

UNITED NATIONS DEVELOPMENT PROGRAMME

# BBIODIVERSITY FINANCE INITIATIVE

## BELIZE BIODIVERSITY EXPENDITURE REVIEW (BBER) EXECUTIVE SUMMARY



Jose U Herrera – Lead Consultant  
 Jose A Salinas – Technical Support  
 Bryton Codd-Technical Support



This project is co-funded by the European Union



Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety



Flanders State of the Art



Schweizerische Eidgenossenschaft  
 Confédération suisse  
 Confederazione Svizzera  
 Confederaziun svizra  
 Bundesamt für Umwelt BAFU  
 Office fédéral de l'environnement OFEV  
 Ufficio federale dell'ambiente UFAM  
 Ufficio federal d'ambient UFAM



Empowered lives. Resilient nations.



# Acknowledgements

With the joint collaboration, support and effort from a dynamic set of stakeholders, the Financial Needs Assessment is being presented. We would like to gratefully acknowledge the contributions of all those who have enriched this document. The listing that follows is not extensive, and we apologize for any omissions, which in no way belittles their contributions. We express our gratitude to the following for their oversight and guidance in the development of the Biodiversity Expenditure Review (BER).

## **BIOFIN Project Board:**

Dr. Percival Cho-Chief Executive Officer; MAFFE&SDI

Ms. Sharman Yvonne Hyde- Chief Executive Officer; Ministry of Economic Development

Ms. Diane Wade-Moore, Environmental Program Analyst; United Nations Development Program

## **BIOFIN Technical Working Group:**

Mr. Darrel Audinette, Protected Areas Conservation Trust

Ms. Darlene Padron, Sustainable Development Unit, MAFFESDI

Mr. Wilber Sabido, Forest Department

Ms. Maxine Monsanto, Department of the Environment

Mrs. Ivanna Cho, Environmental Research Institute, University of Belize

Ms. Felicia Cruz, Belize Fisheries Department

## **United Nations Development Programme - Belize Country Office:**

Ms. Diane Wade-Moore,

Ms. Ismirla Andrade,

Dr. Andrew Seidl, BIOFIN Belize Senior Technical Advisor

This report is produced for the Ministry of Agriculture, Forestry, Fisheries, Environment, Sustainable Development and Immigration of the Government of Belize (MAFFESDI) and the United Nations Development Programme's (UNDP) Biodiversity Finance Initiative (BIOFIN).

**Principal Author:** Jose Umberto Herrera - Biodiversity Expenditure Expert, for the Ministry of Agriculture, Forestry, Fisheries, Environment, Sustainable Development and Immigration (MAFFESDI).

**Contributing Authors:**

Mr. Jose Adrian Salinas, Technical Assistant

Mr. Bryton Codd, Technical Assistant

**BIOFIN Belize National Project Coordinator:** Hannah St. Luce-Martinez

**UNDP Programme Analyst:** Diane Wade-Moore

**Senior Technical Advisor:** Andrew Seidl, PhD

**BIOFIN Global Manager:** Onno van den Heuvel

**BIOFIN Belize Team:**

Chris McGann, Finance Expert, BIOFIN Belize

Jose Herrera, Environmental Economist, BIOFIN Belize

Bryton Codd, Technical Assistant to Environmental Economist, BIOFIN Belize

Jose Salinas, Technical Assistant to Environmental Economist, BIOFIN Belize

Nuri Divas, Administrative Support, BIOFIN Belize

**Capacity Development (CD-2) Team:**

Judene Tingling-Linares, Coordination, CD-2 Project

Aretha Mortis – Administrative Support, CD-2 Project

# List of Acronyms

BIOFIN	Biodiversity Finance Initiative
UNDP	United Nations Development Program
LOA	Letter of Agreement
MAFFESDI	Ministry of Agriculture, Fisheries, Forestry, Environment, Sustainable Development & Immigration
MED	Ministry of Economic Development
PIR	Policy & Institutional Review
BER	Biodiversity Expenditure Review
FNA	Finance Needs Assessment
BBER	Belize Biodiversity Expenditure Review
GDP	Gross Domestic Product
MEAs	Multi-lateral Environmental Agreements
GSDS	Growth & Sustainable Development Strategies
SIB	Statistical Institute of Belize
CEO	Chief Executive Officer
FSC	Forest Stewardship Council
NTFP	Non- Timber Forestry Products NTFP
CITES	Convention on International Trade of Endangered Species
NES	National Environmental Summary
DOE	Department of the Environment
FAO	Food Agriculture Organization
UN	United Nations
EMS	Early Mortality Syndrome
EPA	Environmental Protection Act
EIA	Environmental Impact Assessment
FUL	Fisheries Unit Laboratory
CFU	Capture Fisheries Unit Mandate
EMU	Ecosystem Management Unit



CCU	Conservation Compliance Unit
BAPIS	Belize Agriculture Price Information System
GPD	Geology and Petroleum Department
PACT	Protected Areas Conservation Trust
UB	University of Belize
NGO	Non-Governmental Organization
ERI	Environmental Research Institute
NPAS	National Protected Areas System
NIE	National Implementing Entity
MAR	Fund Marine Fund
GEF	Global Environment Facility
BNC	Belize Nature Conservation Fund
Pas	Protected Areas

# Introduction

Belize has a land area of 22,963 km<sup>2</sup> and boasts of lush marine and terrestrial biodiversity and ecosystems. There are 98 protected areas (a total of 114 with the inclusion of spawning aggregation and bird sanctuaries) that make up the Belize National Protected Areas System (NPAS)<sup>1</sup>. Evidently, Belize is also a natural resource-based economy, thus, safeguarding its biodiversity and ecosystem services is elemental for the country's economic health. As a result, to effectively achieve this, efforts to raise new finance, improve efficiency of current finance, and improve service delivery is a crucial cornerstone.

In 2012, The Biodiversity Finance (BIOFIN) Initiative was launched by the United Nations Development Programme (UNDP) with support from the European Union, and the Governments of Germany, Switzerland, Norway and Flanders to address the global challenge of funding biodiversity management, conservation, and sustainable development. In December of 2015 the Government of Belize and UNDP signed a letter of agreement (LOA) for the implementation of the BIOFIN Project. Subsequently, the Initiative was officially launched in September 2016 and implemented by the Government of Belize through the Ministry of Agriculture, Forest, Fisheries, Environment and Sustainable Development (MAFFESDI) underpinned by a tripartite Board with representatives from the UNDP, MAFFESDI, and the Ministry of Economic Development (MED).

Globally, the Biodiversity Finance Initiative (BIOFIN) comprises of three (3) components which identifies the critical institutional and finance gaps, in order to develop and implement a targeted resource mobilization strategy for biodiversity finance. These global components were contextualized to Belize's unique socio-economic design for ease of implementation, these components are: the Policy and Institutional Review (PIR), the Biodiversity Expenditure Review (BER), and the Financial Need Assessment (FNA). The PIR assesses the current framework and enabling conditions for financing biodiversity goals; the BER to assess the current level of biodiversity expenditures; and the FNA assesses the current financing needs and gaps.

## Objectives

The objective of the BER was to use detailed data on public, private, and civil society budgets to ascertain how much money is being spent on biodiversity and sustainable development in Belize, to investigate whether budgets and expenditures are aligned with national biodiversity priorities, and better understand the outcomes of these investments (BIOFIN 2016).

# Methodology

The BER engaged in studying and assessing the expenditure status of investments pertinent to biodiversity conservation and environmental management throughout the period of 2012 – 2017. The overarching primary sectors and most pertinent agencies were identified and selected from the Policy and Institutional Review’s prioritization “power and interest” matrix to undergo BIOFINs’ expenditure assessment. The BER focused its assessment on the key sectors and agencies which contribute both directly and/or indirectly to biodiversity conservation. The selected agencies were then classified into the following three (3) categories; 1. public sector; accounting for a total of six (6) agencies, 2. quasi-government; accounting for two (2) agencies and 3. international agencies; accounting for twenty-nine (29) agencies of the total agencies reviewed.

For the purpose of this assessment, BER implemented a mixed methodology approach that included, desktop reviews, stakeholder consultations, independent observations as well as primary and secondary data gathering of notes from annual budgets estimates, expenditure reports 2012-2017 and audited reports of selected agencies. The BIOFIN Workbook (2016) guided the methodologies adopted in this Assessment.

Given that expenditures are not always 100 percent attributable to “biodiversity expenditures”, the assessment engaged various methodologies to as best as possible attribute direct and indirect “biodiversity expenditures”.

Two approaches for the attribution of biodiversity related investments were employed, these are;



**1. Programme approach**, which focused on the detailed expenditures of programs. This approach is slated with BIOFINs’ recommended coefficient system of attribution to allocate investments expended as biodiversity expenditures based on the most adequate “tagging” of programs to BIOFINs’ biodiversity expenditure criteria;

**2. Agency approach**, which focused on the organizations (or “agents”) making the expenditures.

While BIOFIN methodology recommended the use of the program approach for attribution of expended investments, the agency approach is of much utility when there is limited expenditure data at the program level.

During the attribution process, it was important to estimate the agency’s level of relevance to biodiversity management. In adequately doing so, the methodology engaged in an **Estimation of Biodiversity Coefficient of Relevance: (BCoR)**. Specifically, through the categorization exercise, the BER identified and empirically gauged the agencies’ level of relevance based on the number of strategic activities adequately matched to BIOFINs’ biodiversity expenditure criteria. The number of strategic activities adequately matched were subsequently calculated as a percentage of the total number of the agency’s strategic activities. Three ranges of relevance were employed, these are high (70%-100%), medium (30%-69%) and low (0-29%).

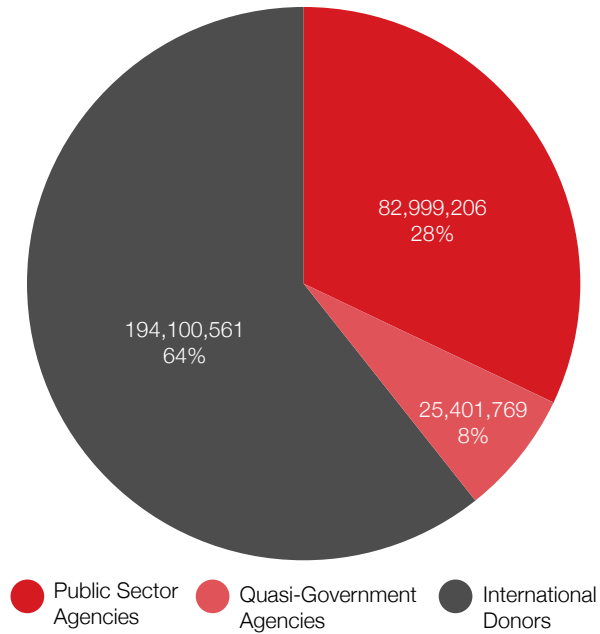


# Findings

## Biodiversity Expenditures: Aggregate (2012 – 2017)

Hinged on the above-mentioned contextualized methodology, the BER concluded an aggregate of over **BZD\$300M** attributed as biodiversity expenditures for the period of 2012 – 2017. Of this total aggregate, quasi-government agencies accounted for 8%, or an estimated \$25.8M BZD, while public sector and international agencies accounted for 28% and 64%, or approximately \$83M. and \$194M BZD respectively over the five-year period (Figure 1).

**Fig 1 Biodiversity Expenditure in Belize by Agency category 2012 – 2017**



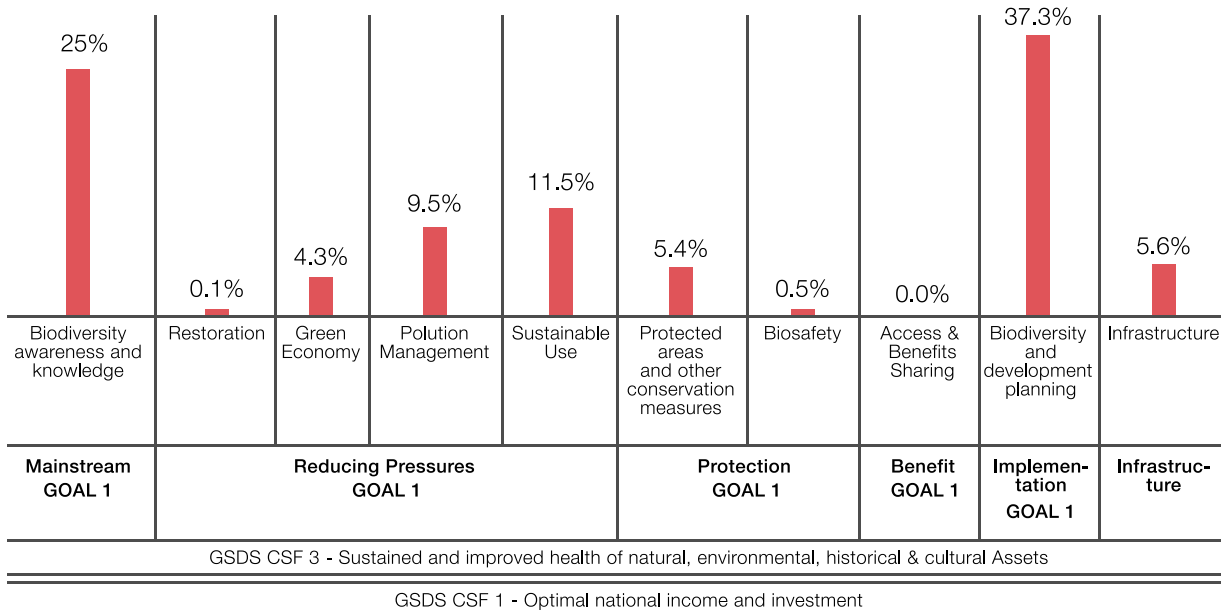
## Total Biodiversity Expenditures

Figure 2 illustrates a detailed disaggregation of biodiversity expenditures categories based on the BERs' goal alignment framework<sup>1</sup>. As part of the assessment, it was important to understand where these expenditures were being made as it relates to the NBSAP goals. The assessment indicates that 100% of studied public sector agencies through their respective biodiversity expenditures have contributed directly to the accomplishment of Belize's National Biodiversity Strategy and Action Plan (NBSAP). Specifically, all public sector agencies have contributed towards the accomplishment of the national biodiversity goals relating to "mainstreaming" and "implementation" of the NBSAP and 80% of

studied agencies have contributed to "reducing pressures" on Biodiversity. Of note is that only 50% of all activities across the agencies contribute to the national goal relating to the "protection" of biodiversity.

More specifically, the predominant biodiversity category that crosscuts all public sector agencies are "biodiversity and development planning" and "biodiversity awareness and knowledge". Biodiversity and development planning category can be deemed as the primary focus or spending areas for agencies such as Forest Department and the Department of the Environment; agencies which are highly relevant to biodiversity management in Belize.

**Figure 2 Disaggregation of Biodiversity expenditure by categories**



The BER presents biodiversity as part of the budget of each individual agency under their respective category (public sector, quasi-government and international donors). All public sector investments of capital (1) and (2) accounts i.e. recurrent/administrative and programme expenditure for each agency attributed as biodiversity expenditures is based on the attribution methodologies identified above. More specifically, the expenditure review executed employed a two-fold approach; first, on data analysis of the agency's recurrent investments which comprises mainly of personnel emoluments

1. Biodiversity expenditures were categorized within the national sustainable framework i.e. aligned with the GSDS overarching goals and those of the NBSAP.

and other administrative expenses necessary for their adequate functionality. Secondly, the analysis focused on the agency’s capital (2) portfolio which consist of investments on specific programs and projects relevant to biodiversity conservation and environmental management.

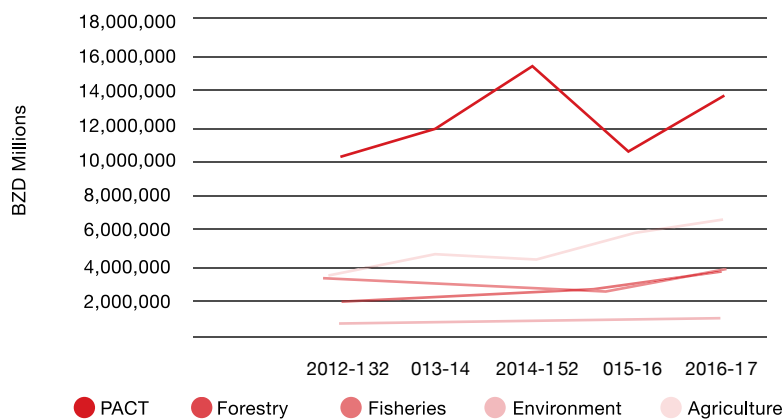
A list of twenty-nine (29) international donors extracted from the national programs registry housed at the Ministry of Economic Development of Belize was analyzed for the Donor assessment. This registry contains pertinent information such as funding institution, approved investments, expended investments, program descriptions and objectives.

Utilizing the attribution methodologies, the following figure outlines total approved investments and expenditure attributed as biodiversity expenditures of the stakeholder per category.

## Public Agencies

The core biodiversity agencies consist of the following public sector departments: Protected Areas Conservation Trust (PACT), Forestry, Fisheries, Environment and Agriculture. These departments execute major roles in the areas of biodiversity conservation and environmental management as it relates to the specific natural resources that they manage (Table 1). The budgets of all agencies experienced a combined average increase of 27% during the period of 2012-2017. PACT has the highest average growth rate (45%, followed by Forestry (41%), Environment (26%), Agriculture (24%) and Fisheries with 0.1% (Figure 3). An analysis of aggregate expenditures, indicates that, on average, 57% of these budgets were expended on personal emoluments, 19% on operation and maintenance costs and 22% to capital investments.

**Figure 3: Expenditure Trends of Core Biodiversity Agencies**



**Table 1: Budgets and Biodiversity Expenditures of Selected Public Sector Agencies**

Agency	Total Budgeted	Biodiversity Expenditure \$BZD
Department of Forestry	12,737,052	12,945,984
Department of Environment	4,187,859	4,011,196
Department of Fisheries	14,875,032	14,568,864
Department of Agriculture	62,119,591	44,894,926
Department of Mining	627,139	593,803
Department of Hydrology	963,653	874,457

# Quasi Government

Two quasi-government agencies were selected to further understand historical trends of expenditures. These agencies included the Protected Areas Conservation Trust and the Environmental Research Institute of the University of Belize. During the period of this understudy, the institute expended a 100% or 4.26 million approved for its capital (1) account. Based on careful review of the institutes mandated, mission and overall strategy oriented towards research in the area of biodiversity conservation and environmental management it was determined that 100% of the investments expended are attributable as biodiversity expenditures (Table 2). The disaggregated approved budgets for the PACT indicated an approximation of \$23,613,993 BZD for the period of 2012 - 2017. Of this total, approximately 8.04 million (BZD) was approved for its capital (1) account, of which a 100% expended and attributed as biodiversity expenditure.

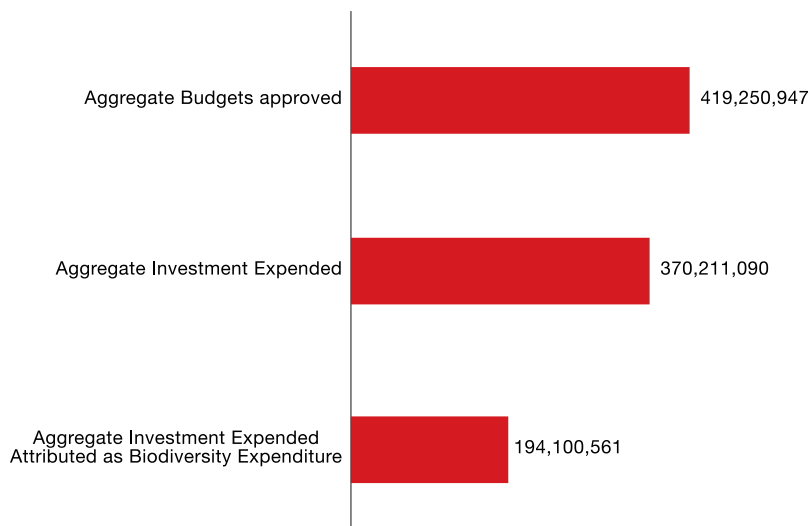
**Table 2: Budgets and Biodiversity Expenditures of Selected Quasi-government Agencies**

Agency	Total Budgeted	Biodiversity Expenditure \$BZD
Protected Areas Conservation Trust	23,613,993	13,526,689 BZD
University of Belize /Environmental Research Institute	4,264,940	4,264,940

# International Donors

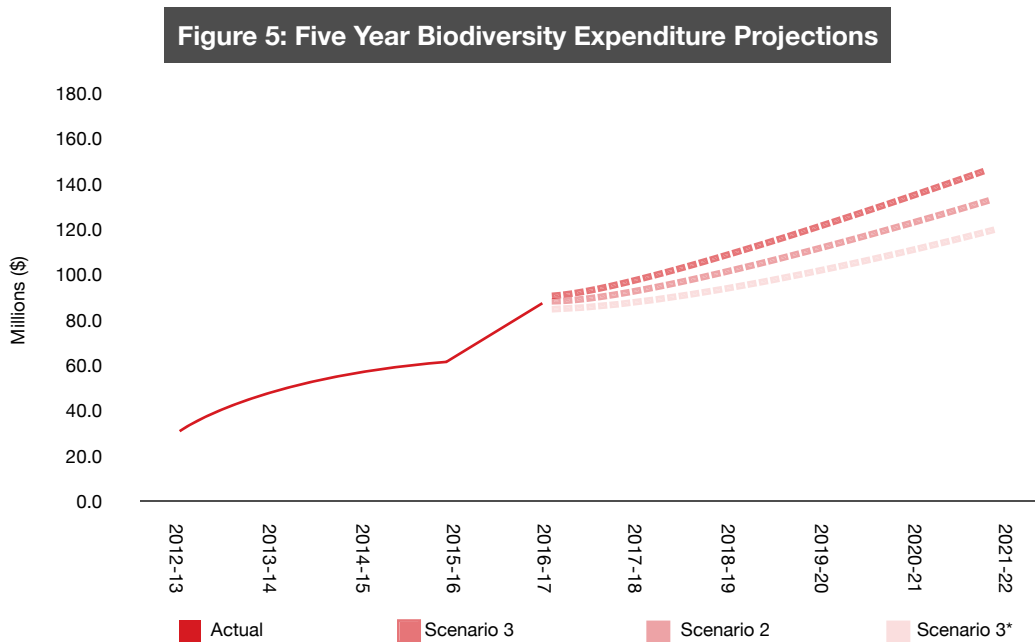
Twenty-nine donors actively provided investments in thematic areas pertinent to biodiversity conservation and environmental management. These donors amassed approved budgets approximating 419.25 million Belize dollars of which 88% or 370.21 million was expended. Furthermore, 52% of the total expended investments or 46% of total approved budgets attributed as biodiversity expenditures for the period of 2012 – 2017 (Figure 4).

**Figure 4: Expenditure of International Agencies**



# Biodiversity Expenditure Projections

Biodiversity expenditures in Belize experienced consistent annual growth rates averaging a total of 29% during 2012 – 2017. Based on these trends, biodiversity expenditures projections for the period of 2017 – 2022 producing three (3) projection scenarios were developed. Each scenario was based on the linear estimates of trends identified during the period of 2012 – 2017 and demonstrated constant growth trends (Figure 5).



BBER classified scenario 3 as the “central projection scenario” for biodiversity expenditures since it calculates projections using the average projected growth rates of scenarios 1 and 2 to project biodiversity expenditures forward from 2017 - 2022. Furthermore, this central projection scenario estimates biodiversity expenditures at 589.9 million Belize dollars for the period of 2017 – 2022 which is equivalent to 95% higher than expenditures accounted for the period of 2012 – 2017. The impact of this significant projected biodiversity expenditures will be contingent on the desired biodiversity and environmental management outlook that the country chooses based on the use of BBERs’ national canvas of biodiversity focuses which are aligned to Belize’s national and global goals.

# Conclusion

The BER provides a systematic avenue for the accountability of pertinent investments attributed as biodiversity expenditures, in addition, streamlining these expenditures to pertinent national and global goals. Hence, biodiversity expenditures gauge an approximate economic value of the country's actions to safeguard and promote its natural resources.

The biodiversity expenditure review which sought to estimate the total biodiversity expenditure of Belize for the period of 2012 – 2017 was fundamental in identifying patterns of national focus determined by their associated expenditures. Consequently, this assessment can serve as an avenue or base to strategically align biodiversity expenditures. The Review estimates this economic value at approximately, Three hundred and two million, five hundred and one thousand, five hundred and thirty seven Belize dollars (302,501,537 BZD) for the period of 2012 - 2017.

The assessment found that a significant portion of biodiversity related expenditures derived from international donors – approximately 64%. Public Sector expenditures during the same period accounted for about 28% of biodiversity expenditures whereas quasi-government agencies accounted for around 8%.

Concerns exist on whether an adequate budgeting and planning approach is being utilized - an approach based on performance and results. Evidently, this national canvas offers directional alternatives for decision makers and leading agencies in the sector, and when supported by keen cost-benefit analysis it will most definitely forge a desired biodiversity conservation and environmental management outlook for Belize.



