it comes to the sharing of national resources for its management and sustainable use

Weak political commitment was clearly exhibited during the period of this project. Continuous efforts were made to involve the political directorate in discussion of the issues through sensitization sessions and public meetings. The response was consistently and extremely poor.

Financial instruments have not been employed benefit the conservation of biodiversity. many thev cases have contributed to the overexploitation of these resources.

While public, community and stakeholder participation is gaining popularity, resistance to co-management policies remains strong in some sectors of the state's agencies.

Major community concerns were:

- An increasing sense of frustration action on environmental issues was not being taken by the relevant state authorities. Lack of law enforcement was common target of their ire.
- Problems that need to be addressed are already well known, and these repeated public consultations are just a waste of time. More action was needed.
- Alienation of the public from decision-making processes which affect their local resources.

Policy

Significant time gaps in the policy planning cycles, the lack of acceptance of updated draft policies, policy documents not articulating mechanisms for implementation particularly financial and institutional arrangements, have all been identified by agencies as a significant issues affecting their mission and ability to adapt to changing needs and conditions.

While public, community and stakeholder participation is gaining popularity, resistance to co-management policies remains strong in some sectors of the state's agencies. The process at arriving at policy for the different sectors must be more participatory, involving stakeholders in policy formulation, decision-making, management and implementation.

Integration of policies for the conservation of biodiversity needs to be occur across the sectors for the country's development. The use of financial instruments should be a part of this integration to address policy directions for sustainable use.

Legislation and enforcement

A number of Acts have had amendments and regulations added over the years, but require more comprehensive redrafting.

Common flaws in all these Acts, are that they provide no framework for the management of the habitats or ecosystems, and no mandate for management plans to be effected. Management, therefore, proceeds in an ad-hoc fashion, without the proper information and data to inform management decisions. As with policy, the legislation also contains a number of "conflicts" that are "resolved" by new legislation superseding the old, or taking powers from an institution and vesting them in another.

Rationalization of environmental legislation is vital for enhancing management of biodiversity.

However, the consensus among those interviewed was that while the existing laws contain weaknesses, additional legislation will not necessarily improve the situation. This is due mainly to the inability of the officers to enforce the current laws. The main reasons given are staff shortages, demoralisation, generally poor attitudes to environmental issues, the poor presentation and delays of cases, the low penalties imposed by the courts, conditions of service in the public service including poor remuneration, corruption in the ranks, all of which serve as further disincentives to the enforcement officers.

Certain NGOs and CBOs have expressed a willingness to assist the state agencies, and in light of the current staff this offer by such organisations merits serious consideration. The principles adopted by the Forestry Division in establishing the formal structure for the Honorary Game Wardens may be applicable to other resource protection efforts.

A discussion paper developed for the national consultation articulated an extensive list of strategies and actions under these common issues. Participants at that consultation reached consensus and prioritized their desires for each area of concern. These priorities are tabled at the end of this summary.

BIODIVERSITY PLANNING: A PROCESS

The NBSAP provides a blueprint for tangible action, and suggests systems and programmes to enhance our capacity to manage and use biodiversity sustainably. However, it should not be viewed as a one time planning exercise, but an on-going and evolving process. As the present strategies and actions are implemented, we will be further directed to prioritize and plan, to improve our capacity for management and sustainable use.

Institutional arrangements

The continued planning for biodiversity conservation now requires the relevant institutions to continue elaborating on specific strategies and actions, with a view to internalizing and interpreting these proposals, to provide the action framework needed for implementation.

It is imperative that lead agencies adopt participatory approaches identified and vociferously demanded, by stakeholders as a basis for further planning and implementation.

To achieve the priority actions and long-term strategies of the NBSAP, immediate institutional arrangements need to be put in place, to provide continuity for the project, through its implementation phase. The EMA, THA and the MALMR and UWI, should assign coordinators from within these organizations, to interpret and give effect to the strategies and actions articulated by the stakeholders, and to track the rate of implementation. The EMA, with its mandate for coordinating environmental activities under the EM Act, must take the lead role.

The progress and outcome of these initiatives should be fed back to the EMA, through an Advisory Council, for the coordination and reporting of the national efforts under the Convention.

OTHER CONSIDERATIONS

While realizing the demands on land in small island states, and the conflicts that arise from these competing demands for development, realism and pragmatism must be tempered with the need to protect and conserve these finite resources.

Conservation and protection of biodiversity must recognize the ethical, ecological and economic functions of that biodiversity, and the significant contribution it makes to national development. Biodiversity planning

The benefits of comanagement include the conservation of the resource and the sensitization of community stakeholders to the need to manage biodiversity.

It is recommended that GoRTT move to encourage joint innovative approaches as a powerful tool to build capacity of institutions, stakeholders and organizations.

Successful examples of comanagement show that innovative approaches between the state and communities, not only increases the effectiveness of management, but also builds the capacity and confidence of communities to manage.

Community concern

An holistic approach is needed for the development and protection of biodiversity if we are to engage in sustainable development.

The community wants to play a bigger role, but you have to encourage us. We don't get support when we take action.



our greatest asset!

requires realistic land-use planning to balance human needs against the potential the natural environment has for meeting those needs.

The stated objective of diversification of the economy, by building up the non-petroleum sectors, will put added pressure on the natural biodiversity resources of the country. The NBSAP is cognizant of all these considerations, while continuing to stress the need for holistic planning and action to effect sustainable development.

IMMEDIATE NEXT STEPS

This first phase of planning for biodiversity management, was financed by the Global Environmental Facility (GEF), the financial mechanism of the Convention, from an application from GoRTT, facilitated through the local UNDP office. However, in order to prepare for the implementation of the identified strategies and actions, the following immediate actions become necessary, and have included in a one year programme of work:

- 1. **Holding Workshops on** the NBSAP in Ministries, to sensitize persons to the value of biodiversity.
- 2. **Identifying specific interventions** to be made in sectoral policies, for the conservation of biodiversity.
- 3. **Promoting public awareness** about biodiversity issues.
- 4. **Conducting an economic evaluation** of biodiversity, to determine the sectors contribution to the national economy.
- 5. **Designing financial instruments** for the conservatin and sustainable use of biodiversity
- 6. **Formulating project proposals** from priority strategies and actions in consultation with lead agencies and stakeholders.
- 7. Setting up a Clearing House Mechanism (CHM), for sharing information on biodiversity issues.
- 8. Identifying priority data gathering and research projects.
- 9. Elaborating commitments from agencies, NGOs, CBOs etc.
- **10. Evolving the mechanism for continued collaboration and coordination** of implementation of the NBSAP.
- 11. Continuing the political sensitization process.
- 12. **Identifying sources of funding** for implementation.

While this planning process has been funded by the GEF, and elements of it are still on-going, the above actions are still necessary for the eventual implementation of the strategies and actions. It is therefore incumbent upon the GoRTT to identify funding to continue this process and to put the necessary arrangements into place for the management of biodiversity in the country.

It is estimated that the sum of US\$ 6,560,000.00 million is needed to execute the priority strategies and actions over the next three years.

The priority Strategies and Actions of the NBSAP for three year period :

STRATEGIES AND ACTIONS	LEAD AGENCY/ PARTNERS	FUNDING SOURCES	EST. BUDGET (US\$)
EDUCATION AND AWARENESS			
 1. Build Education and Awareness Programmes in biodiversity conservation on existing initiatives and fill gaps in formal approaches. Commission an interdisciplinary Working Group which will develop a visionary policy and action plan for Environmental Education that will have biodiversity conservation and sustainable development as its basis. The Working Group will be coordinated by the EMA and should include participating agencies, NGOs, CBOs, and other interested partners. It will find methodologies to allow integration of appropriate existing conservation education programmes, and be expected to take a holistic approach to the development of informal awareness programmes. Develop an Awareness campaign based on the Environmental Education Action Plan and Policy, which will emphasize the importance of the links between biodiversity and all sectors of development in the country. The policy will identify the content of the campaign, with the media being utilized. Strengthen existing MOU's between the EMA and its participating agencies (through supplemental agreements) to enable the strategies and actions recommended by the NBSAP and those coming out of the Working Group on Environmental Education. These supplemental agreements should detail the responsibilities of these entities. 	EMA THA / Ministries of Planning & Development, Agriculture, Land and Marine Resources Education Information NGO's and CBO's	GoRTT National Lotteries Board	90,000.00
2. Foster greater collaboration between conservation and education agencies and other stakeholders.			30,000.00
Promote infusion of Environmental Education (EE) into the Primary and Secondary educational systems. Conduct an assessment of pre-school, primary and secondary programmes to determine the appropriate mechanisms for EE infusion into the curricula.	Ministry of Education	GoRTT	
 Based on this assessment, develop local and regional educational materials in support of EE and develop additional materials, as required to facilitate EE and awareness throughout the educational system. Build agency partnerships to allow development of these materials (perhaps through a Standing Committee for development of these materials) Use existing educational materials as the basis for EE infusion into the curricula. Advocate further infusion of EE into the CXC curricula, at a regional level, through CARICOM, as well as promote practical "hands on" approaches to learning for schools and youth. 	MALMR UNESCO IMA NGO'S NIHERST		
Develop a training programme for teachers, principals and supervisors in the delivery of EE ideas,			

	concepts and materials (at one of the tertiary Institutions).			
	Reinstate subjects for common-entrance which incorporate environmental education.			
	Provide opportunities for accessing information located in international bodies and on the Internet.			
	 Promote the Global Learning and Observation for the Benefit of the Environment (GLOBE) project of the Ministry of Education and other UNESCO associated schools projects. 			
				800,000.00
4.	Promote the sensitization of communities to biodiversity concerns through shared planning and management of these resources. Identify and implement meaningful demonstration projects and opportunities for co-management that would involve communities in their planning and execution (e.g. hillsides replanting and quarry restorations)	MALMR THA / Min. of Community Development IMA, NGOs, CBOs	GoRTT UNDP Private Sector Ministries of Health, Information,	
	 Make biodiversity a part of holistic community programmes, which emphasize linkages between community activities and the environment. 	Women's Federation Village Council Federation Youth Council	Planning.	250,000.00
5.	Utilize Organizations and Agencies involved in informal environmental education as foci for development of and informal education programme.	EMA, THA Environment Tobago / Chamber of Commerce TTMA, AMCHAM IRO, Division of Culture	Private Sector Environment Fund	200,000.00
6.	Collaborate with corporate business, (e.g. the industrial sector) as they can contribute financing, expertise on advertising, public relations and communications.	IMA, CBOs, NGOs Tobago Heritage Committee TIDCO Pointe a Pierre Wildfowl Trust		
7.	Use cultural and artistic traditions, including drama, as vehicles for environmental education and awareness programmes.			500,000.00
8.	 Involve religious organizations to promote biodiversity conservation and stewardship, through emphasis of relevant religious teachings and cultural values Develop demonstration projects at relevant locations, as opportunities for practical outdoor experiences and sensitization on biodiversity issues and encourage sustainability (e.g. rehabilitation of quarried sites and hillsides, or clean-up campaigns along river and coastal ecosystems). Institute special days and quizzes etc., as environmental promotions. 			150,000.00
9.	Promote biodiversity and environmental education at the Tertiary (University and Technical) levels, especially in disciplines projected to be major economic growth areas. (e.g. Tourism and Industry)	NIHERST THA/	Ministry of Planning and Development	

 Introduce a mandatory basic environmental education course at the Year 1 level, which exposes all students to issues in biodiversity conservation at a national and regional level. Introduce degree programmes in Environmental Management, Engineering, Forestry, Conservation Biology and Geography at the UWI, St. Augustine and other tertiary institutions, and make these courses as electives to other degree programmes. Provision of scholarships, overseas attachments, student exchanges, career guidance and other 	UWI, TTHTI Ministry of Planning And Development		
incentives to encourage a wide exposure to environmental education.			
LEGISLATION & ENFORCEMENT			
 Make legislation and regulations more effective management tools, through harmonization, and by incorporating the use of new technologies and stakeholder involvement. Develop and update legislation for conservation of protected areas, ecosystems and species, consistent with international standards. 	EMA, THA / MALMR Tobago House of Assembly Stakeholders, IMA	GoRTT FAO UNDP International Donors	200,000.00
 11. Improve law enforcement success rate and utilize it as an important tool for management and sensitization on biodiversity conservation. Build on existing law enforcement initiatives for protection of species and ecosystems (e.g. the Honorary Game Warden System and Environment Police) Conduct regular programmes to sensitize the Magistracy, Police and Coast Guard, to the long-term effects of detrimental activities on biodiversity. Expedite establishment of the proposed Environmental Court or Commission to address biodiversity and environmental crime. 	MALMR, THA, EMA / NGOs, CBOs Ministries of Agriculture, Land and Marine Resources, National Security, Attorney General & Legal Affairs, Judicial and Legal Service Commission.	GoRTT, Corporate Sponsors, National Lotteries Board UNDP-GEF, Regional Authorities, Environmental Fund.	270,000.00
CAPACITY			
 12. Establish an adequate means of sharing information, training and experiences amongst agencies and their stakeholders Conduct a programme to identify stakeholders, relevant government agencies, relevant NGOs other key players in biodiversity conservation. Develop a series of interactive workshops to foster mutual understanding among these parties. Define at these workshops, the roles and function of each key player. 	EMA, THA / NBSAP Task Force NGOs, CBOs	GoRTT EMA Non- governmental sources	
Establish means to ensure communication and collaboration between key players	Private Sector NBSAP-Task Force		50,000.00
 Develop advocacy tools for building consensus on biodiversity issues at the highest political levels. Develop a program to identify leaders of opinion in communities by NGOs and CBOs. These persons could be promoted as focal points for biodiversity issues in local communities. Develop a series of seminars designed to develop the capacity within CBOs to organize and lobby government entities on conservation issues, and in the generation of public support for biodiversity. 	COPE/ Relevant Government agencies NGOs, CBOs	International NGOs, Local NGOs Private sector	120,000.00

 Build strategic alliances between NGOs, CBOs and government agencies to allow them to lobby political entities on conservation issues. 	International NGOs		
 14. Strengthen NGOs and CBOs to play a greater role in the conservation and management of biodiversity towards sustainable livelihoods. Encourage and assist their NGO's CBO's to properly constitute their organizations and formalize organization networks Conduct capacity building, seminars for NGOs and CBOs to enable their participation in project planning & implementation. Promote joint training programmes for resource managers and stakeholders 	Ministries of Legal Affairs, Community Development, MALMR THA / Forestry Division, EMA, International Agencies, Regional Agencies, NGOs, International NGOs UWI	GoRTT International Donors	55,000.00
INFORMATION & RESEARCH			
 15. Prioritize research needs in collaboration with research institutions and the private sector. Conduct a detailed inventory of the resource, including the status and distribution of species important for agro-diversity conservation as well as the economic value of ecosystem services. Identify sources of additional data to fill these information needs (e.g. The private sector) Establish a clearinghouse for bibliographic data, identification services, and database management for biodiversity in the country Government entities and other research bodies responsible for biodiversity management should identify priority areas for applied research. Research the ecological relationships, ecosystems and the threats to biodiversity, as well as develop indicators for monitoring environmental changes affecting biodiversity. 	MALMR THA EMA UWI CARINET Other national Research institutions IMA & Other research institutions	International funding sources	2,500,000.00
 16. Identify support for research activities Government to support relevant applied research programmes through annual appropriations and incentives such as scholarships. Management agencies to develop a system of incentives to research institutions /students to conduct research projects. Identify creative mechanisms for funding and other support for applied research. Identify national and international organizations as potential sources of funding and other support. 	MALMR THA EMA CARINET UWI NIHERST	GoRTT	600,000.00
 17. Encourage collaboration with government and other research institutions and the private sector. Encourage close collaboration between research institutions (IMA, UWI, NIHERST) and management agencies (EMA, MALMR), to develop an applied research programme that will provide information required for more effective management. Research institutions to consider their role in fulfilling needs for biodiversity. (UWI and NIHERST in particular should be involved) 	EMA , MALMR, THA UWI, TTMA All relevant orgs. Doing biodiversity Studies / Research institutions		

 particular should be involved) Establish clear links with industry as partners in research. Industry should assist in funding research, especially in areas that are of concern to industry and their effects on biodiversity. 	NIHERST IMA Industry	
 18. Broaden access to, and provide opportunities for, sharing information, consideration being given to the cost of information and the need for cost- sharing in acquisition of information Articulate an information policy at the National and Institutional levels, for the sharing of information, but which recognizes ownership rights associated with the origin of such information. Implement a central clearinghouse for data and information relevant to biodiversity, which can be accessed by researchers, managers and the public. Consideration must be given to the emerging National Environmental Information System (NEIS). Promote institutional strengthening related to the acquisition and management of data. Promote linkages between industry and government environmental planning agencies, for information sharing. 	EMA MALMR / IMA National Library and Information System UWI Research Institutions THA	400,000.00
 19. Utilize cost effective and appropriate research techniques and technologies. Develop technical expertise and standard methodologies for specific research projects. Train personnel and encourage technology transfer. Provide adequate incentives and remuneration. Provide access to training opportunities. 	NIHERST UWI Institutions to be specified	
POLICY AND COMMITTMENT		
 20. Integrate policy objectives for biodiversity conservation into policy statements for all sectors. Establish an authority for Biological Diversity which will coordinate and monitor biodiversity issues in the country. 	EMA THA	
 Organize Ministerial workshops to discuss integration of biodiversity concerns into sectoral policies, and discuss their implications to plans, programmes and projects of all Ministries. 		
Establish interagency policy planning teams.		
 Initiate a systematic review and redraft of Government policies, which affect biodiversity conservation and make policy interventions to ensure biodiversity concerns are addressed. 		
 Conduct an assessment to determine how institutions can be strengthened to enable development of an integrative policy process. 		150,000.00
Develop a clear policy process for adoption by Government entities (incl. National Budgets) and ensure that strategic action plans of these entities incorporate implications on biodiversity conservation and the	EMA THA	

 environment as a whole Introduce annual Auditing and Appraisal systems to monitor policies, plans and programmes in Ministries that impact biodiversity. Based on these Auditing and Appraisal systems, mandate where necessary, policy interventions to ensure biodiversity conservation is addressed. Each Agency should hold discussions with other appropriate agencies and stakeholders to reach agreement on a policy process using guidelines on policy formulation prepared by the Ministry of Planning and Development. Identify indicators for monitoring progress with policy objectives, strategies and actions during this policy process. Natural resources management agencies will develop creative financial instruments to achieve policy objects for biodiversity management. 		
Identify and access sources of funding from international donor agencies		100,000.00
Make sectoral interventions to increase the sensitivity of policy to biodiversity. Advise on interventions in Government policies in all sectors of National life.	≡МА	25,000.00
management of biodiversity. Incorporate stakeholder, community and public participation in the development of public sector policy.	EMA MALMR / All Government Ministries	
Total		100,000.00 6,560,000.00

1. Convention on Biological Diversity

The context of the NBSAP is discussed
The Guiding principles of the Convention, and a vision for the future of Trinidad and Tobago's biodiversity is articulated

Introduction

The Convention on Biological Diversity (CBD) has been hailed as a landmark, as it is the first time that Biodiversity has been recognized as a global asset and addressed so comprehensively in a global treaty. It also recognizes the need to balance national development with the conservation of its biodiversity as a concern vital to present and future generations of humanity.

Background and origins of the Convention.

Recognizing that the destruction of biodiversity was affecting communities the world over, the United Nations Environment Programme (UNEP) in 1988 began preparation of an international umbrella instrument for the conservation and sustainable use of biological diversity. Thus the CBD was conceived to rationalize current activities in the field.

The Convention was open for signature on June 5, 1992 at the Earth Summit (the UN Conference on Environment and Development). This landmark conference marked the global recognition of the massive scale of environmental destruction and its impacts on the quality of human life the world over. It hastened the acceptance of other agreements and conventions, namely, The Rio Declaration on Environment and Development, the UN Framework Convention on Climate Change (UNFCC), Agenda 21 and a statement of Forest Principles.

What does the Convention mean to T&T?

Trinidad & Tobago signed the CBD at Rio in 1992, and ratified it in August 1996, recognizing the spirit and aims of the Convention, and agreeing that the country will be guided by these ideas, and contribute to their development.

The novel approach of the Convention

The conservation of biodiversity, as interpreted by the Convention, has emerged as a fundamental component in the move towards sustainable development, by introducing a novel approach, which aims at reconciling the need for conservation with the concern for development.

The Convention is one of the most significant recent developments in international law, international relations, and the fields of environment and development. It is an affirmation in favour of life itself. (The United Nations Environment Programme Information Unit for Conventions)

Biodiversity: a definition

Biological diversity or biodiversity is the variety of life in all its forms on the earth and the diverse kinds of habitats in which these plants and animals live together. Biodiversity includes genetic diversity, species diversity and ecosystem diversity.

At least 40% of the world's economy and 80% of the needs of the poor are derived from biological resources.

Conservation of Biological Diversity was highlighted in 1972 at the United Nations Conference on the Human Environment Stockholm. following year at the first session of the new UN Environment **Programme** (UNEP) the 'conservation nature, wildlife and genetic resources' were seen as priority areas.

The CBD entered into force on 29th December 1993, 90 days after the 30th ratification.

The 29th December is a UN observed World Biodiversity Day.

The NBSAP is the latest sustainable development planning exercise, coming out of the Convention on Biological Diversity (CBD, 1992). The CBD is now regarded as the most comprehensive environmental international agreements, providing the most visionary approach to biodiversity planning, equity, participation, rights and trade.



The Speaker of the House, Hector McClean and the Honourable Dr. Morgan Job, at the session for the political directorate at the Asa Wright Nature Centre, January 1998.

- Ecosystem diversity refers to the varieties of different habitats or ecosystems and encompasses different kinds of land and marine ecosystems. In Trinidad and Tobago these include swamps, reefs, savannas, tropical forests
- Species diversity represents the difference between living things that make them distinct from each other. A dog is different from a fish, which is different from a beetle, and we can also tell the difference between different kinds (species) of fish. We can identify a carite from a flying fish, as two separate species of fish.
- **Genetic diversity** is the hereditary variety within each species. If we look at the human family, each one of us is different from the other, although we are all human. We can identify individuals among us because of our different genetic makeup.

Biodiversity includes these different aspects of plants, animals and ecosystems that we consider the biological or living things on earth.

The National Biodiversity Strategy and Action Plan (NBSAP):

Under Article 6 of the Convention, each Contracting Party is requested to:

- Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt, for this purpose, existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned; and
- Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

GUIDING PRINCIPLES and the T&T NBSAP:

The Convention on biological diversity outlines a holistic approach to life on earth by articulating as its main objectives:

- · conservation of biological diversity,
- the sustainable use of its components and
- the fair and equitable sharing of the benefits arising out of the utilization of genetic resources

These guiding principles are enshrined in the articles of the CBD, and are to be accomplished by the appropriate access to genetic resources and transfer of relevant technologies, while acknowledging all rights to those resources and technologies, and through appropriate funding.

A central principle of the Convention is involvement of people in a shared universal vision for the wise use of biodiversity resources. It is to this principle that the National Biodiversity Strategy and Action Plan (NBSAP) for T&T has focused, and, by so doing, elicited the vision and purpose of

this national strategy and action plan. The foundation of the participatory process was to:

- Remain true to the shared vision for biodiversity resources, by involving a wide array of stakeholders in articulating that vision
- Interpret the Convention in the Trinidad and Tobago context by providing local and targeted information
- Build consensus for the strategies and actions elicited by the participatory process

The participatory nature of Trinidad and Tobago's NBSAP is supported by this central principle of the CBD, which is a progressive trend that is being encouraged by the GoRTT in all aspects of national life. The process highlighted the close fit between the vision of stakeholders and the public for the conservation of biodiversity in T&T, and the actual articles of the Convention. The priority areas identified by the local NBSAP process related to the following articles of the CBD:

- Article 6 General measures for conservation and sustainable use
- Article 7 Identification and monitoring
- Article 8 In-situ conservation
- Article 9 Ex-situ conservation
- Article 10 Sustainable use of components of biological diversity
- Article 11 Incentive measures
- Article 12 Research and training
- Article 13 Public education and awareness
- Article 14 Impact assessment and minimizing adverse impacts
- Article 15 Access to genetic resources
- Article 16 Access to and transfer of technology
- Article 17 Exchange of information
- Article 18 Technical and scientific cooperation
- Article 19 Handling of biotechnology and distribution of its benefits
- Article 20 Financial resources

<u>Vision for the sustainable use of biodiversity resources for Trinidad and Tobago</u>

The priority issues identified for T&T's biodiversity, did not slavishly follow the articles of the Convention, but suggested the direction that the country should proceed to manage these resources at this particular point in its development.

Community Quotes

"Things must not be done in a topsided manner in which the communities are not aware."

"Our human resource is our greatest asset."

Community Quote: Roxborough

"I want my great grand children to be able to say, that Tobago hasn't changed from what they have read of the history of her natural beauty." Senator Eastlyn McKenzie,

Community quote

- "Communities need to be the nucleus of the drive."
- "As planners we are not doing our work if we're not including stakeholders."

Siparia Community is concerned about the increased fragmentation and access to remaining natural areas in the County due to oil exploration. Specifically, the construction of pipelines, access roads and utility corridors.

Community Quote

"At Quashie Bay in Belle Garden you can walk on a carpet of plastic bottles!"

"Use polluter pays instruments, like a tax on plastic bottles to encourage recycling like glass bottles."

The focus of the vision for the future of biodiversity conservation and sustainable use for T&T is to <u>build our capacity to manage and</u> conserve biodiversity resources by:

- increasing awareness of biodiversity in all sectors of the society,
- integrating biodiversity concerns into national policies and planning
- encouraging participation of a wide cross-section of the national community in all the processes to accomplish this vision
- building up our information base to support the above activities

Chapter 7 of this report articulates that vision, through several specific strategies and actions, derived from the participatory process and was endorsed at the National consultation. However, some overarching goals and objectives for the conservation of biodiversity are articulated here to address the underlying causes of biodiversity loss in Trinidad and Tobago.

The Future of Native Ecosystems:

Managing the habitat loss and degradation, requires the definition of clear goals for these remaining natural areas. Given the small size of remaining native ecosystems, the goals for these systems should be:

- To reduce the annual rate of habitat conversion to zero percent
- To encourage the more efficient use of those areas which have already been converted to human modified landscapes.
- To ensure that the remaining natural areas are managed in such a manner, that there is minimal loss of biodiversity.
- To enable the public and local communities specifically, to participate in the management of these native habitats, and to enjoy the benefits of their sustainable use.

To achieve these goals, will demand radical changes in the way we currently manage biological resources and the way we teach people about the value of these resources.

Management of species, which are harvested either commercially or recreationally should be based on the following approaches:

- 1. Exploited species should not be harvested at a rate higher than their estimated maximum sustained yield.
- 2. Management programmes for exploited species, should allow for annual determination of the size of these species populations, as accurately as is technically feasible.
- To develop management programmes which actively engage resource users in the collection of data and actual management of these resources.
- 4. To develop user education programmes to enable fuller participation by these stakeholders in management of these resources.

Pollution control

The impact of DDT on the environment has taught us that the chemicals we put into the environment can have repercussions which are unforeseen and which last for a long time. Thus, as we develop a strategy to conserve the country's biological heritage, it is important that we anticipate the challenges posed by these forms of ecosystem stress.

In this context, our responsibilities to biodiversity should be to:

- 1. balance economic and social considerations with biodiversity concerns, when licensing pesticides for use in agriculture.
- develop stringent protocols for the disposal of toxic chemicals in the environment.
- 3. develop and enforce pollution regulations associated with industry and agriculture.

Genetic management

Management of genetic diversity in Trinidad and Tobago should be based on the following approaches:

- 1. Maintenance of genetic viability of the native species in the country through maintenance of viable populations
- 2. Allowing adaptive evolutionary processes to proceed.
- 3. Maintaining opportunities for natural colonization to occur on both islands.
- 4. Adopt a precautionary approach to augmentation of wild populations and reintroduction of extirpated species.

While T&T has also advanced in adopting some of the sophisticated tools for biodiversity conservation and environmental management on a very limited scale, the NBSAP process pointed firmly to the importance of applying basic tools to enhance management and encourage sustainable use. These basic goals require extensive groundwork for networking, collaborating, educating, researching and sharing information to allow for inclusion of people in planning for development. If we are to see any significant progress towards strengthening our management capabilities, continuing efforts to involve people and their organizations in the participatory process is vital, as is encouraging those who remain reluctant to participate in this exercise. Widening the base of understanding about biodiversity and harnessing the national resources to implement the strategies and actions of this plan, are important prerequisites for the success of implementation. Of particular importance are the financial and central planning institutions of the country.



World famous for buffalypso, a herd cools off in a pool at the Cocal.



Large Blue Crab, FREE CLEAN on the Churchill Roosevelt Highway.



2. The NBSAP project

The planning and design of the NBSAP project is introduced. Responsibilities of institutions, the Task Force and the Project Team is elaborated. The process of participation by stakeholders and the public.

The role of the EMA as focal point for the CBD

The Government of Trinidad and Tobago, recognizing the need for streamlining and co-ordinating environmental management activities, including problems of biodiversity degradation, enacted legislation to establish the Environment Management Authority (EMA) in 1995.

Under the Ministry of the Environment, the EMA is responsible for coordinating, facilitating and overseeing the execution of national environmental strategies and programmes. More importantly, the EMA is the national focal point for a number of international conventions on the environment, including the Convention on Biological Diversity.

Having ratified the Convention on Biological Diversity (CBD) on August 1 1996, Trinidad and Tobago became eligible to access funding under the Global Environment Facility (GEF) for enabling activities under the Convention.

As the focal point for the Convention on Biological Diversity, the EMA:

- Collaborated with the Ministry of Agriculture, Land and Marine Resources in the preparation of the project document.
- Accessed funding from the GEF, through the local UNDP office.
- Chaired the multidisciplinary Task Force.
- Recruited the necessary consultants for the project.
- Provided administrative and logistical support for the NBSAP.

The primary objective of the NBSAP project was to assist the GoRTT in formulating a plan that would identify priority actions for the conservation and wise use of the country's biodiversity, within the context of its socioeconomic development.

A secondary objective is to prepare the GoRTT's first National Report to the Convention on Biological Diversity (CBD).

The EMA has direct responsibility for spearheading the integration of NBSAP recommendations into national sectoral planning and policy intervention. The strategies and actions for the sustainable use of the country's biodiversity have relevance for all Government Ministries and agencies, the private and civil society institutions, NGOs and CBOs.

The Role of the Ministry of Agriculture, Land and Marine Resources

This Ministry is seen as a major implementor of the outcome of the NBSAP. Its responsibilities for the country's biodiversity, through its various divisions of Fisheries, Forestry, Agriculture, the Zoo and Botanic Gardens, make it the major ministerial stakeholder in this exercise. The

Community Quote

"Working with people is a meticulous and time consuming process, requiring many resources, both human and financial. Agencies of the state need to work together to address the needs of communities to make headway in this area."



Fauna specialist, Howard Nelson and the Speaker of the House, Honourable Hector McClean sharing ideas at Asa Wright.

Community Quote

"People are crying and not getting assistance from the authorities. When you push them they do a little thing and then stop, then you have to push them again and they do a little thing again."

biodiversity sectoral studies on agriculture, flora, fauna and fisheries reflect the major portfolios of this Ministry.

The Task Force

Chaired by the EMA, a multi-sectoral Task Force was appointed to oversee the project from March 1998. Its role was to oversee and guide the project, and approve final documentation and reports. Representing a multitude of interests, the Task Force also provided a balance of interests and views to the NBSAP. One of its first roles was interviewing and recruiting of the consultants or sector specialists for the project. Its representatives were as follows:

Environmental Management Authority
Ministry of Agriculture, Land and Marine Resources
UN Development Programme
Ministry of Planning and Development
Ministry of Legal Affairs
Ministry of Education
Council of Presidents of the Environment (COPE)
Tobago House of Assembly (THA)
Environment Tobago
Association of Village Councils
Institute of Marine Affairs (IMA)
University of the West Indies (UWI)
CARINET
Community Based Organization, GREAT
NBSAP Team Leader

The Project Team

The project comprised a Team Leader, a Project Assistant and six Sector Specialists. The Project Assistant was also the Sector Specialist for Fauna. Each of the Sector Specialists investigated the status of biodiversity, from different resource use areas, as follows:

Flora
Fauna
Agriculture
Coastal and marine biodiversity / fisheries
Tourism
Industrial and environmental management

The Sector Specialists Specific Tasks

The development of an assessment and analysis of existing information on the sector and related issues, particularly as the sector impacts biodiversity conservation.

The assessment included:

- policy and regulatory framework; in the light of new legislation
- sector activities with adverse biodiversity impacts
- cross sectoral issues

Community Recommendation

A small mangrove area near the Cuesa and Waterloo areas has rich bird life. However poaching becoming a problem. Community want the area protected for tourism and recreation.



Dr. McIntosh CEO of the EMA and Parliamentarian Eric Williams at Asa Wright.



Minister Dr. Morgan Job, speaks out at a special session at the Asa Wright Nature Centre.