

# **GOVERNMENT OF BELIZE**



## **Ministry of Natural Resources, Petroleum & Mining**

### **Annual Technical Report of the November 2020 – December 2021**

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## MESSAGE OF THE MINISTER

2021 was a learning experience for us.

We learnt what we did well and what we needed to do better.

We learnt what could be left on auto pilot, and what needed for us to inject more energy, and more innovation and more urgency.

We learnt that we had the capacity as a staff to do some wonderfully great things, working some tremendously long hours, while making an incredible amount of ordinary people happy.

And we learnt that unless we added more staff and adapted more digitization that there would always be a ceiling.

There is such wonderful potential at the Ministry of Natural Resources, Petroleum and Mining to change lives in a way that very few ministries can. It's a responsibility we take very seriously.

We have some champions at Mining, Petroleum and Hydrology. These people, with limited staff, keep doing great work year in and year out.

We have tremendous potential at the Solid Waste Management Authority. With limited staff and limited expertise we have been able to hold our own. But we have also learnt this past year that we will need more to do more. We need more expertise, more operational managers, to reach our fullest potential and truly do the work we are required and know we can do.

At Registry, while we got off to a slow start, we have been slowly turning things around. We've added more staff, cut down the waiting time to get land transfers completed, all the while collecting millions for the government at pre-pandemic levels.

But we understand clearly that digitization is a must. The way to make people spend less time getting more done. The way to make people need to go to Belmopan far less. The way to make the hundred plus services offered by the Registry even more accessible, quicker to come by and safer to transact - getting that coveted Land Certificate in the hands of many.

At Lands and Survey, our land mobiles have been our great joy and pride. January 2021 was the genesis for us.

What we are doing here is really what we are paid to do - which is to serve the people who need our help the most.

It's about bringing Belmopan to the people.

Every time we do a land clinic we're reminded why we need to keep doing this.

Why it is important to make the services of the government more accessible to the people.

There are thousands of files in Belmopan. Tens of thousands.

There's only so many people who work there. We just cannot keep up with the human demand.

When we go to the communities it is about prioritizing and serving those who otherwise struggle to make that trip to Belmopan. Or have made it too many times and at too great a cost, and have not been successful.

At our land clinics they are successful. We bring the entire department in one place and make sure that we solve problems for people that have been lingering for years and years.

It's a great feeling. An unparalleled feeling to see people so happy to finally be getting their leases or purchase approvals or titles. People who have been waiting for years and years.

In regularizing our people, and giving them their documents for their land, we are transferring wealth to our people. We are opening up opportunities for them. Helping to lift them out of poverty and on a path where they can only grow and grow, in leaps and bounds, to better and brighter things.

It's the greatest feeling...

Now it's for us to transfer that same can-do spirit, that same quality of service, that same fierce sense of urgency to all we do at the departments all over the country, day in and day out.

We are also mighty proud of the fact that we didn't have any duplications in 2021. Something that has been the sad and notorious stain on the Lands Department over the previous 13 years. It has cost taxpayers millions of dollars. And will cost us millions more in the future. But that dastardly act is a thing of the past.

Similarly, we are working overtime to infuse the right culture. The right values. The right attitudes. The right reputation at the Lands Department. We want to be known as a Ministry that simply put: helps people, help all manner of people. We understand the impact we can have on the ordinary man and woman daily, and that's imbued in everything we do daily. But we also understand clearly the tremendous national benefit that can be had when we are able to aid national development projects. We aim to treat each at both ends of the economic pyramid just the same.

2021 was a learning experience. We have learnt that we must always let our reach exceed our grasp. It has taught us well for the future. Land folio 7 and digitization will only catapult us to even greater heights with the foundation we have built in 2021.

## LIST OF ABBREVIATIONS

CEO	Chief Executive Officer
CLS	Commissioner of Land and Surveys
DBMU	Debt Management Unit
DSLO	District Lands and Survey Officer
GPD	Geology and Petroleum Department
HR	Human Resources
IT	Information Technology
IWRM	Integrated Water Resources Management
LSD	Lands and Survey Department
LIC	Land Information Centre
NIWRA	National Integrated Water Resources Act
ND	Never Delay Oilfield
NHS	National Hydrological Services
MNRPM	Ministry of Natural Resources, Petroleum and Mining
REDD+	Reducing Emissions from Deforestation and forest Degradation +
RSL	Regional Sanitary Landfill
SI	Statutory Instrument
SOP	Standard Operating Procedures
SLO	Spanish Lookout Oilfield
SWaMA	Solid Waste Management Authority
TC	Technical Cooperation

## EXECUTIVE SUMMARY

The Ministry of Natural Resources, Petroleum and Mining (MNRPM) is responsible for the proper management of ground and surface water quality, land use, petroleum operations, and mining resources and of proper arrangement for the collection and disposal of solid waste in Belize. The MNRPM is grounded by its mission to implement Government's initiatives regarding these natural resources for sustainable and enhanced economic growth.

For the period November 2020 to December 2021, MNRPM has several accomplishments which helped in improving services offered, internal processes and increased revenue generation. Some of the main achievements by program include:

### **Lands and Survey Department (LSD)**

- I. One thousand nine hundred and fifty-three applications processed;
- II. Through the Land Mobile Outreach Program, a total of two thousand six hundred applications have been processed;
- III. The implementation of the First Time Landowners Programme;
- IV. There has been a significant decrease in the timeframe for the processing of applications;
- V. An approved proposal by the Land Surveyors Board for the implementation of electronic submission plans;
- VI. Three thousand parcels digitized and parcel identification generated;

### **Land Registry Department (LRD)**

- I. Training of staff to improve service delivery at the LRD and to minimize errors made;
- II. An increase in revenue collection due to an increase in applications processed;
- III. Digitization of 20,000 documents;

### **Mining Unit**

- I. Establishment and operations of the Mining Conflict Board;
- II. Increased discussions with Village Councils to aid in monitoring of mining activities;
- III. A drafted proposal for upgrade of the Unit to Mines and Minerals Department;
- IV. One hundred and eighty-four mineral rights issued;
- V. Increased field presence to ensure compliance by license holders;

**National Hydrology Service (NHS)**

- I. Updating of the National Water Policy, Strategy and Action Plan (MAR2R Project);
- II. Public Private Partnership Agreement approved for monitoring, data collections, sharing between the Government, Non-Governmental Organizations, Academia, Private Sector, and Local Communities to utilize the river;
- III. Financing secured for ground water assessment through the Green Climate Fund (GCF);
- IV. Two staff members increased their capacity (self-financing);
- V. Expansion and upgrading of the Hydrological Observation Network;
- VI. Global Water Partnership – Caribbean Hydrogeological Mapping of the Aquifer in Northern Belize;
- VII. InterAmerican Development Bank (IDB) - Support for Integrated Water Resources Management (IWRM);

**Geology and Petroleum Department (GPD)**

- I. Corozal Basin Study that will evaluate and analyse the petroleum system and petroleum potential of Northern Belize;
- II. Revised petroleum laws to help in modernizing the petroleum industry and to ensure that it is attractive for the international oil and gas community;
- III. Petroleum optimization of the Spanish Lookout Oilfield;
- IV. Geological mapping of Northern Belize
- V. Geological Interpretations that evaluate and analyse various geological areas with petroleum potential;

**Solid Waste Management Authority (SWaMA)**

- I. Implementation of the Solid Waste Management Project II
- II. Operations of Waste Management Facilities;
- III. Environmental monitoring of Regional Sanitary Landfill (RSL) in Mile 24;
- IV. Endorsement of the National Solid Waste Management Policy, Strategy and Plan;

**Debt Management**

- I. Implementation of the Land Tax Project to increase land tax collection;
- II. Improved collaboration and understanding to improve land tax collection;

## Customer Services

- I. Building capacity: Staff training on processes and improvement in service delivery;
- II. The customer Service Survey was conducted that gave management an overview of the public's image and perception of the MNRPM;
- III. The Front Desk Policy was implemented;
- IV. The Live Chat was implemented that allows the public to chat with a customer service officer concerning transactions in process;

The success of MNRPM is hinged on the following pillars: promoting better natural resources management; ensuring that investors want to do business in Belize; modernizing the current legislation while attracting investors; and in investing in water quality monitoring mechanism, mineral and petroleum sectors to improve data collection for better decision making and management.

The MNRPM remains focus on several success factors: bringing clarity and security of land ownership; improving land administration; adoption of land use policy; enhanced management of water quality; collection and disposal of solid waste; development of geology, petroleum, mines and minerals sectors for greater economic growth; minimizing the application and other backlog; and overall improvement on service delivery. To continue improving on MNRPM's mandate, the following initiatives are in the pipelines: 1. capacity building to improve staff knowledge and performance; 2. Updating of the land management system Landfolio; 3. Implementation of the NIWRA to strengthen the NHS; 4. Digitizing Project for the LRD; 5. Improve working environment to ensure it is conducive to productivity; 6. Continuation of the Land Mobile Outreach Programme which affords poor and marginalized Belizeans the opportunity to access lands services; and 7. The development of a Strategic Plan for 2022-2025.



## 1. INTRODUCTION

The MNRPM comprises the LRD, LSD, GPD, Mining Unit, NHS, and the SWaMA. The LSD is further subdivided into sub-units, namely, the National Estate Section, Surveys and Mapping Section, Physical Planning Section, Land Information Centre (LIC), and Valuation Section.

Prior to the portfolios and management change in December 2020, under the last Administration the Ministry had not prioritized succession planning, strategic planning, nor evaluating and monitoring. The Departments involved were working independently without established ministry goals and no semblance of informed decision making. The Mission and Vision utilized had not been reviewed for several years, perhaps attributed to the constant change in management. Naturally, with a renewed change in Administration our brilliant people responded rapidly to make sure commercial transactions, transfers, mortgages and collateralised lending were able to continue uninterrupted despite the COVID-19 pandemic.

In the first one hundred days in office, management developed a SWOT analysis to help in better decision making moving forward. Several initiatives were implemented that helped to accelerate effective transparent service. Some of these initiatives include the restructuring and re-organizing of the LSD and the LRD. The Survey and Mapping Section was enhanced to provide mapping services; the Customer Service Survey informed management on how to improve service delivery and customer satisfaction; the First Time Landownership Program that has afforded Belizeans access to land; the establishment of the Board of the SWaMA to improve performance and efficient service delivery; improvements to regulations to ensure better management of the geology and petroleum resources; and filling of vacant posts to ensure that the MNRPM is fully resourced to carry out functions.

The Annual Technical Report was developed through consultations with the various departments, management, and through the review of existing documents that have guided decision making. The Policy Coordination and Planning Unit held meetings with departments and key staff members to gather accurate information for the report. The report outlines the mission statement of MNRPM, strategic priorities, core values, achievements by programs, lessons learnt, and future priorities. Any suggestions or feedback with regards to this report can be addressed to [policy.civilsociety@naturalresources.gov.bz](mailto:policy.civilsociety@naturalresources.gov.bz).

## 2. MISSION STATEMENT AND PRIORITIES OF THE MINISTRY

### The Overarching Mission



The overarching Mission is a reflection of below mission statements guiding departments/units with varying scope of work ultimately aiming for economic transformation and enhance quality of economic growth.

**LRD:** To have an efficient land registration system for improvement in service quality and secure a customer friendly land registration and information services.

**LSD:** To ensure a transparent, accountable, and easily accessible land management and processes, and strengthen capacity for effective delivery of land services and optimized revenue generation.

**GPD:** To promote and regulate oil and gas exploration and production in a safe, environmentally, and socially responsible manner with the assistance of international investors and other stakeholders to maximize the benefits from the country's petroleum resources for the economic and social development of Belize.

**Mining Unit:** To develop the mineral industry of Belize in accordance with mining legislation, acceptable international standards, and sound environmental practices for the benefit of all Belizeans

**NHS:** To manage the country's water resources using an IWRM approach to promote development, conservation, and protection of water resources *via* our core values in alignment with the Government's water policy.

**SWaMA:** Through the application of the concept of Integrated Sustainable Solid Waste Management and working within the framework of the waste management hierarchy, SWaMA along with its partners will continuously strive to improve on and contribute to the protection of human health/safety and the environment, the conservation of natural resources, and the promotion of the occupational health/safety of workers in the waste sector, both formal and informal.

**Customer Services:** To provide effective and efficient customer service as an integral part of the delivery of services at the MNRPM.

**Debt Management:** To outline in a clear and methodical manner the operational procedures to be followed for the efficient collection of Land Tax and Land Rent.

**Policy Coordination and Planning Unit:** To support the strengthening of the Ministry's policies and operational methods, provide inter and intra ministerial support, and serve as an executive arm to the Chief Executive Officer.

**Human Resources:** Through strategic partnerships and collaboration, to oversee recruitment by the Ministry of the Public Services, develops and retains a high performing staff and fosters a healthy, safe, and productive work environment for employees to maximize individual and organizational potential; and to provide programs and services that create a work environment of employee empowerment and involvement in the business.

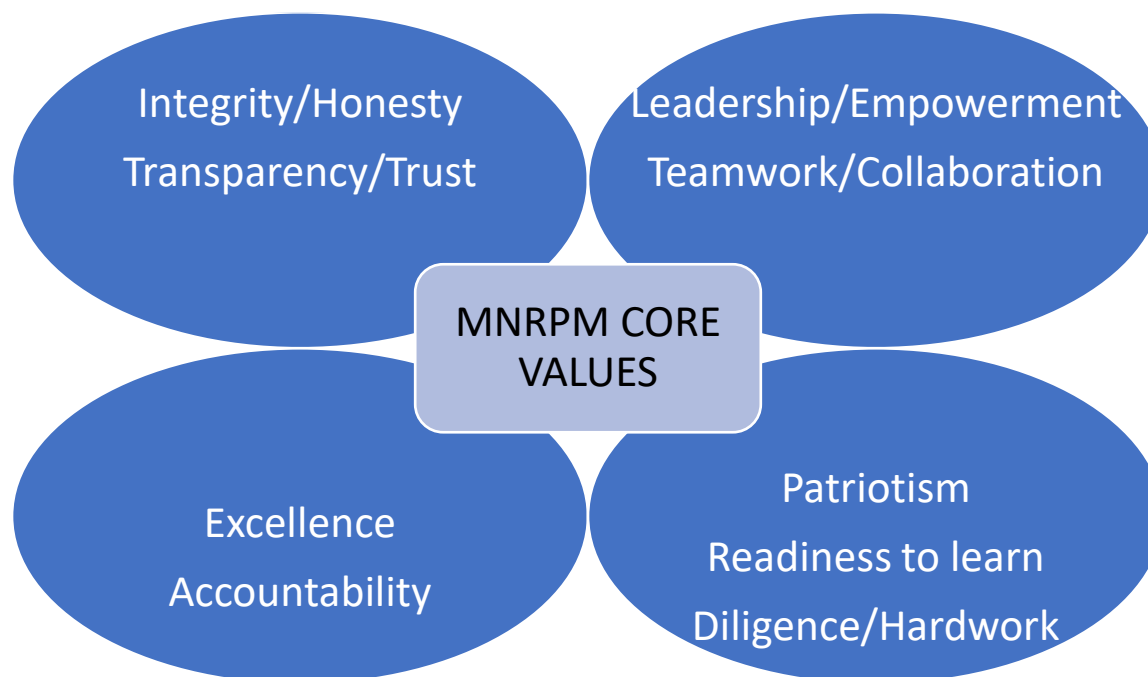
**Information Technology:** To support or build a quality and comprehensive technology infrastructure, establish, and maintain an effective operational environment, and deliver quality, prompt, cost effective and reliable technology services.

We firmly believe that these pursuits will have lasting solutions in terms of providing avenues for Belizeans to build assets, create jobs, raising the standard of living in a long term and inclusive manner. Air, water, food, shelter, medicine is critical to survival and therefore our natural resources are safeguarded through strategic support, oversight monitoring mechanisms and codes of conduct in support of our leadership highest potential of the MNRPM in the long run.

### **Strategic Priorities:**

- ✓ To provide advice and guidance on the best utilization of lands in land-use technology using established planning guidelines and tools
- ✓ To develop the mineral industry of Belize in accordance with the mining legislation, acceptable international standards, and sound environmental practices for the benefit of all Belizeans
- ✓ To enforce the policy of the Government for the orderly and coordinated management, development and use, conservation, and protection of our water resources, to provide a safe, adequate and reliable supply for the present and future generations of Belizeans
- ✓ To manage the utilization of the 66 feet reserve and seabed

Figure 1: Core Values - What we strive for



In finalizing the mission, priorities, and core values, heads of departments and units were consulted. The desired outcome was to ensure that all their sectors were captured in the mission statement and to ensure that it was in line with the very essence of the Ministry's responsibilities. Existing documents such as the Strategic Plan developed in 2018, the Operational Manual for the Ministry, responsibilities for the proper management of Belize's water, mineral, land and petroleum sectors, and other relevant documents were reviewed to guide the development of the current mission statement.



Pictures of Capacity Building Workshop for Land Inspectors Countrywide (July 12<sup>th</sup> and 13<sup>th</sup>, 2021)

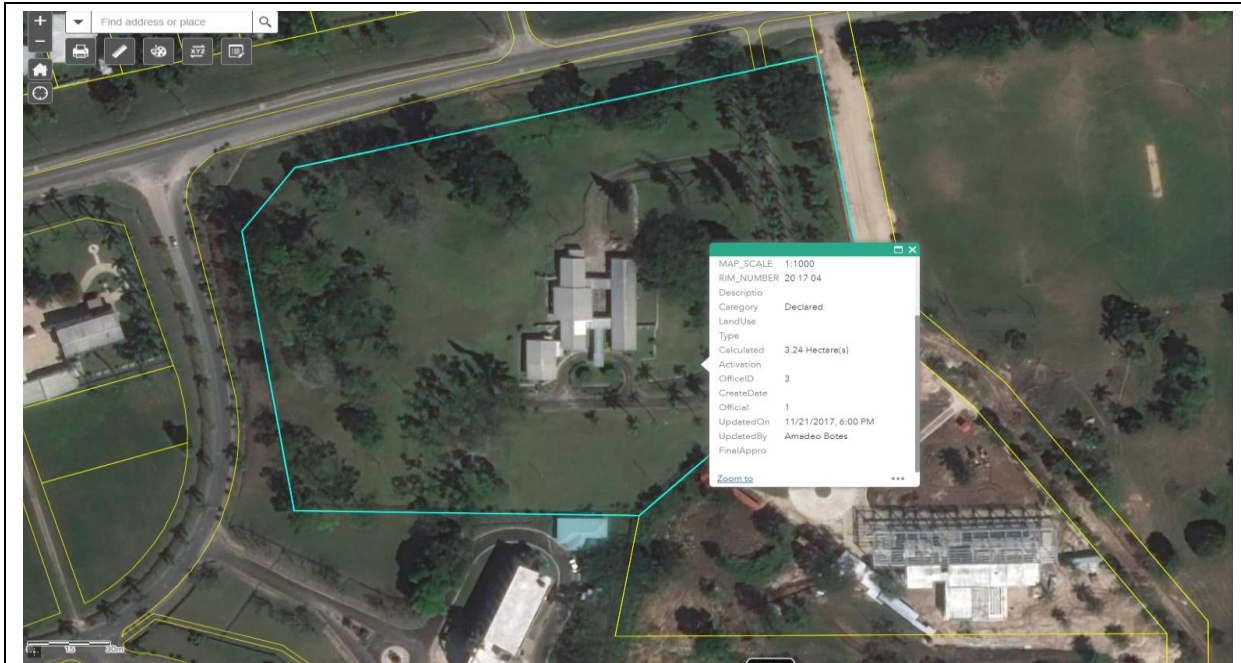


Capacity Building Workshop for Customer Services Officers Countrywide (July 29<sup>th</sup> and 30<sup>th</sup>, 2021)



Training for officers of the Tax Recovery Unit in understanding Land Folio system on February 23<sup>rd</sup> and 24<sup>th</sup>, 2022.





Example of Google PRO and Satellite Images used for Land Inspections





San Pedro & Caye Caulker TS on May 28<sup>th</sup>, 2021Regional Sanitary Landfill on Sept. 15<sup>th</sup>, 2021

## Pictures of Site Visits to Solid Waste Management Facilities



San Pedro Transfer Station (14/03/22)



San Pedro Transfer Station (28/05/21)



San Pedro Transfer Station (27/08/21)

### 3. MAIN ACHIEVEMENTS BY PROGRAM

#### 3.1 PROGRAM 1: LANDS AND SURVEY DEPARTMENT

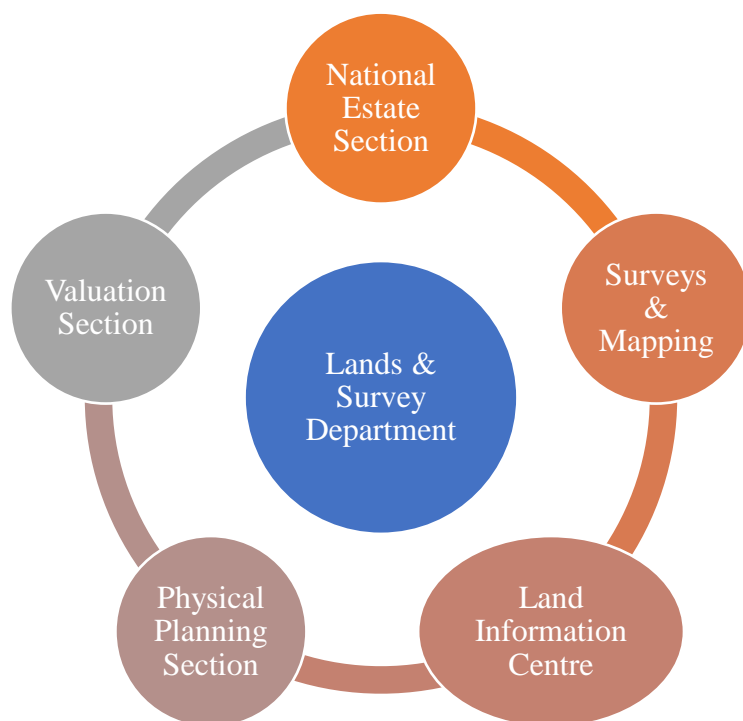
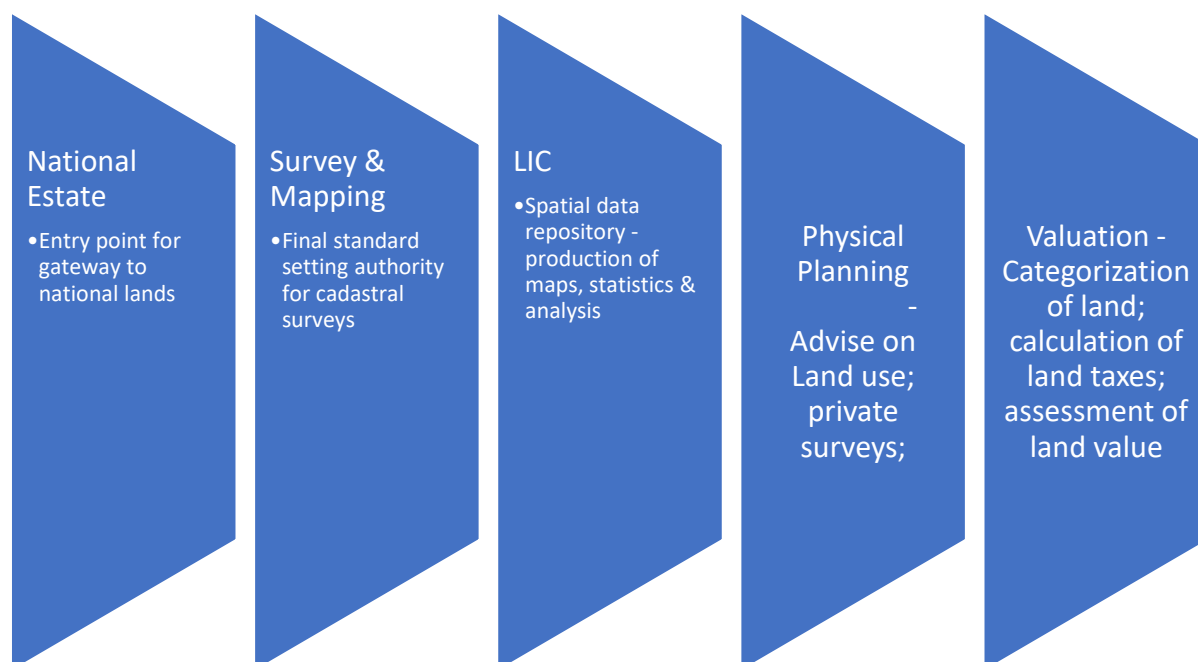


Figure 2: Description of Functions





**OBJECTIVE NO. 1:** To efficiently manage the processes of determining, recording, and disseminating land information including ownership, boundary, value, highest and best use

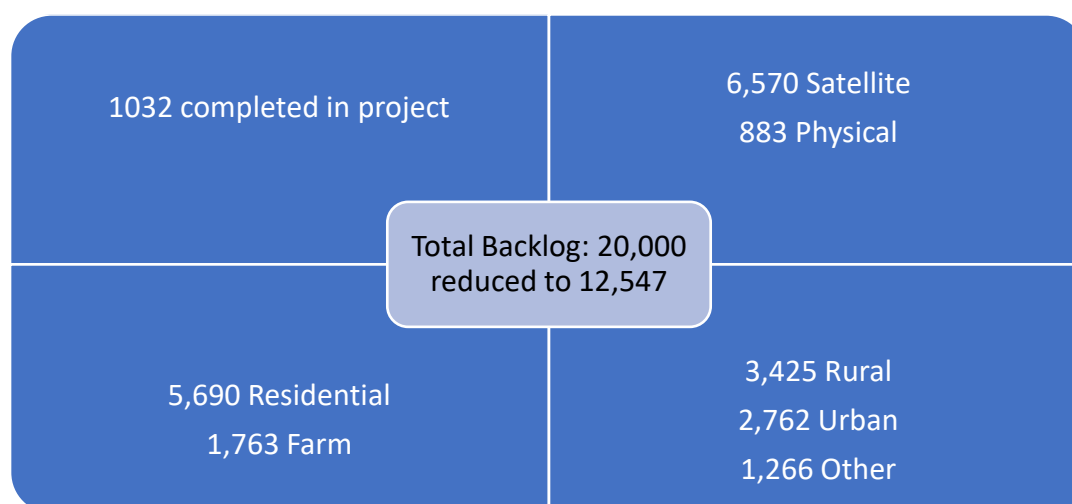
### MAIN ACTIONS & RESULTS ACHIEVED:

#### ❖ List of Capacity Building Measures

No. of Officers	Target	Topics	Training Method
12	Receptionists	Standardization of customer services and outline of expectations	In-source
25	Technical staff	Use of Land Folio (Indexing Verification, Inspection) Professionalism	Hand on training and simulations exercises on the job
6	District Lands and Survey Officers	File Preparation; Use of GPS; Use of Land Folio; Preparation of Reports	Hand on training and simulations exercises on the job
12	Technical (In liaison with the Ministry of Public Service with the Course Outlines)	Surveying & Mapping Principles and Techniques	Proposed for classroom sessions/Exam with Principal Surveyor
7	Survey Technicians and Draughtsman II	Introduction of officers to new survey workflow.	On the job training
17	Technical staff of National Estate Section	Use of satellite imagery for inspection	Classroom setting

TABLE 1. showing the capacity building measures during 2020-2021

#### ❖ Inspection Data



❖ **Lead time for services**

<b>Service No.</b>	<b>Services</b>	<b>Lead Time</b>
1	Land Certificate/Lease Certificate	3 months
2	Minister's Grant Fiat/Lease Fiat	3 months
3	Permissions to Survey	4 months
4	Purchase Price	3 months
5	Lease	3 months
6	Plan Authentication	1 month
7	Land subdivision/consolidation applications	2 months
8	Finalize approved subdivision/consolidation applications	3 months
9	Valuation	1 month

TABLE 2. showing the services offered by MNRPM and the lead time.

**OBJECTIVE NO. 2:** to collect revenue from the lease, sale, licensing, and rent/tax

**MAIN ACTIONS & RESULTS ACHIEVED:**

<b>Source</b>	<b>Number of Instruments</b>	<b>Revenue</b>	<b>Source</b>	<b>Number of Instruments</b>	<b>Revenue</b>
Certified copies of Approval letters	47		Pier Licensing	88	\$357,927.16
Taxes	5,000		Map fees	1,583	\$29,342.00
Lease	437		Land Mobile	2,600	\$272,988.06*
Purchase	3527				

\*Important to note that the Land Mobile started collecting revenue onsite in August 2021.

TABLE 3. depicting the distinct sources of revenue within the LSD

**OBJECTIVE NO. 3:** to resolve conflicts concerning ownership and boundaries

**MAIN ACTIONS & RESULTS ACHIEVED:**

<b>Type of Conflict</b>	<b>Total No.</b>
Land duplication	20

Relocation	47
Land Boundary	5
Court Cases	36

TABLE 4. Depicting the types of land conflicts captured in 2020-2021.

**OBJECTIVE NO. 4:** To oversee and manage the process of land subdivision and utilization including Private Land Subdivisions and, where applicable, the use of the 66 feet reserve/seabed

### MAIN ACTIONS & RESULTS ACHIEVED:

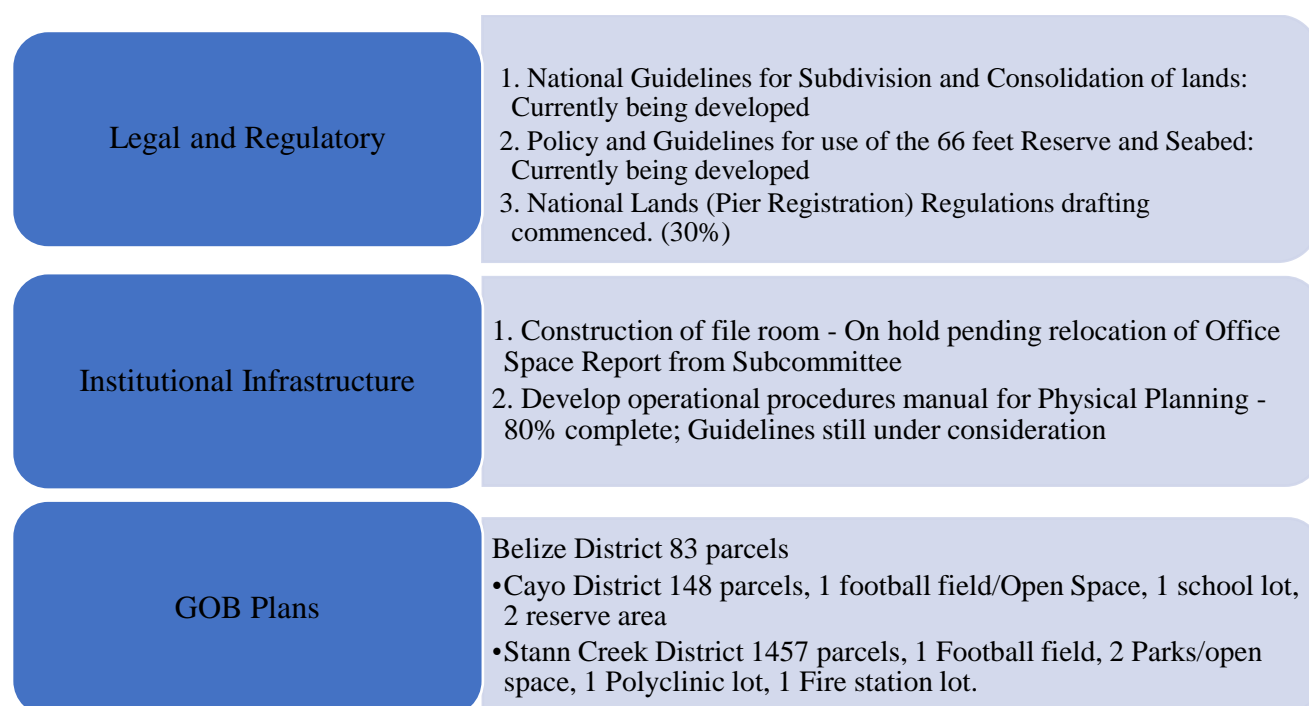


FIGURE 1. showing the work and measures put in place to guarantee proper processing of land subdivision and utilization.

Application Types	Received	Approvals	Refusals
Subdivision	<u>210</u> Provisional <u>149</u> Final	<u>219</u> Provisional <u>143</u> Final	1
Residential		<u>3650</u> Provisional <u>1196</u> Final	

Commercial & Agricultural		<u>256</u> Provisional <u>72</u> Final	
Section 18(a)			
Section 18(b)			

TABLE 5. depicting the applications received and approvals issued by the Physical Planning Section during the period 2020-2021

No. of LUA meetings hosted	No. of files vetted
11	147 provision and 8 final

TABLE 6. showing the number of meeting and files reviewed by the LUA of the Physical Planning section for the period 2020-2021

**OBJECTIVE NO. 5:** to oversee, manage and preserve survey plans and assure processes for accuracy

#### MAIN ACTIONS & RESULTS ACHIEVED:

Main Project	Activity	Progress/Purpose
Initiation & Advancement of a Survey Data Inventory	Scan the Old Survey Plans to progress a Digital Survey Plan Inventory.	263 survey plans scanned -50% completed
	Organize and properly store the Physical Survey Plans.	0 of approximately 23,278 physical plans
	Update the Survey Points GIS Layer.	16,397

Re-designing the plan examination and authentication procedure	Finalizing the Proposal with the Licensed Land Surveyors for electronic submission of plans	Implemented July 2021 with issue of electronic receipt of survey plan
Daily tasks, processes, and responsibilities	Creating a “Surveys in Process” GIS Layer	Reduce duplication or overlaps in surveys
	Creating a plan submission email address for the Ministry.	Achieved Email: suverysubmission@naturalresources.gov.bz
	Maintain workflow to avoid backlogs for Mutations and Grant Plans	Not achieved

TABLE 7. depicting the main actions and progress achieved for the Surveys and Mapping section for the period 2020-2021

**OBJECTIVE NO. 6:** To manage National Lands promoting equality where all Belizeans have a fair chance in guarantee of his/her constitutional right to land.

#### **MAIN ACTIONS & RESULTS ACHIEVED:**

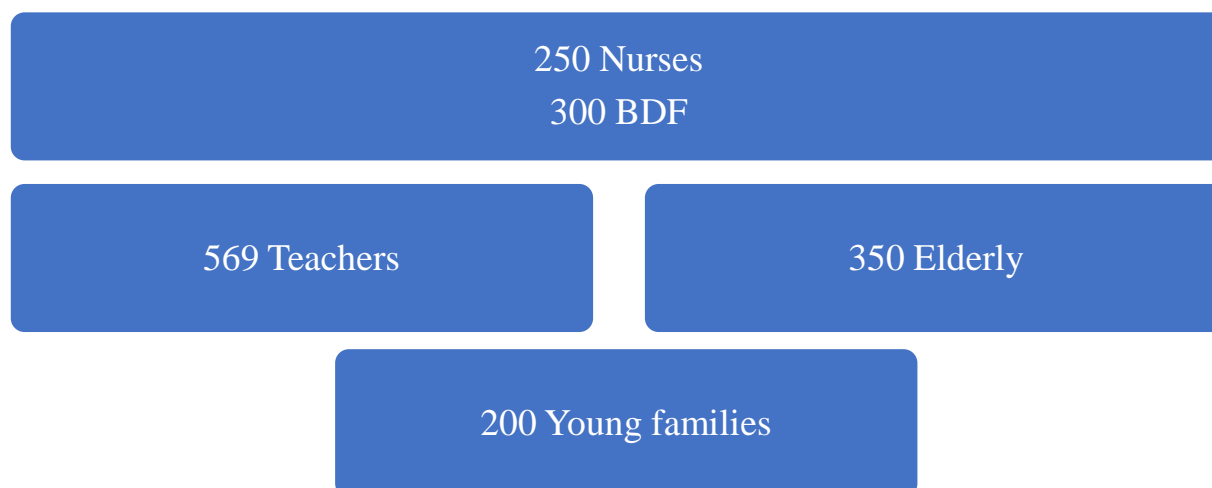


FIGURE 2. describing the number of lands issued to public servants, young families, and the elderly.

**OBJECTIVE NO. 7:** To supervise, verify, and monitor the execution of all cadastral surveys in the country; examine and authenticate plans for all legal surveys; maintain and provide information on the horizontal and vertical control networks to which all surveys are connected and tied to (geo-referencing)

**MAIN ACTIONS & RESULTS ACHIEVED:**

Activity	Number of Instruments	Authenticated	Substandard
Plans submitted for Authentication	405	366	39

TABLE 8. showing the number of survey plans submitted to the Survey and Mapping section for authentication.

**OBJECTIVE NO. 8:** To function as the spatial data repository responsible for the generation of resource maps, statistics, and analysis, to support Land management activities.

**MAIN ACTIONS & RESULTS ACHIEVED:**

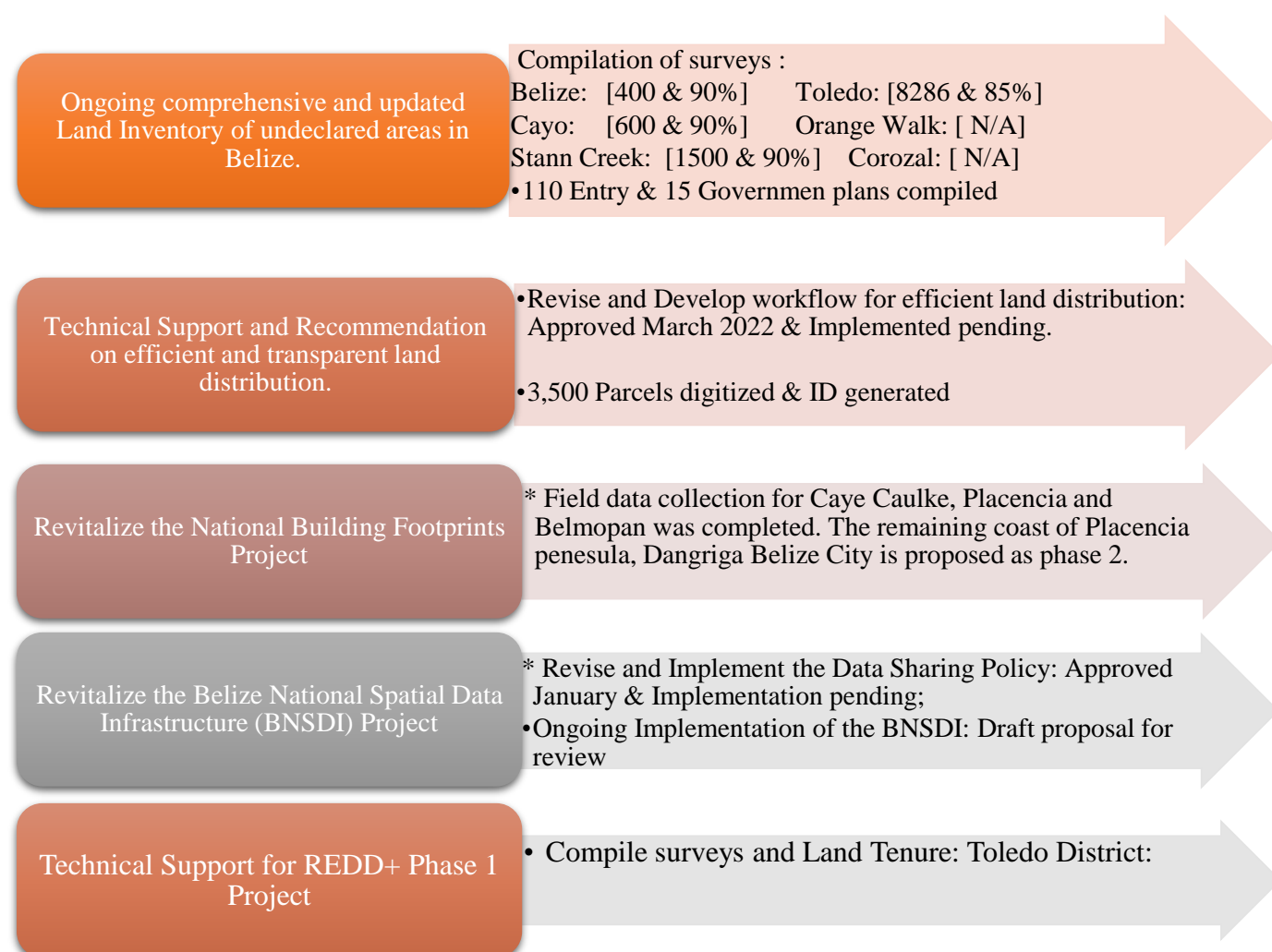


FIGURE 3: Describing the actions taken by the Land Information Centre and its achievements for the period 2020-2021

REDD + Toledo Land Tenure Project
<ul style="list-style-type: none"> <li>• Duration: 8 Months (May to December 2021)</li> <li>• Total Budget: \$115,000 US</li> <li>• Objective: determine the land tenure in the Toledo District</li> </ul>

TABLE 9. describing the summarized details of the REDD+ project which MNRPM had a component of.

**OBJECTIVE NO. 9:** To advise and provide valuation and assessment services to government ministries and the public.

### MAIN ACTIONS & RESULTS ACHIEVED:

Valuations	Numbers	Land Accounts	Numbers
Rental Calculation	89	Categorized:	10,145
Re-assessed	855	Purchase price calculated	274

TABLE 10. showing the work carried out by the Valuation section.

### CHALLENGES

- ✚ Land use policy not yet approved for implementation
- ✚ Lacks resources for enforcement
- ✚ Legal framework is outdated and lacks potency

Figure 3: Contribution to Plan Belize & SDGs







*Pictures of the Land Mobile Outreach Program*

## PROGRAM 2: DEPARTMENT OF LAND REGISTRY

### Department of Land Registry

Land Registry- responsible for the registration of land tenure and other interests over land.

Land Titles Unit- record Land titles for unregistered areas.

**OBJECTIVE 1:** To improve the quality and timely customer service and customer satisfaction

**MAIN ACTIONS & RESULTS ACHIEVED:**

**Land Registry – Service Delivery Targets**

<ul style="list-style-type: none"> <li>• Certified Copy to be issued within 1 working day</li> </ul>	Achieved
<ul style="list-style-type: none"> <li>• Checklist accessible to staff and the public</li> </ul>	Achieved
<ul style="list-style-type: none"> <li>• Checklist items for application requirements are properly scrutinized for application types</li> </ul>	Partially Achieved:
<ul style="list-style-type: none"> <li>• Clear the backlog</li> </ul>	Not achieved
<ul style="list-style-type: none"> <li>• Implementation of file management policy</li> </ul>	Achieved
<ul style="list-style-type: none"> <li>• Monitoring of stalled instruments</li> </ul>	Partially achieved
<ul style="list-style-type: none"> <li>• Create a Land Consultants Association</li> </ul>	Not achieved
<ul style="list-style-type: none"> <li>• Legislation reviews and recommendations under proposition</li> </ul>	Not achieved
<ul style="list-style-type: none"> <li>• Training in property law with concentration in registered land</li> </ul>	Not achieved

**Land Titles Unit – Service Delivery Targets**

<ul style="list-style-type: none"> <li>• Clear the backlog</li> </ul>	Not achieved
<ul style="list-style-type: none"> <li>• Monitoring of stalled instruments</li> </ul>	Achieved
<ul style="list-style-type: none"> <li>• Checklist accessible to staff and the public</li> </ul>	Achieved
<ul style="list-style-type: none"> <li>• Provide books for research purposes</li> </ul>	Achieved
<ul style="list-style-type: none"> <li>• Entry control for researchers</li> </ul>	Not achieved

## Customer Support Statistics

7,800 logged in 2021	23,019 instruments processed at the LRD	2,238 instruments processed at the Land Titles Unit
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**OBJECTIVE 2:** To build the Registry with highly competent and motivated staff

### MAIN ACTIONS & RESULTS ACHIEVED:

- ❖ Streamlining of process flow by inter-departmental functions: Customer Service, Processing and Research
- ❖ Legislation reviews and recommendations under proposition

#### ❖ List of Capacity Building Measures

No. of Officers	Target	Topics	Training Method
8	Receptionists	Standardization of customer services and outline of expectations	In-source
15	Technical staff	Cross training in Land Registration and Deed System	Hand on training and simulations exercises on the job

TABLE 10. showing the capacity building measures in the LRD for the period 2020-2021

**OBJECTIVE 3:** To increase registration and registration capacity

**MAIN ACTIONS & RESULTS ACHIEVED:**

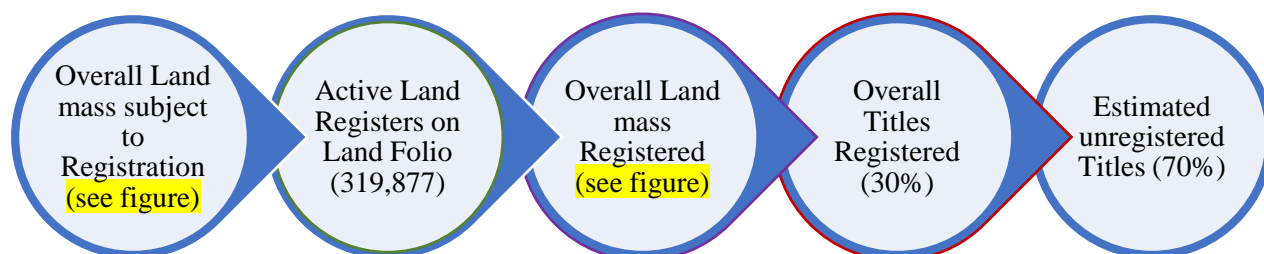


Figure 4. showing the land registration data for the period 2020-2021

The level of voluntary First Registration cases remained very low at 30 % of all first registration applications received in 2021. Consideration continues for creative ways to “trigger” First Registration.

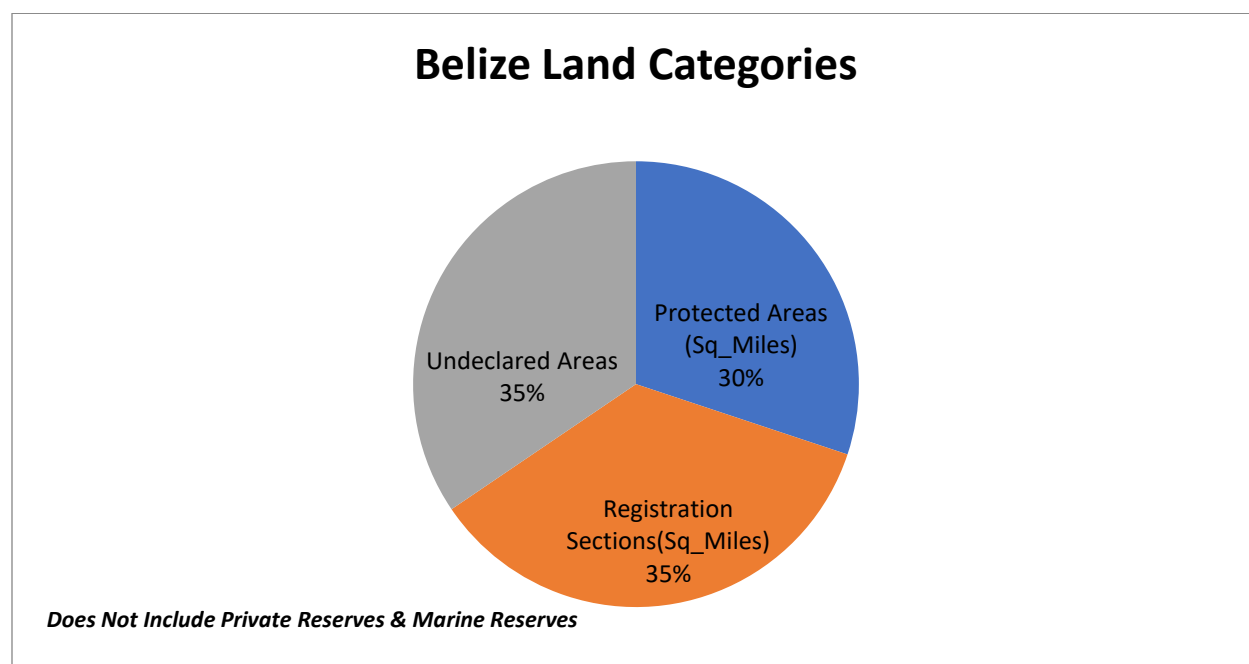
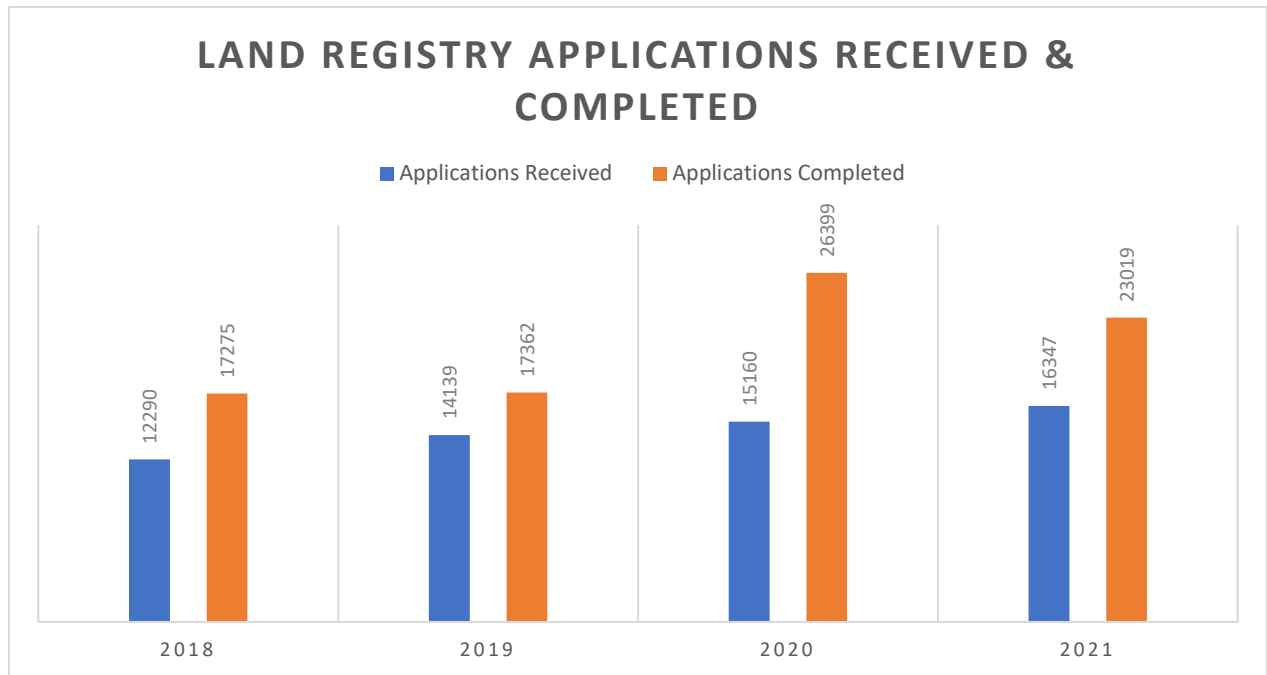
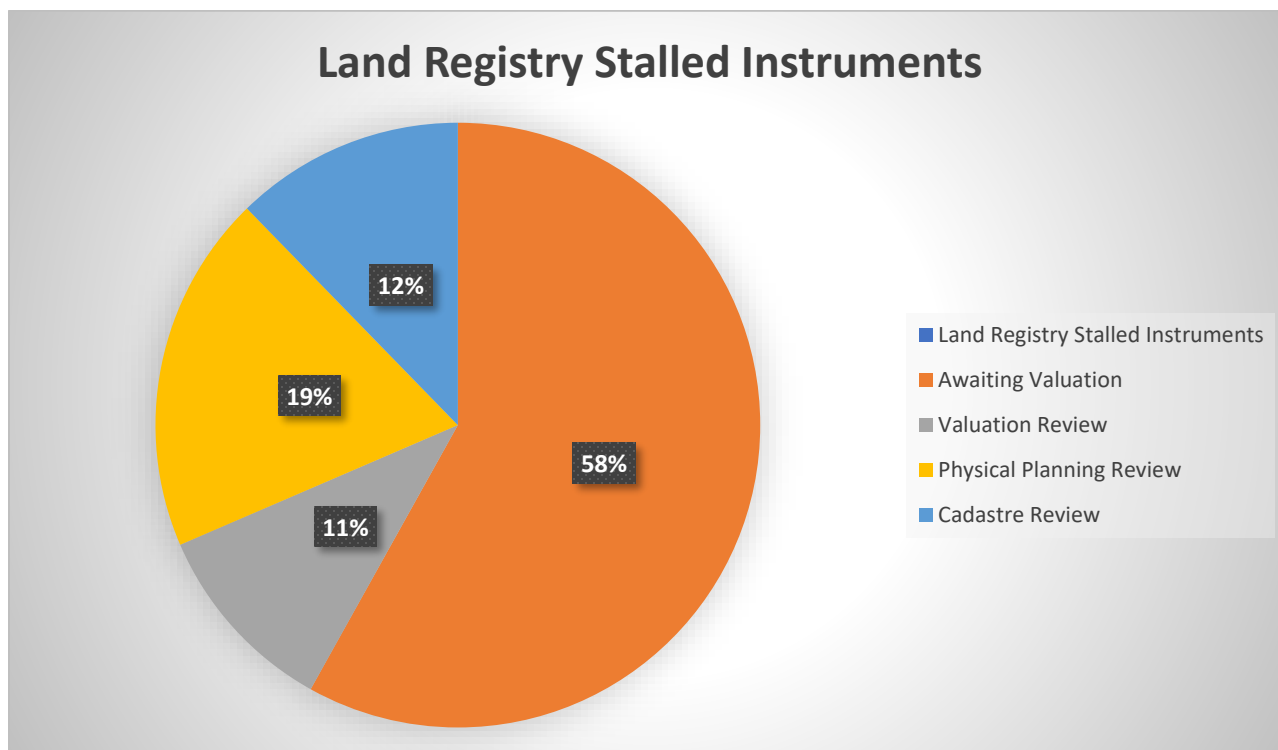
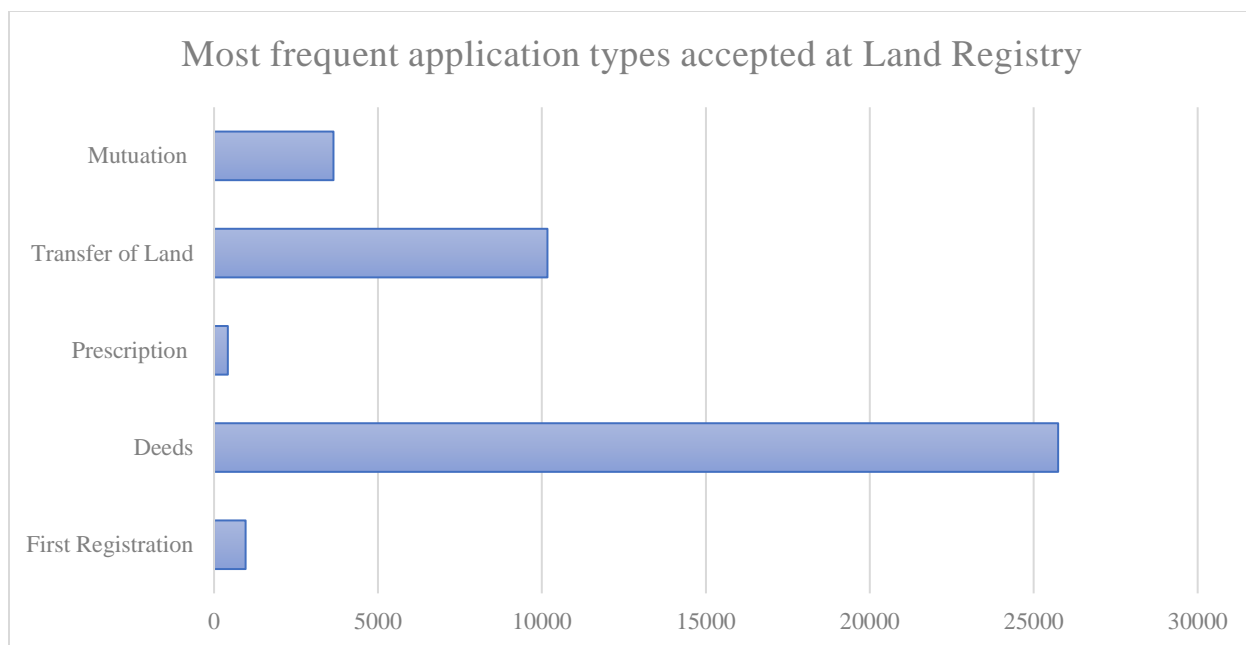


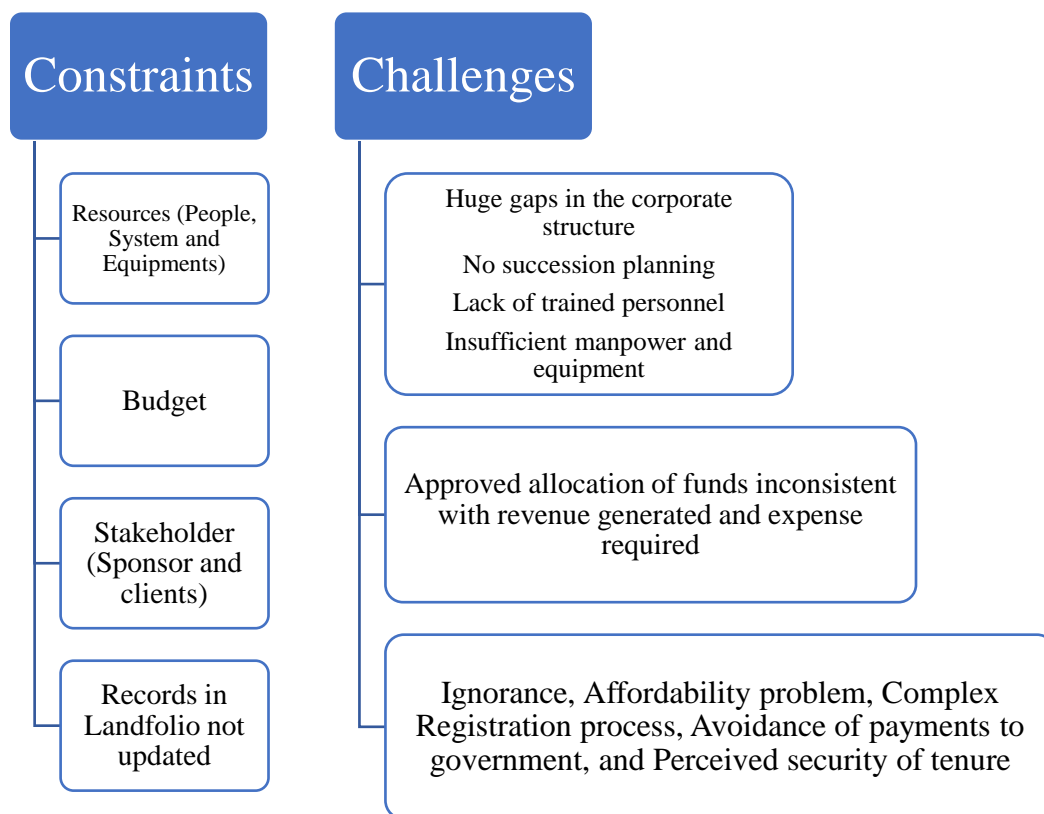
FIGURE 5. showing the land categories currently in Belize- Undeclared (unregistered), Registered and Protected areas.

## LRD transactions

- 57 land registry application
- 73 land titles unit application







**OBJECTIVE 5:** To develop stronger relations with Stakeholders through ongoing consultations

**MAIN ACTIONS & RESULTS ACHIEVED:**

- Create a Land Consultants Association and require licensed members to follow certain guidelines and be sanctioned when they are breached.
- Workshops with [key Stakeholders] on the Topic of Land Registration in Belize.

**OBJECTIVE 6:** To enhance the quality of financial management and stimulate revenue

**MAIN ACTIONS & RESULTS ACHIEVED:**

- Digitizing of Deed System.
- Amend the fee structure – Cabinet must approve





Figure 4: Contributions to Plan Belize and SDG



### 3.3 PROGRAM 3: MINING UNIT

**OBJECTIVE 1:** Continued administration of Mineral Rights through the processing and issuance of mineral rights; monitoring and enforcement of mineral right conditions; collection of revenues; and the management and preparation of mineral data and statistics

#### MAIN ACTIONS & RESULTS ACHIEVED:

- ✓ Updating of mineral sector fact sheets.
- ✓ Increased field presence in 2021 allowed for better management of mining operations and collection of more revenue. Number of mineral rights has surpassed previous years by 24 % above average, and revenue collected is 59 % higher than 10-year average.'

The table showing a comparison of mineral rights issued between 2015 and 2021 indicates that the number issued in 2021 has surpassed previous years by 24 %.

MINERAL RIGHTS	2015	2016	2017	2018	2019	2020	2021
Mining Licenses (ML)	6	5	1	5	4	7	7
Exclusive Prospecting Licenses (EPL)	0	0	0	0	3	1	0
Quarry Permits (QP)	4	10	8	5	13	4	3
Non-commercial Quarry Permits (NCQP)	6	3	8	3	7	3	4
Registered Artisanal Quarry Permits (RAQP)	10	6	4	5	8	3	9
Non-Exclusive Prospecting Licenses (NEPL)	6	2	1	0	4	0	1
Registered Quarry Permits (RQP)	134	120	138	139	98	109	160
<b>TOTAL</b>	<b>166</b>	<b>146</b>	<b>160</b>	<b>157</b>	<b>137</b>	<b>127</b>	<b>184</b>

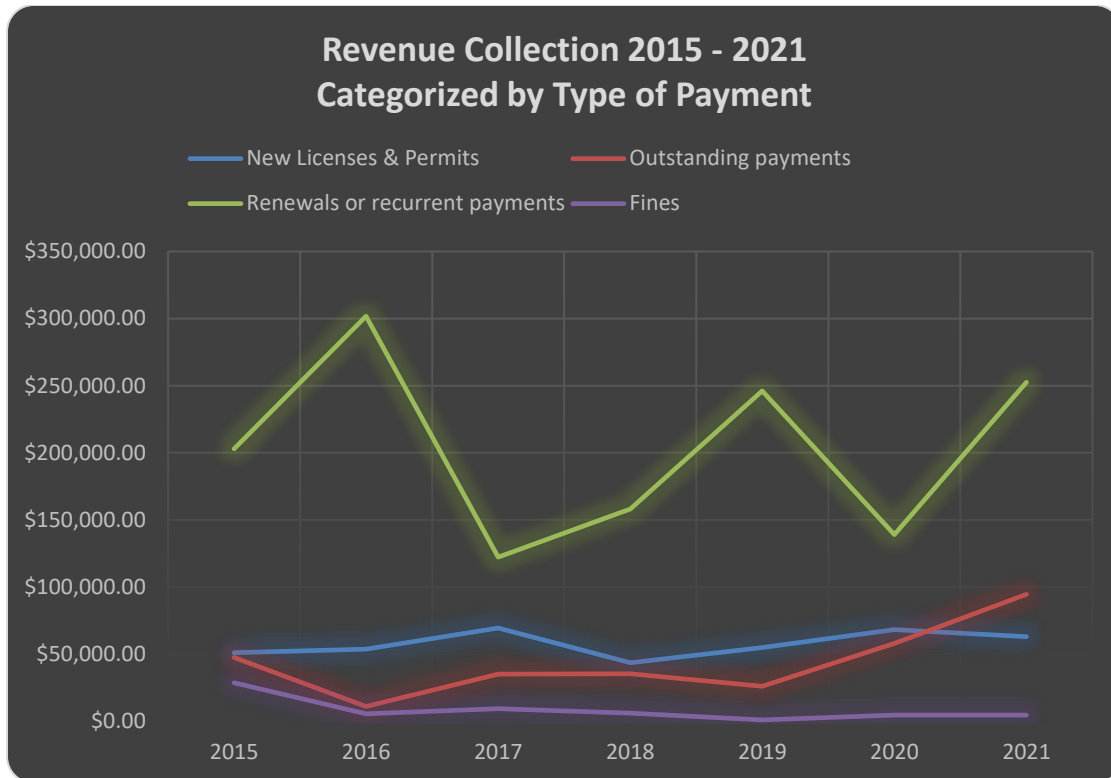
*Mineral Rights issued between 2015-2021*

The table below shows the revenue collected by the Mining Unit for 2021. Revenue for 2021 is 59 % higher than the 10-year average.

Quarter	Period	Revenue Collected
1 <sup>st</sup> Quarter	January – March 2021	<b>\$124,517.90</b>
2 <sup>nd</sup> Quarter	April – June 2021	<b>\$124,575.55</b>
3 <sup>rd</sup> Quarter	July – September 2021	<b>\$91,666.25</b>
4 <sup>th</sup> Quarter	October – December 2021	<b>\$73,938.19</b>
<b>TOTAL</b>		<b>\$414,697.89</b>

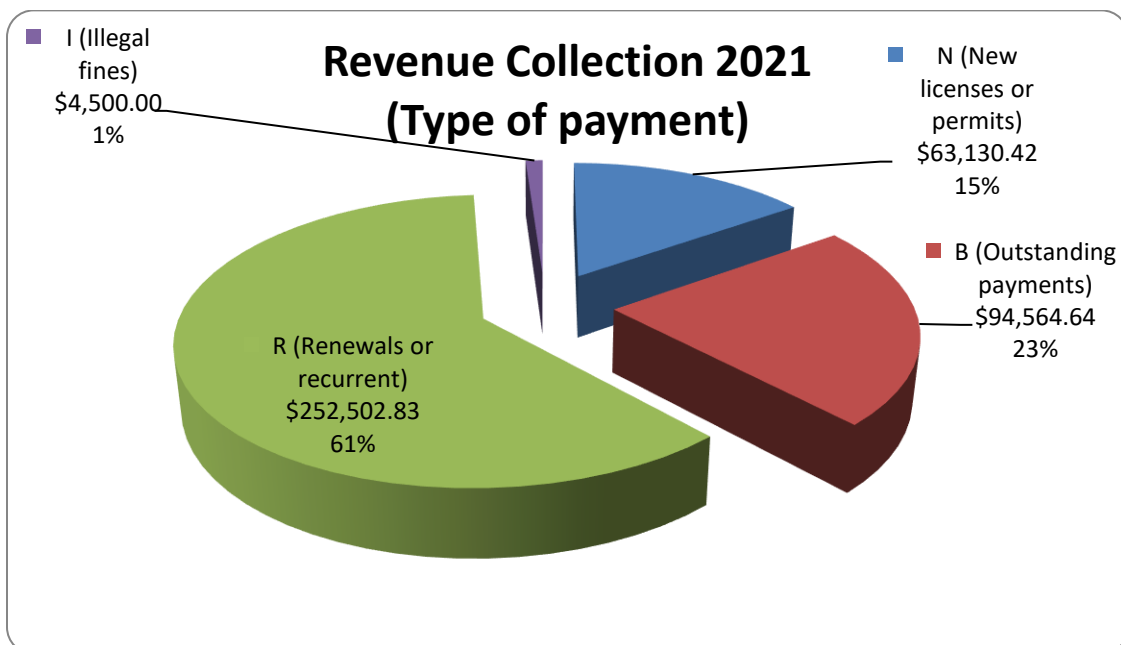
*Revenue collected by the Mining Unit for 2021*

More in-depth analysis of the revenue collected for the period 2015-2021 is presented below. The graph shows the comparison of annual revenue categorized by *type of payment*. The trend shows that fines are the lowest, as to be expected, while revenue for permit renewals and existing license fees and royalties accounts for most of the annual revenues in the mineral sector.



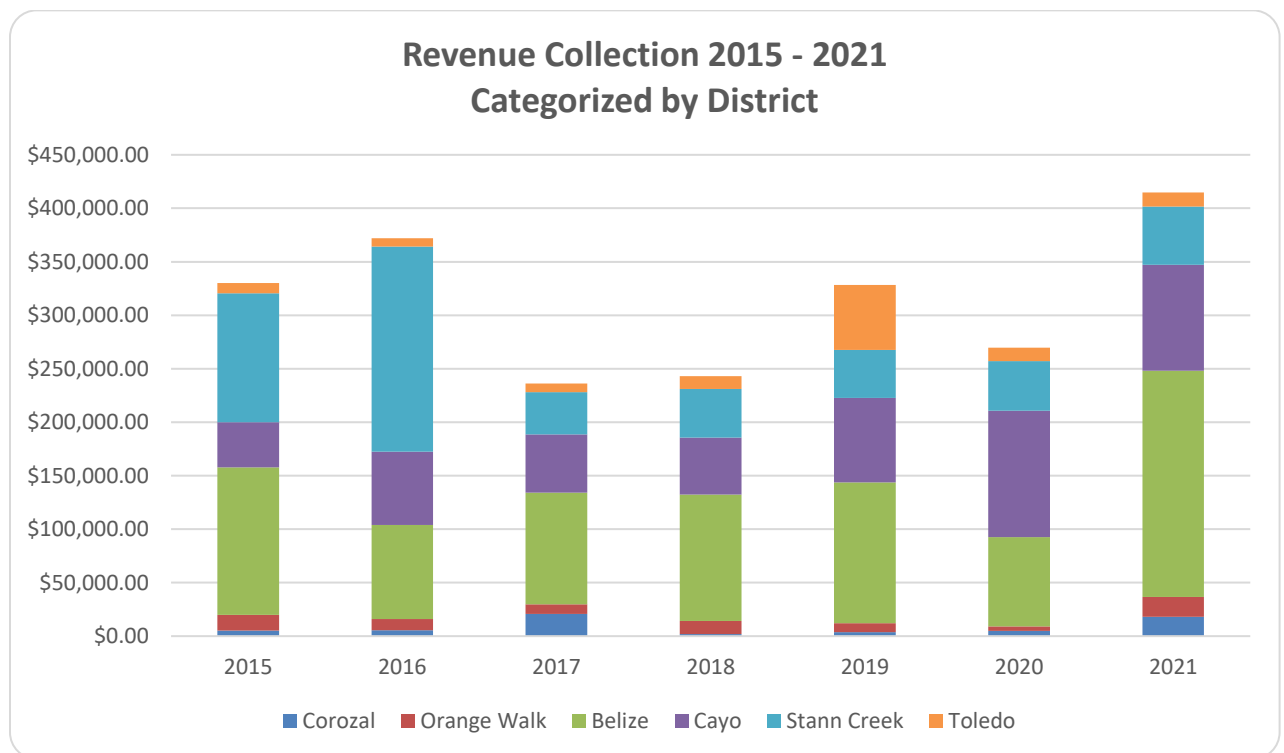
*Revenue Collection Categorized by Type of Payment for the period 2015-2021*

For 2021, the pie chart below, shows the revenue disaggregated according to the type of payments that were made between January to December 2021.



*Revenue collected based on the type of payments for 2021*

The bar graph that follows, shows the comparison of annual revenue for the period 2015-2021 categorized by the ***district*** where the mineral right is located. Data indicates that most of the revenue is collected from the Belize District followed by Stann Creek then Cayo District. Mineral right issuance is concentrated in these districts where most of the infrastructure, tourism, and land development projects are focused. The two northern districts and the Toledo district would see an increase in revenue collection with an enhancement to the resources assigned to the Mining Unit. The revenue collected from these three districts is not an indication of the mineral extraction going on but rather an indication that the Unit's ability to maintain monitoring presence is limited due to vehicle and staff availability.



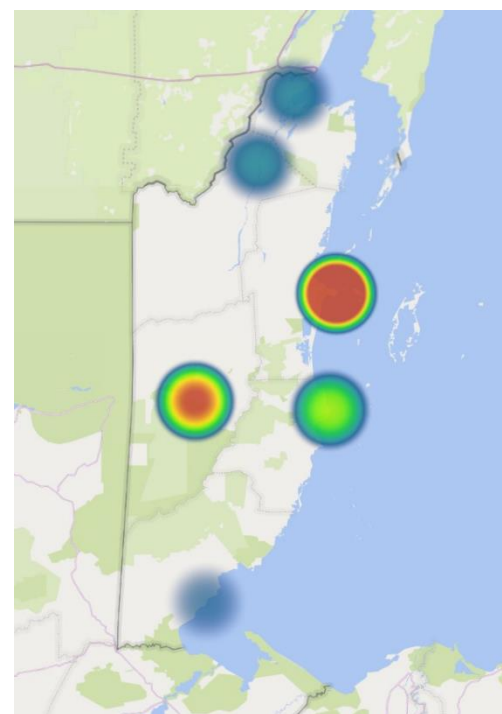
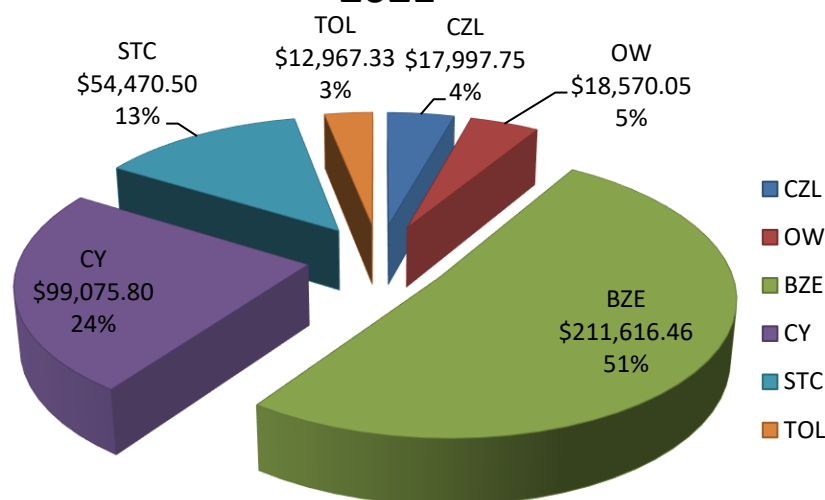
*Revenue Collection Categorized by District (2015-2021)*

The pie chart that follows, shows the 2021 revenue disaggregated according to the district where mineral rights are issued. The Belize District accounts for 51 % of the revenue collected for 2021, reflective of the execution of the Coastal Road Upgrade Project and the

National Aggregates Quarry, a quarry that supplies aggregates to most of the infrastructure developments in Belize District.

## REVENUE GENERATED BY DISTRICT

2021



*Revenue collected according to district for 2021*

**OBJECTIVE 2:** To enforce best practices for mineral extraction & site rehabilitation for improving extraction techniques with regard for the environment & efficient mineral recovery

### MAIN ACTIONS & RESULTS ACHIEVED:

- ✓ Mining Conflict Board established - First meeting convened in October 2021.
- ✓ Upscaling of drone mapping tools and software for efficient monitoring and enforcement of mining conditions. Technological advances with acquisition of a second drone to conduct inspections. Multiple benefits of this approach, but specifically to monitor changes over time and provide guidance to operators on best practices.
- ✓ Increased field presence in 2021 allowed for better management of mining operations and collection of more revenue.
- ✓ Number of mineral rights has surpassed previous years. (Table in objective 1)

**OBJECTIVE 3:** To strengthen the legal and institutional arrangement of the Mining Unit

**MAIN ACTIONS & RESULTS ACHIEVED:**

- ✓ Proposal for establishment of the Mines and Minerals Department presented to the Minister and Chief Executive Officer on July 12, 2021 inclusive of operational and organizational structure for the Mines and Minerals Department, functions and responsibilities of each division, justification of personnel, job descriptions for core staff, and staffing requirements.
- ✓ Development of the National Mines and Minerals Policy for improved regulation and growth of the mineral industry:

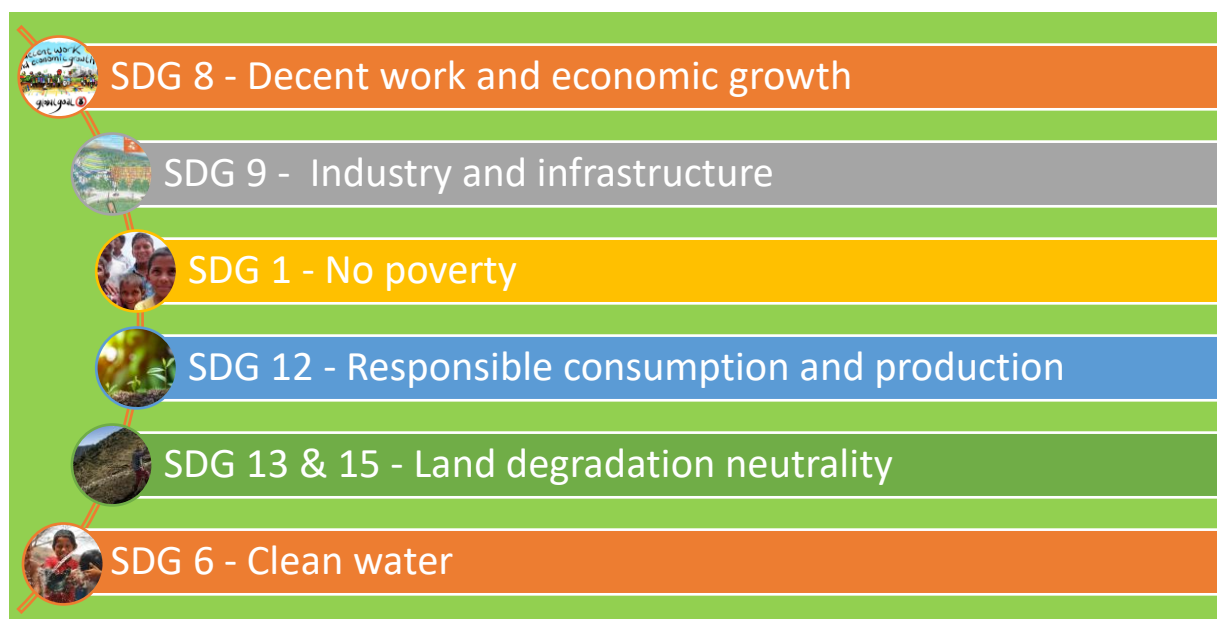
Activity	Number of Consultations	Outcome (feedback and recommendations received)
Consult with stakeholders: <ul style="list-style-type: none"> <li>• key Village Council Chairpersons</li> <li>• Mineral Right Holders</li> <li>• Government stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Village Councils               <ul style="list-style-type: none"> <li>○ Orange Walk (1)</li> <li>○ Belize District (1)</li> <li>○ Stann Creek (3)</li> </ul> </li> <li>• Mineral Right Holders – quarterly meetings</li> <li>• Government stakeholders:               <ul style="list-style-type: none"> <li>○ Ministry of Rural Development (3)</li> </ul> </li> </ul>	Incorporation of outcomes from consultations into: <ul style="list-style-type: none"> <li>• Mineral right application process</li> <li>• Permit conditions</li> </ul>
Annual Mineral Rights review	Completed annually	Modifications to: <ul style="list-style-type: none"> <li>• Application requirements</li> <li>• Information to the public</li> <li>• Monitoring checklist</li> </ul>

- ✓ Review the Mines and Minerals Act and Regulations with a view to update fee structure and fines for offenses committed.

- The checklist has been completed and submitted to Minister and Chief Executive Officer in March 2021 with a presentation provided for Minister in April 2021:
  - Revision of legislation
  - Preparation of matrix with amendments
  - Meeting with Legal Counsel
  - Preparation of Cabinet Paper
  - Preparation of SI with amendments to Act and Regulations
- ✓ List of Capacity Building Measures to improve monitoring and enforcement of mining operations

No. of Officers	Topics
3	CCCCC and CDB Geospatial Webinar
2	Introduction to GIS Using ArcGIS Pro
2	ArcGIS Field Maps
1	ArcGIS Story Maps
2	Spatial Analysis Using ArcGIS Pro
1	UNCCD Gender Training

Figure 4: Contributions to Plan Belize and SDGs (How Belizean lives are improved)



### 3.4 PROGRAM 4: NATIONAL HYDROLOGICAL SERVICES

**OBJECTIVE NO 1:** Improve the implementation of IWRM according to the Act to efficiently administer integrated water resources management in Belize.

#### MAIN ACTIONS & RESULTS ACHIEVED:

- ✓ Legal framework established for an IWRM Agency to be instituted.
  - ✓ Institutional Architecture and functions established for IWRM Agency.
  - ✓ Draft Cabinet Paper was prepared and submitted for consideration outlining the proposal to upgrade the Unit back to Department status which it held for several previous budget years to allow for the requisite efficient and effective functioning of as National Hydrological Service according to the requirements for disaster risk reduction responsibilities as well as by the criteria laid out by the World Meteorological Organization structure upon which Hydrology was first established.
- In house consolidation of the National Integrated Water Resources Management Act (NIWRA) September 2015 executed by the current staff of the National Hydrological Service.
  - Commencement of NIWRA on September 1, 2015.
  - NIWRA Technical Guidelines document reviewed and in the process of being reformatted for submission to create the Regulations development to guide the NIWRA Implementation.
  - Cost Center approved by the Ministry of Finance for the collection of fees in relation to water abstraction activities.
  - Proposed Fee Structure reviewed and submitted to Management for consideration of implementation.
  - NIWRA Implementation Documents (EU-GCCA Project) approved in 2014 by the Chief Executive Officer

Documents	
Financial Sustainability Plan	Recommendations for the Enhanced Functioning of Water Resources Management Entities
Institutional Architecture	Frequently Asked Questions
Operational and Organization Charter	Draft Capacity Training Needs, Strategy and Action Plan



Despite not being a revenue earning entity, comparison was done to illustrate the estimated cost of water resources management for which there is no cost recovery mechanism in place but there are considerations in the legislation for same. Comparison was done using years 2016, 2018, 2020 and 2021.

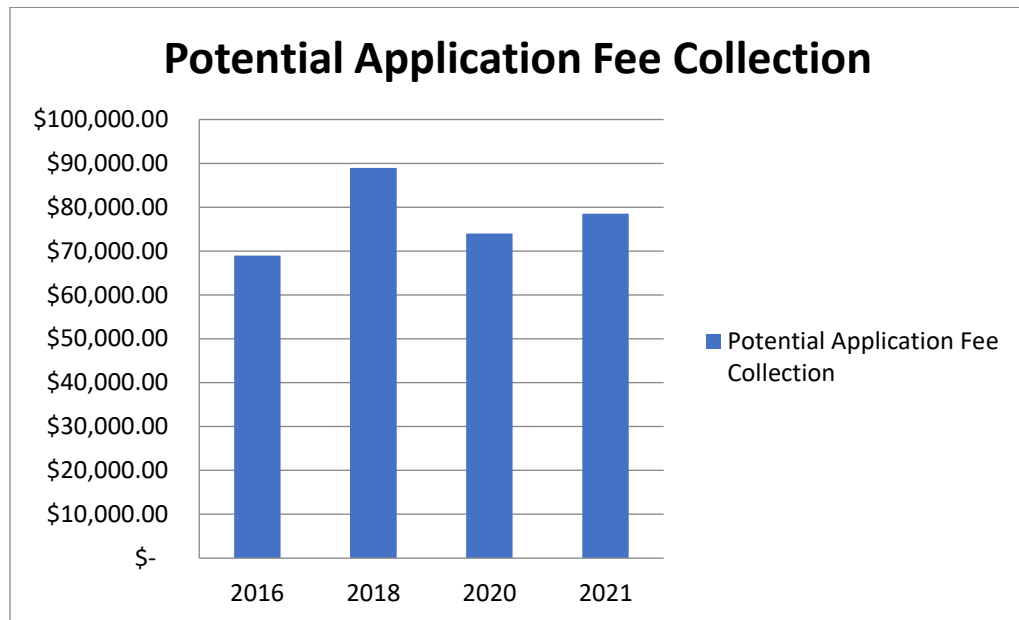
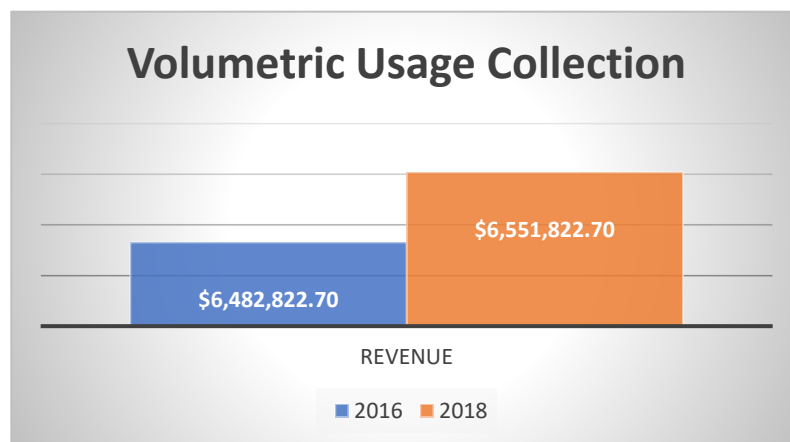
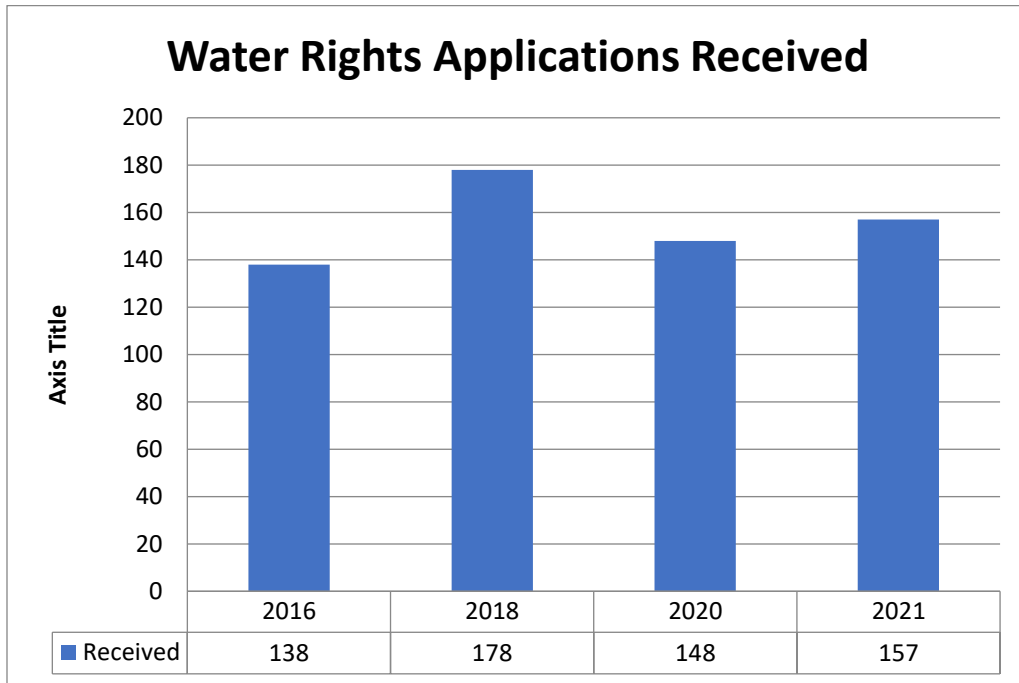


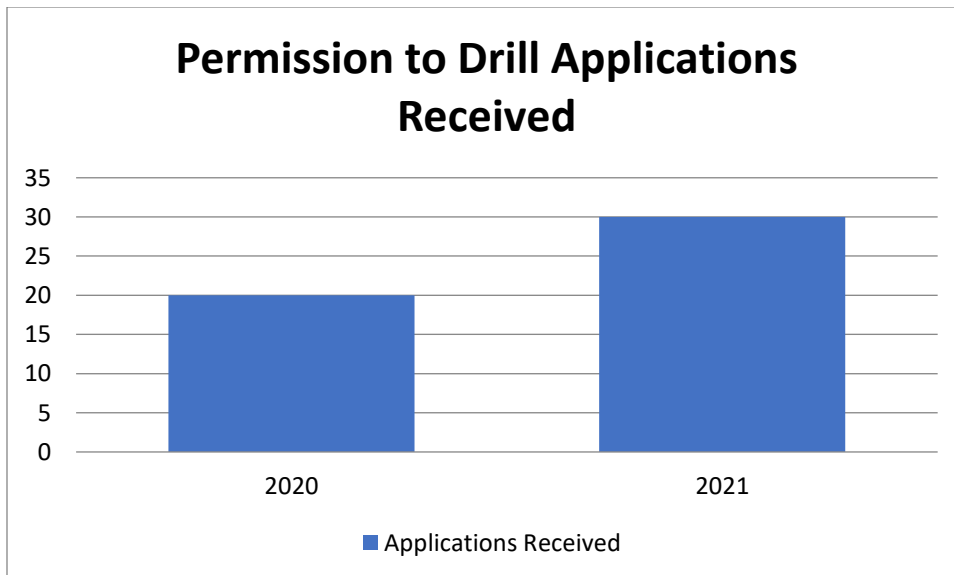
Chart below reflects the potential for cost recovery of doing business on the principle of user pay, polluter pay upon which the Government's water policy was created.



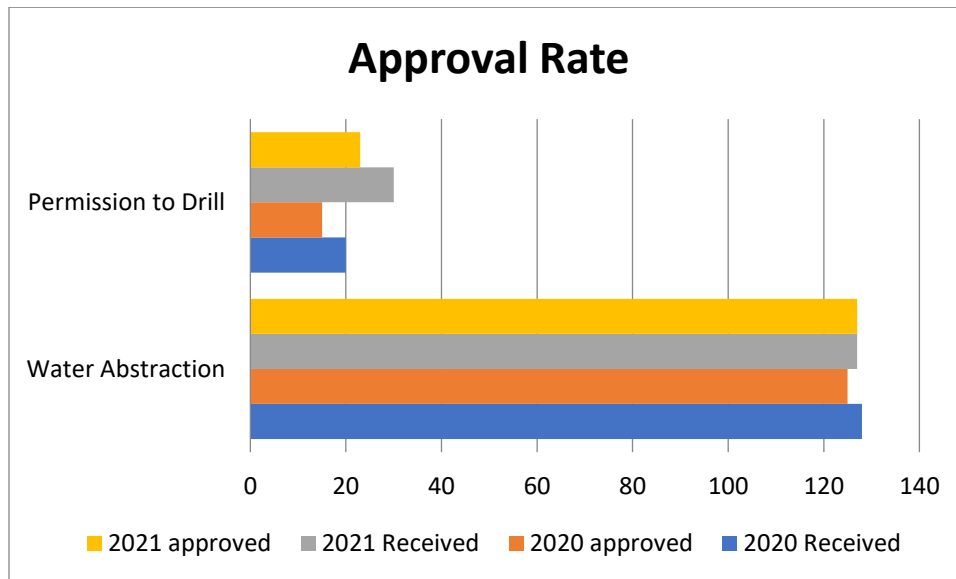
- ✓ **Water Allocation permits and licenses continue to be issued. In 2020, 148 applications was received compared to 2021 with 157 applications. There was a 6% percent increase in applications received compared to 2020 totals.**



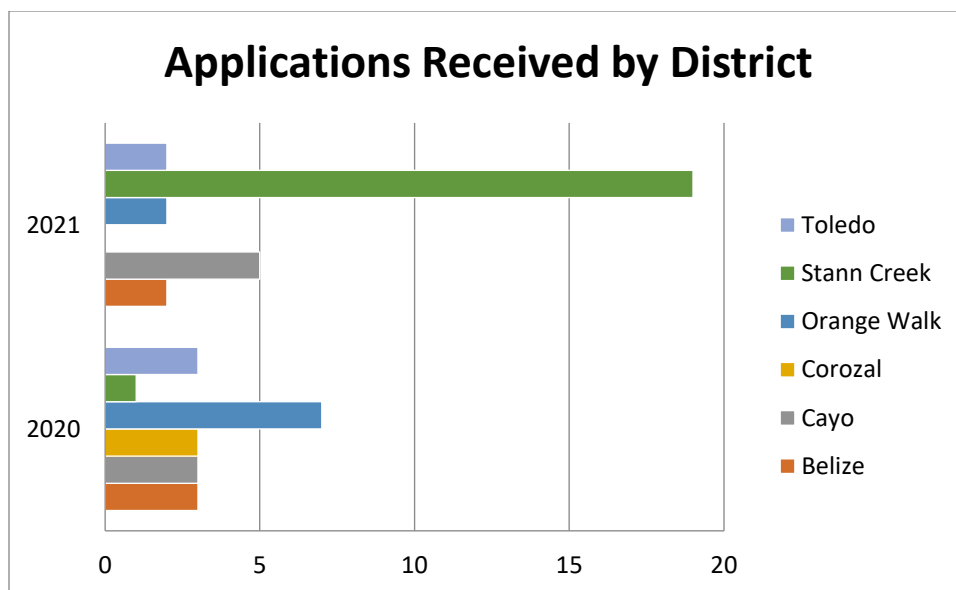
- ✓ **Permission to drill applications reflected a minimal increase in numbers from 20 to 30 applications accounting for a 50% increase in applications received.**

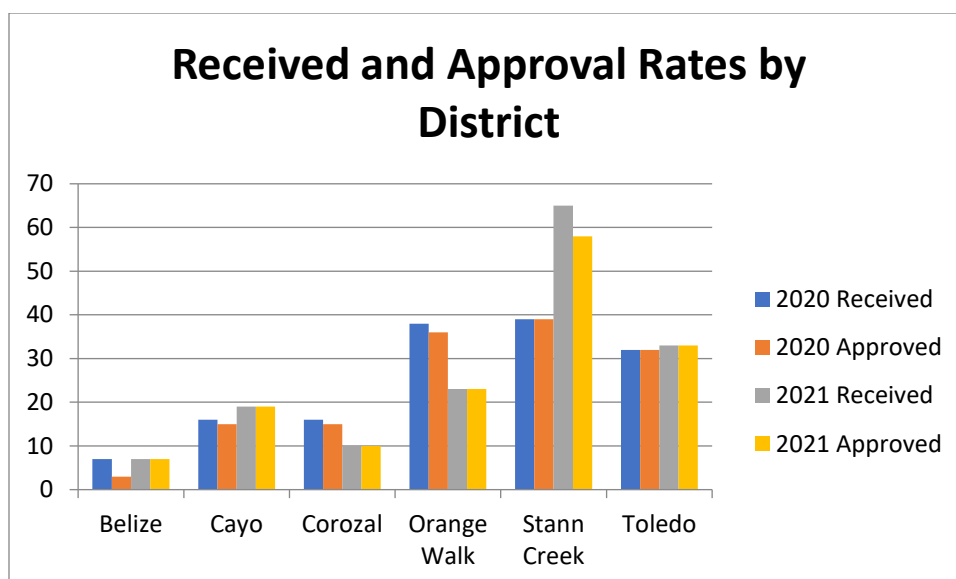


- ✓ **Approval rates for water abstraction and permission to drill remain at almost 100%.**



- ✓ **Stann Creek and Toledo districts reflect the highest number of applications received and approved.**





**OBJECTIVE NO 2:** Improve the management of water resources via modernization of hydrological monitoring network, building capacity of staff and development of associated planning tools to establish a robust decision support system.

#### MAIN ACTIONS & RESULTS ACHIEVED:

- ✓ Several hydrological stations were installed on the following river systems to afford more reliable monitoring of the resource and hydrological forecasting initiatives.
- ✓ Via MAR2R Project, Public Private Partnership Agreement established to foster partnerships with private sector to advance integrated water resources management.
- ✓ Via MAR2R Project, Updating of the National Water Policy, Strategy, and Action Plan is being done to strengthen and align policy documents to streamline IWRM activities.
- ✓ Strategic Plan was developed to guide the advancement and growth of the Service to meets its goals and objectives.
- ✓ Terms of Reference for current staff members and those which are needed have been completed both internally and via the Rationalization Exercise executed by the Ministry of Public Service.

<b>Deliverable</b>	<b><u>Date of Approval</u></b>	<b><u>Approved by</u></b>	<b>Accessed/Implemented</b>
Public Private Partnership Agreement for monitoring, data collections, sharing between GOB, NGOs, Academia, Private Sector, and Local communities to utilize the river approved	<b><u>2021</u></b>		In conjunction with the Department of the Environment as the lead agency
Development of Technical Guidelines to inform Regulations (JCCCP)	<b><u>Under revision</u></b>		
Updating of the National Water Policy, Strategy and Action Plan (MAR2R Project)	<b><u>2022</u></b>	<b><u>Ongoing</u></b>	

✓ **Capacity building activities offered to the staff of the NHS to improve and maintain their skill set for efficient and effective service delivery.**

<b>Title</b>	<b>Participant Name</b>	<b>Date (Duration)</b>	<b>Funding</b>
For matriculation to post of Senior Hydrological Technician	Ellington Cayetano	18 months	World Meteorological Organization Scholarship
For matriculation to post of Hydrological Technician III	Isani Williams	12 months	Self-funded
To perform duties of Hydrogeologist	Tennielle Williams-Hendy	One week	Global Water Partnership Caribbean and CAPNET
To better manage hydrological database system – Certificate training on Interoperable data exchange in Hydrology	Tennielle Williams-Hendy Rhona Lopez	One month	World Meteorological Organization

To improve flood forecasting advisories – Certificate training on the “Implementation Plan for Building Capacity in Multi-hazard Impact-based Forecasting and Warning Services in the Caribbean region”.	Tennielle Williams-Hendy Rhona Lopez	May 16- August 10, 2022	CREWS Caribbean Project led by the World Bank
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- ✓ **Improving the monitoring and forecasting capacity of operations via several collaborative activities with the private sector and Non Governmental organizations to foster holistic management of water resources beyond the Government offices.**

Project	Detail	Date	Sponsor
<b>Red Cross Belize</b>	Installation of Hydrological Observation Station (manual and automatic) at More Tomorrow village on the Belize River	2021	<b>Red Cross Project</b>
<b>Belize Urban Resilience and Disaster Prevention Project</b>	Installation of four (4) hydrological observation stations at Hawksworth Bridge, Bullet Tree Road and Bullet Tree Riverside locations to inform flooding on the Macal and Mopan Rivers.	2021	<b>Taiwan ICDF</b>

- ✓ **External Grant funding secured to advance integrated water resources management that would otherwise not be available under recurrent budgeting.**

#### Global Water Partnership Caribbean

- Caribbean hydrogeological mapping of the aquifer in Northern Belize - covers entire Corozal and Orange Walk and partial Belize District
- DATE: September 2021

#### Green Climate Fund

- Readiness & Preparatory Support Project - focus on transboundary water resources of the Rio Hondo
- Climate Technology and Climate Center Network (CTCN)
- DATE: November 2021

#### GEF6

- Integrated management of production landscapes to deliver multiple global environmental benefits - Focus on Belize River watershed
- DATE: 2022

#### Climate Technology and Climate Center Network (CTCN)

- In partnership with National Climate Change Office
- Groundwater monitoring for managing aquifers as a tool for Climate Change Adaptation with focus on New River Water Resources
- DATE: August 3, 2021

#### Interamerican Development Bank (IDB)

- Support for Integrated Water Resources Management with 3 components: assessing critical watersheds (focus on South), Design and implementation of an Action Plan to implement the IWRM law, and capacity strengthening for IWRM.
- DATE: February 2022

**OBJECTIVE NO 3:** Improve the efficiency of hydrological forecasting and monitoring to improve Flood Early Warning Service to minimize loss of lives and properties associated with disaster risk reduction activities.

**MAIN ACTIONS & RESULTS ACHIEVED:**

- ✓ Additional stations installed on various river systems to augment flood forecasting and disaster risk reduction activities.
- ✓ Added 4 automated stations via ERCAP on the Belize River System
- ✓ Added 1 automated station each at Crooked Tree Village, Iguana Creek Bridge and More Tomorrow Village via several projects.
- ✓ Regular issuance of Flood Report and Forecast, up to thrice weekly advisories.
- ✓ Execution of ground water well survey for the Orange Walk, Corozal and partial Belize Districts to serve as the baseline to establish the country's first groundwater monitoring network.
- ✓ Partnerships established with foreign University in Canada to conduct mutually beneficial research and investigations in Belize.
- ✓ Draft Action Plan developed to assess the country's saline intrusion zone through Public Private Partnerships Agreements.

Project	Area	Date	Sponsor
<b>(Energy Resilience for Climate Change Adaptation Project – ERCAP)</b>	Flood Forecasting System established	2016 - present	World Bank

**OBJECTIVE NO 4:** Water Resources Management Policies, Strategies and Action Plan compiled and/or updated to streamline IWRM Activities to deliver and enhance hydrological and related environmental information & services to the public, government, and other users.

**MAIN ACTIONS & RESULTS ACHIEVED:**

- ✓ **Updating of the Government's Water Policy, Strategy and Action Plan being executed under the MAR2R Project to streamline IWRM actions therein.**
- ✓ **Via the Inter American Development Bank (IDB), a Road Map and Action Plan to be developed to guide the NIWRA Implementation.**



- ✓ **Via the Green Climate Fund’s Readiness and Preparatory Support Project, currently being implemented:**
  - a National Adaptation Plan will be developed for the water sector.
  - Aquifer investigation will be executed to determine the aquifer characteristics such as transmissivity, porosity, recharge rate and the like to inform other sectors such as but not limited to: agriculture, investment, and road infrastructure/drainage.
- ✓ **Request sent to the United Nations Convention on Desertification and Drought for Belize to join the International Drought Initiative to develop a drought strategy and Action Plan for the country.**

**OBJECTIVE NO 5:** Increase Public Awareness and Education for IWRM to improve the delivery of water related environmental information services to all stakeholders.

#### **MAIN ACTIONS & RESULTS ACHIEVED:**

- ✓ **Annual Water Resources Report compilation to resume and is currently under development.**
- ✓ **Annual World Water Day activities undertaken.**
- ✓ **Preparation of Water Forum activity focusing on groundwater management to highlight the investigative work done on groundwater in Belize which is scheduled for October 2022.**

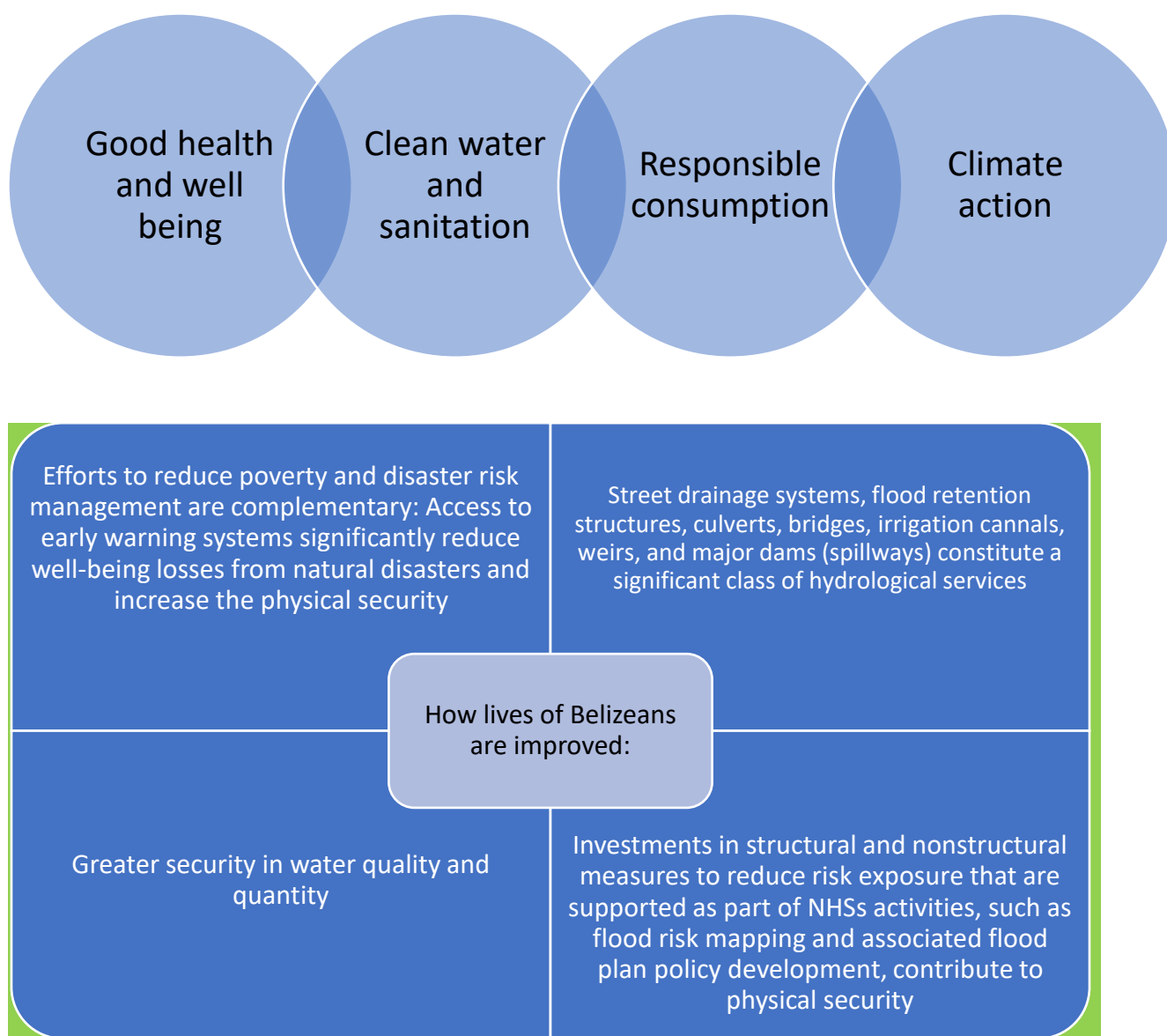
The below tables indicates summary data reflective of limited operations and services of National Hydrological Services to provide efficient and effective information to stakeholders via a comparison of sectors relying on the work of the unit vs constraints to providing such service. Recommendations are also presented to overcome the challenges in work execution.

<b>Sectors relying on NHS</b>	<b>Constraints/Challenges</b>	<b>Recommendations</b>
<ul style="list-style-type: none"> <li>• Agriculture-Irrigation, and food security</li> </ul>	<ul style="list-style-type: none"> <li>• Fragmented policy environments</li> <li>• Insufficient budget</li> <li>• Inadequate institutional architecture</li> </ul>	<ul style="list-style-type: none"> <li>• Integrating hydrological services into national policies</li> <li>• Securing central government prioritization</li> </ul>

<ul style="list-style-type: none"> <li>• Climate change adaptation</li> <li>• Construction</li> <li>• Disaster risk management</li> <li>• Education (schools)</li> <li>• Emergency response/ protection Energy Environment management and ecosystem services</li> <li>• Fisheries</li> <li>• Forestry Industry</li> <li>• Insurance</li> <li>• Health</li> <li>• Land use and planning</li> <li>• Media</li> <li>• Municipal water supply</li> <li>• Recreation, aesthetics, and tradition Regional and international cooperation</li> <li>• Research and development</li> <li>• Transport</li> <li>• Tourism</li> <li>• Water quality management</li> </ul>	<ul style="list-style-type: none"> <li>• Limited hydrological monitoring networks</li> <li>• Insufficient maintenance of hydrological infrastructure</li> <li>• Inadequate data management systems</li> <li>• Insufficient integration between hydrological and meteorological services</li> <li>• Poor connection with users</li> <li>• Inability to develop and provide hydrological products</li> <li>• Limited-service delivery</li> <li>• NIWRA not fully administered</li> </ul>	<p>and support for strengthening/upgrading</p> <ul style="list-style-type: none"> <li>• Exploring innovative financing mechanisms</li> <li>• Strengthening partnerships with relevant public agencies, and the private sector</li> <li>• Leveraging new technologies and international data resources</li> <li>• Strengthening interaction with users Transforming unit to focus on service delivery</li> </ul>
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<ul style="list-style-type: none"> <li>• Water resources management</li> <li>• Watershed management</li> </ul>		
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Figure 5: Contributions to Plan Belize and SDGs – How Belizean lives are improved



### 3.5 PROGRAM 5: GEOLOGY AND PETROLEUM DEPARTMENT

The GPD is the government agency responsible for the regulation of the petroleum industry and to provide geological services.

#### MAIN ACTIONS AND ACHIEVEMENTS FOR GPD

Regulation of the Oil and Gas Industry			
Area	Objective	Main Actions/Results	Benefits
1.	To oversee and administer the oil and gas industry	<ul style="list-style-type: none"> <li>1,444,670.38 acres under license with 6 companies in exploration phase and 1 company in production.</li> <li>Belize Natural Energy (producer)</li> <li>BelGeo Ltd.</li> <li>Blue Creek Exploration</li> <li>CHx/ SABA Energy I Holdings</li> <li>FCRL Belize</li> <li>Princess Petroleum</li> <li>USCapital Belize Corp.</li> </ul>	Exploration Programs entailed data collection and analysis- yielded results to advance to 1 proposed seismic program in the south; 3 drilling campaigns in 3 different license areas (2022)
	To collect revenues derived from petroleum for and on behalf of the government	Contract Administration, daily gauging for oil production verification.	<ul style="list-style-type: none"> <li>174, 932 bbls oil produced from SLO &amp; 2,254.29 bbls of oil from ND for 2021.</li> <li>Cumulative production at the end of 20221 of 12,227,765 bbls of oil from SLO &amp; 162,480.83 bbls of oil from ND from start of production in 2005 and 2008, respectively.</li> <li>Revenues collected for 2021 are BZ\$ 2,117,395.08 and cumulatively from 2000 to 2021 are BZ\$ 235,720,350.93</li> </ul>
Promotion of the Oil and Gas Industry of Belize			
Area	Objective	Main Actions/Results	Benefits
2.	To promote exploration interest in Belize to the international oil and gas industry. Attract large and medium size IOCs	<ul style="list-style-type: none"> <li>Promotion of exploration opportunities in Belize through attendance at 3 international oil and gas conferences:</li> <li>AAPG Image Annual Convention and Exhibition 2021, Sept. 2021- On Demand- Virtual – Presented talk on “Exploration Opportunities in Belize and the Proposed Revision of the Fiscal System”.</li> <li>AAPG Energy Opportunities Latin America and the Caribbean Region, Nov. 2021- Virtual – Presented talk on Exploration Opportunities in Belize and an update on the Fiscal Regime”.</li> <li>APPEX Annual Convention and Exhibition 2021, March 2021- Virtual – Booth, 1 main stage presentation and 3 talks; “Belize Revised Petroleum Regulatory Framework and Fiscal System”; APPEX Presentation 1- “The Belize Petroleum Industry”; APPEX Presentation 2- “Petroleum Potential of the Geological Basins of Belize”; and APPEX Presentation 3- “Exploration Opportunities in Belize”</li> </ul>	Generated interest from the international oil and gas community <ul style="list-style-type: none"> <li>APPEX Image 21- 27 views and interest from 4 companies</li> <li>AAPG LA Energy Opportunities- 36 participants and interest from 2 companies</li> <li>APPEX Global- 60 participants combined in presentations and interest from 6 entities.</li> </ul>

Corozal Basin Study			
Area	Objective	Main Actions/Results	Benefits
3.	To evaluate and analyse the petroleum system and petroleum potential of northern Belize (Corozal Basin)	<ul style="list-style-type: none"> <li>Phase 1 completed, Analysis done 2020 and interpretations completed Nov. 2020.</li> <li>Technical papers drafted and accepted at International Oil and Gas Conferences and Oil and Gas Magazines- Journal of Petroleum Geology.</li> <li>Other publication opportunities include; “Modelling hydrocarbon expulsion, timing and stability in the Corozal Basin” ; “An investigation into map-based migration pathways in the Corozal Basin and associated risks and uncertainties”; and “A tectonic history model for the Corozal Basin”.</li> <li>Phase 2 of the study detailed and outlined with priority outcomes defined.- Integration of data sets; additional modelling of expulsion and the creation of an updated Petroleum Docket for the Corozal Basin</li> </ul>	<ul style="list-style-type: none"> <li>Increased knowledge of the geology and petroleum potential of the basin</li> <li>Aides in the promotion and attracting of internal oil and gas interests in the country</li> <li>Aides in the discovery of more commercial fields</li> <li>Increased revenues to government,</li> <li>Local content building, infrastructure, and industrial growth both within and outside of the petroleum industry.</li> </ul>
Revised Petroleum Legislation			
Area	Objective	Main Actions/Results	Benefits
4.	To revise the legislative and fiscal system for the petroleum industry, to modernize it, make it more equitable and more attractive to the international oil and gas community.	<ul style="list-style-type: none"> <li>Drafts completed through the contracting of private consultants- Canales Auty and through Technical Assistance from the Commonwealth Secretariate (3year process):               <ul style="list-style-type: none"> <li>Revised Petroleum Act,</li> <li>Regulations</li> <li>Production Sharing Contract</li> <li>Undergoing final review before submission to Cabinet and AG Ministry.</li> </ul> </li> <li>Regulations and Production Sharing Contract undergoing final review before submission to Ministry for acceptance and request to Cabinet and AG Ministry for further approval and execution’</li> <li>Fiscal System revision done through modelling and comparison with 60 different regimes.</li> </ul>	<ul style="list-style-type: none"> <li>A more robust system that promotes greater revenue and technical oversight of the petroleum industry</li> <li>Simpler fiscal calculations</li> <li>Creates a more attractive climate for oil and gas investment</li> <li>Promotes the conversion of marginal and sub-commercial discoveries into economic fields.</li> <li>Fiscal regime provides for a minimum of 55% take for Belize from all oil projects.</li> </ul>
Production Optimization of the Spanish Lookout Oilfield & Interventions in the Never Delay Oilfield			
Area	Objective	Main Actions/Results	Benefits
5.	To improve the operational efficiency of BNE for increased overall production of oil and for the stabilization of the average daily production of oil.	<b>Spanish Lookout Oilfield</b> <ul style="list-style-type: none"> <li>Water conformance and lifting systems optimization carried out at five sites at SLO MU#1, MU#2, MU#9, MU#16 &amp; MU#21</li> <li>Optimization carried out for five sites. MU#1, MU#2, MU#8, MU#9 &amp; MU#12</li> </ul>	<ul style="list-style-type: none"> <li>Production optimization has resulted in production being brought back up to an avg. of 500bbl/day of oil and decreased water production for SLO with a reduction in the decline prediction from 13% per annum to 8% per annum</li> <li>Increased estimated ultimate recovery (EUR) of oil from the Spanish Lookout Oilfield</li> <li>Improved economics on the field, which extends the field life</li> <li>Extended revenue stream for the government</li> </ul>

		<b>Never Delay Oilfield</b> <ul style="list-style-type: none"> <li>Revised lifting system introduced for ND#1 and ND#2</li> <li>Optimization done in ND#1 and ND#2</li> </ul>	<ul style="list-style-type: none"> <li>24hr production restored Sept 2021 yielding approximately 500bbl per month which is an increase from avg monthly production of 180bbl for the field.</li> </ul>
<b>Geological Mapping of Northern Belize</b>			
<b>Area</b>	<b>Objective</b>	<b>Main Actions/Results</b>	<b>Benefits</b>
6.	To generate official geological maps for the country.	<ul style="list-style-type: none"> <li>Currently only a Provisional compiled Geological Map at 1:50,000 scale exist for the country.</li> <li>Official Geological Maps at higher scales (1:2,500) are required as part of the national technical data base for the country.</li> <li>Reconnaissance of Corozal Basin completed.</li> <li>Geological boundaries have been identified for 2 of the major geological units in the Corozal Basin.</li> </ul>	<ul style="list-style-type: none"> <li>Increase the knowledge base of the country.</li> <li>Aides in both mineral and petroleum exploration.</li> <li>Approximately</li> </ul>
<b>Geological Interpretations</b>			
<b>Area</b>	<b>Objective</b>	<b>Main Actions/Results</b>	<b>Benefits</b>
7.	To utilize internal resources to evaluate and analyze various geological areas with petroleum potential	<p>The GPD conducted internal geological evaluation of Never Delay Oilfield Dec 2021;</p> <ul style="list-style-type: none"> <li>Highlighted reserve estimates and untapped potential of the field.</li> <li>Targeted study and evaluation of undrilled areas within ND field identified.</li> <li>Highlights the need for re-interpretations in ND, SLO and other areas of interest (gallon jug, south canal bank, etc)</li> </ul>	<ul style="list-style-type: none"> <li>Provides the industry with new data and interpretations which improves the geological understanding of the petroleum systems</li> <li>Generates interest in the oil and gas potential of country</li> <li>Aides existing PSA holders with exploration and exploitation efforts to improve the use of the country's oil and gas resources</li> <li>Increases the likelihood of future oil and gas discoveries.</li> </ul>

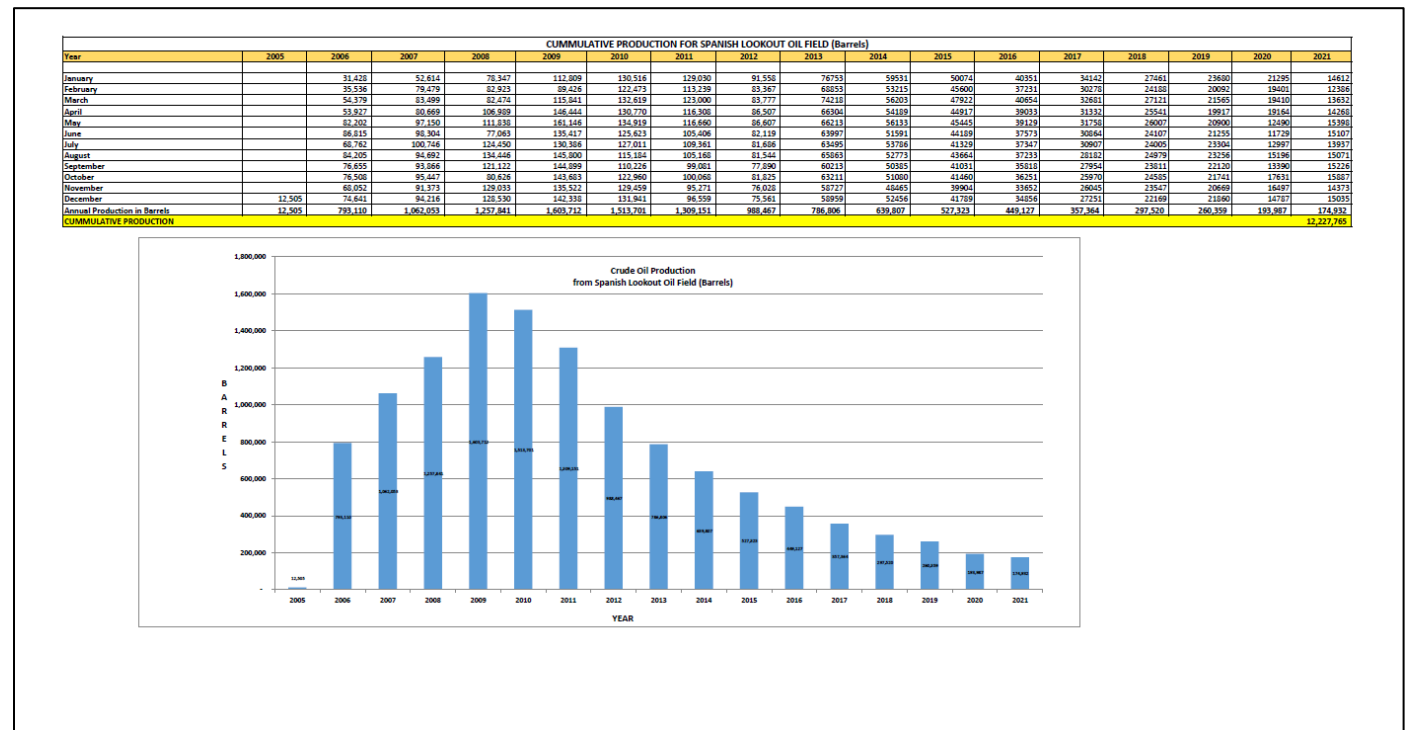
### Regulation of the Oil and Gas Industry

- Revenues collected for 2021 are BZ\$ 2,117,395.08 and cumulatively from 2000 to 2021 are BZ\$ 235,720,350.93
- Contracts map shows 6 exploration companies and 1 production company.
- Cumulative production for SLO and ND indicate an increase in the volume of oil produced for the 2021 period.
- The production curves shows reduction in the decline rate for SLO.
- The production curves for ND shows an inflection point in 2021 that highlights the increase in production and predicts that ND will produce larger volumes of oil as compared to years after 2013.

ADMIN AND SURFACE RENTAL FEES		ROYAL TIES			GOB PRODUCTION SHARE	GOB WORKING INTEREST	PSA APPLICATIONS	OTHER PAYMENTS		TOTAL ANNUAL PAYMENTS	TOTAL ANNUAL PAYMENTS (Excluding Common Fund &
		SPANISH LOOKOUT	NEVER DELAY	ASSOCIATED GAS - SLO							
YEAR	AMOUNT	ROYALTY	ROYALTY	ROYALTY	TOTAL PAID	TOTAL PAID	TOTAL PAID	TOTAL PAID			
2000	\$56,858.90									\$56,858.90	\$56,858.90
2001	\$109,567.80									\$109,567.80	\$109,567.80
2002	\$149,361.63									\$149,361.63	\$149,361.63
2003	\$56,767.20									\$56,767.20	\$56,767.20
2004	\$360,917.66									\$360,917.66	\$360,917.66
2005	\$425,994.12							\$5,000.00		\$425,994.12	\$425,994.12
2006	\$282,244.81	\$3,084,430.79									
2007	\$662,167.83	\$4,967,278.92									
2008	\$1,041,305.13	\$7,951,573.42			\$334,421.00	\$3,077,116.00				\$22,758,598.92	\$21,400,537.88
2009	\$1,342,054.03	\$6,087,497.00		\$15,341.80	\$441,915.61	\$4,118,135.57				\$12,086,417.79	\$12,004,944.01
2010	\$836,499.53	\$8,070,786.92		\$21,342.58	\$824,989.81	\$5,504,492.19				\$15,366,148.37	\$15,258,111.03
2011	\$611,643.71	\$9,622,603.60	\$729,547.90	\$19,678.57	\$1,017,496.00	\$7,928,300.00				\$20,067,691.96	\$19,929,269.78
2012	\$1,979,163.30	\$6,909,122.81	\$291,664.04	-\$2,694.51	\$803,253.00	\$5,974,370.00				\$16,050,835.23	\$15,954,878.64
2013	\$913,643.09	\$5,303,459.69	\$37,153.37	-\$4,463.69	\$578,977.40	\$4,120,962.60				\$11,020,851.37	\$10,949,732.46
2014	\$620,832.76	\$4,005,295.12	\$17,707.13	-\$3,959.80	\$372,531.30	\$3,377,998.04				\$8,443,965.39	\$8,390,404.55
2015	\$690,896.21	\$1,596,869.87	\$1,392.83	-\$327.29	\$500,000.00	\$500,000.00	\$600.00			\$3,310,745.83	\$3,289,431.62
2016	\$298,935.75	\$985,086.00	\$0.00	\$2,473.55	\$0.00	\$0.00	\$0.00			\$1,299,684.86	\$1,286,495.30
2017	\$218,856.02	\$1,141,945.31	\$9,064.20	\$3,246.20	\$0.00	\$273,654.56	\$200.00	\$1,000,000.00		\$2,662,377.93	\$1,646,966.29
2018	\$167,853.47	\$1,466,972.35	\$19,999.55	\$2,736.14	\$185,805.40	\$692,536.97	\$500.00	\$0.00		\$2,556,014.89	\$2,536,403.88
2019	\$252,215.04	\$1,082,980.04	\$12,755.76	\$1,935.58	\$66,003.37	\$368,245.70	\$0.00	\$0.00		\$1,798,783.99	\$1,784,135.49
2020	\$181,277.17	\$790,194.68	\$2,353.26	\$657.16	\$0.00	\$236,217.41	\$0.00	\$0.00		\$1,221,280.14	\$1,210,699.68
2021	\$239,003.53	\$747,440.17	\$5,721.12	\$0.00	\$0.00	\$66,532.72	\$0.00	0		\$1,068,739.70	\$1,058,697.54
<b>TOTAL</b>	<b>\$11,498,058.68</b>	<b>\$63,813,536.68</b>	<b>\$1,127,359.16</b>	<b>\$55,966.29</b>	<b>\$5,125,392.89</b>	<b>\$36,238,561.76</b>	<b>\$1,300.00</b>	<b>\$1,005,000.00</b>		<b>\$120,876,603.68</b>	<b>\$117,860,175.46</b>
<b>BZ\$</b>											<b>\$235,720,350.93</b>

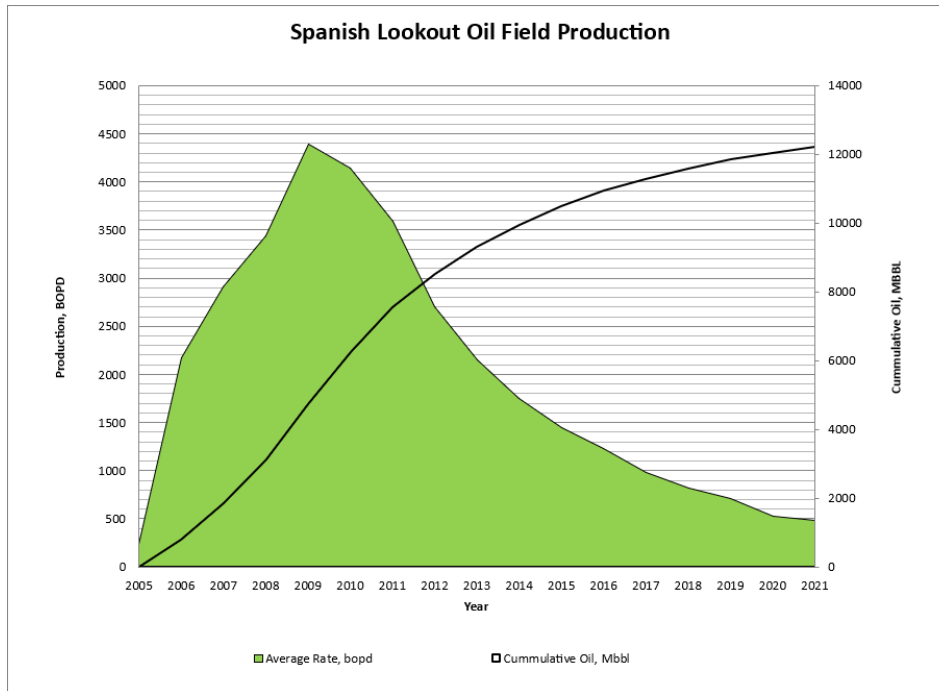
Note: Summary Sheet does not include payments for "PSA Applications" before 2015  
All payments are recorded in US dollars

Revenues collected by the GPD from the petroleum industry.



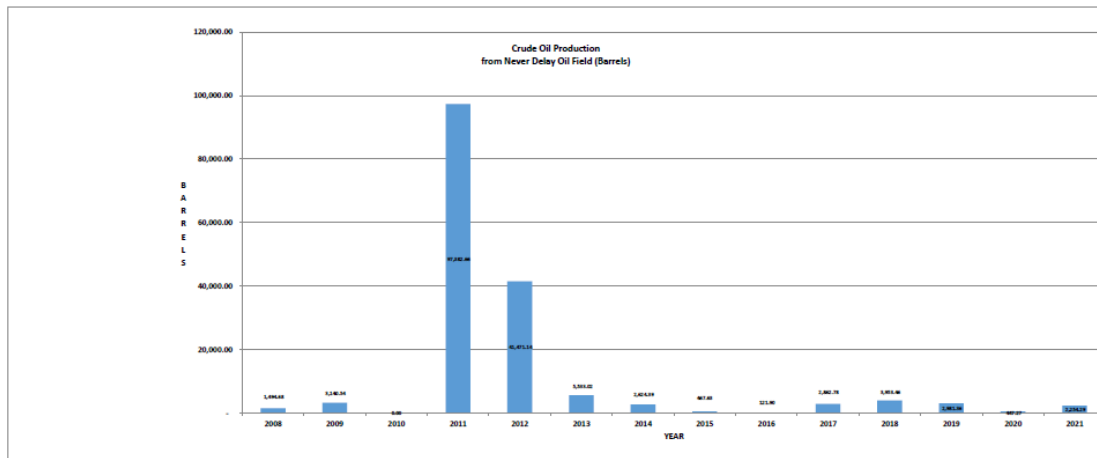
Cumulative production for Spanish Lookout Oilfield.



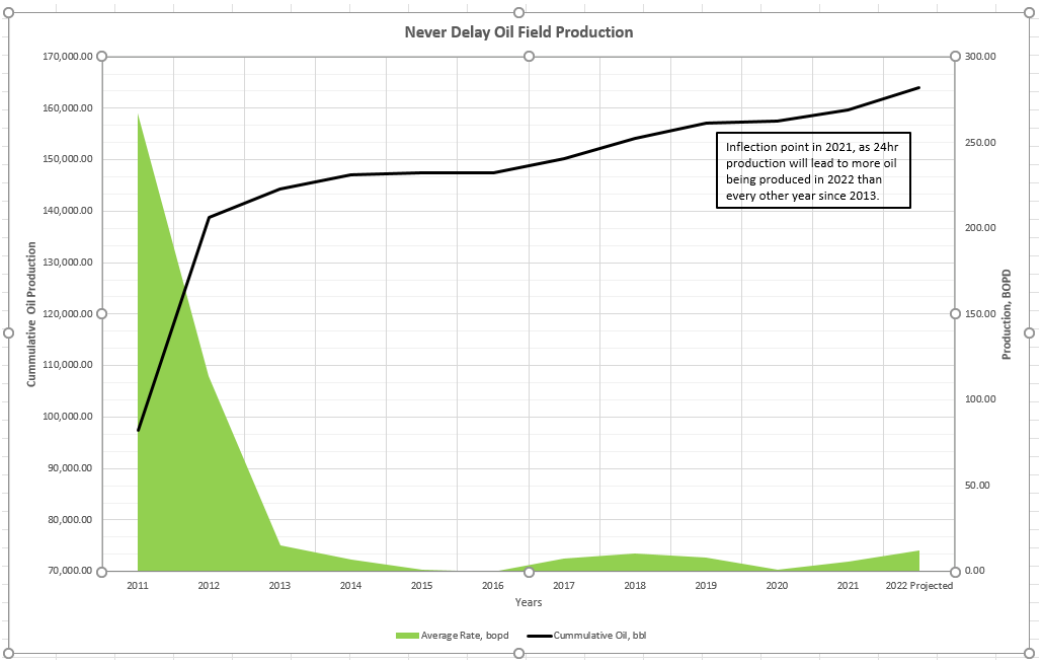


Production Graph for Spanish Lookout Oilfield

CUMULATIVE PRODUCTION FOR NEVER DELAY OIL FIELD (Barrels)														
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
January	1,334.40	762.77	0.00	0.00	8,621.04	577.318	310.37	77.77	0.00	115.88	561.97	338.03	236.33	0.00
February	0.00	0.00	0.00	0.00	5,719.44	343.311	373.28	251.45	0.00	16.50	293.72	293.30	79.02	0.00
March	0.00	0.00	0.00	9,748.95	5,806.16	396.921	318.96	0.00	0.00	411.23	306.03	200.88	131.92	0.00
April	0.00	0.00	0.00	13,665.44	4,687.98	490.306	229.33	0.00	0.00	61.71	257.95	263.66	0.00	0.00
May	0.00	0.00	0.00	13,572.65	3,828.55	608.691	351.22	0.00	0.00	188.77	253.45	279.71	0.00	25.33
June	0.00	0.00	0.00	11,916.14	2,843.17	434.116	324.02	0.00	0.00	439.44	310.47	235.87	0.00	71.03
July	0.00	659.44	0.00	9,418.81	1,827.93	557.976	352.94	0.00	0.00	341.82	356.67	309.79	0.00	215.74
August	0.00	0.00	0.00	7,706.91	3,307.56	422.312	297.69	92.00	0.00	306.03	327.32	263.67	0.00	261.79
September	0.00	0.00	0.00	1,965.33	1,713.48	492.439	66.59	0.00	0.00	193.28	287.60	207.00	0.00	339.90
October	160.28	1,718.33	0.00	4,978.56	1,313.56	438.019	0.00	46.41	18.70	0.00	283.43	314.00	0.00	410.31
November	0.00	0.00	0.00	14,294.88	1,022.35	436.940	0.00	0.00	52.40	337.64	394.92	194.65	0.00	421.60
December	0.00	0.00	0.00	10,093.00	779.94	334.670	0.00	0.00	50.80	450.48	319.92	81.00	0.00	508.40
Annual Production in Barrels	1,494.68	3,140.54	0.00	97,382.66	41,471.14	5,533.02	2,624.39	467.63	121.90	2,862.78	3,953.46	2,981.36	447.27	2,254.29
CUMULATIVE PRODUCTION														162,486.85

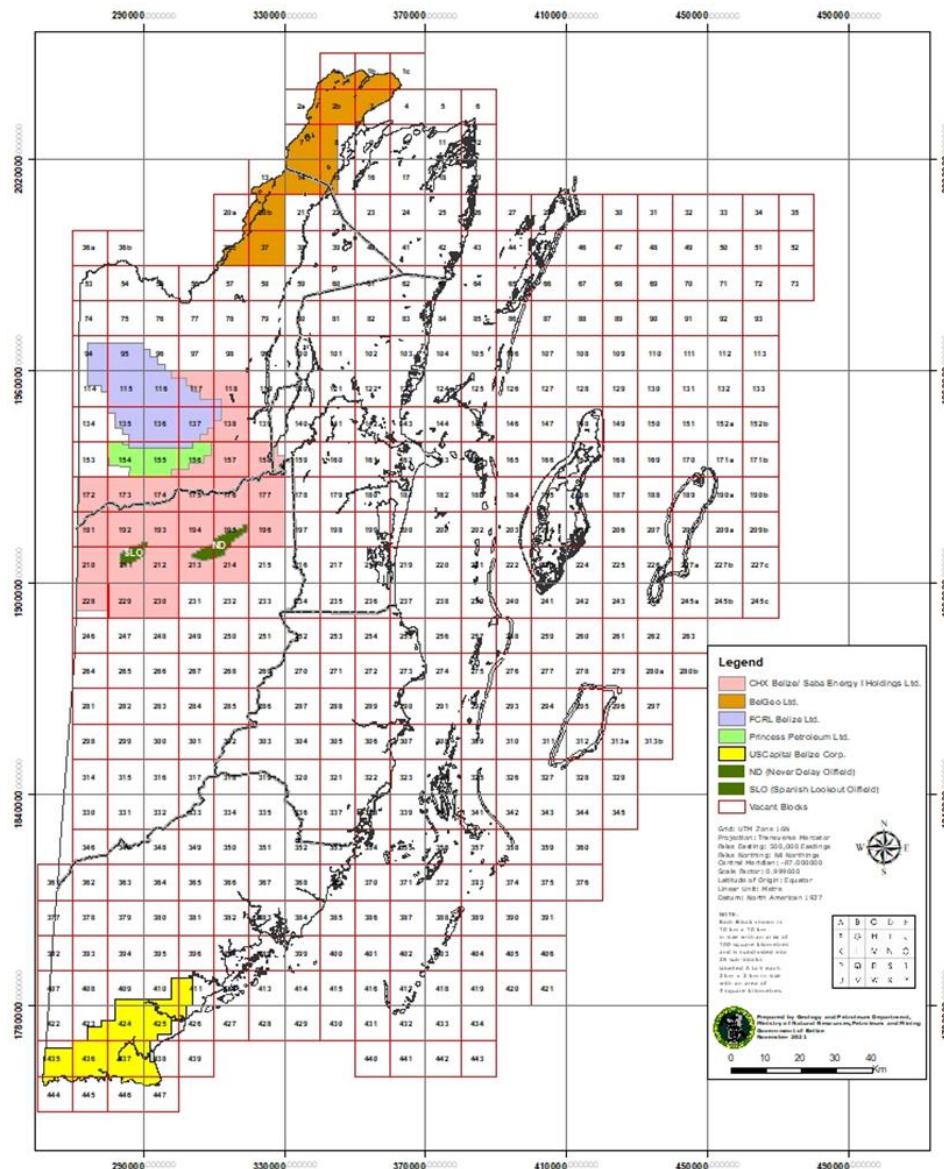


Cumulative Production for Never Delay Oilfield



Production Graph for Never Delay Oilfield

## Belize Petroleum Contracts Map



Belize Petroleum Contracts Map as at November 2021.

### 3.6 PROGRAM 6: SOLID WASTE MANAGEMENT AUTHORITY

The Solid Waste Management Authority (SWaMA) as it stands is responsible for the provision of technical assistance in waste management to municipalities and communities across the country. The SWaMA is also responsible for the environmentally sound transfer and disposal of solid waste deposited at the transfer stations that are currently operational. As articulated in the National Solid Waste Management Policy Strategy and Action Plan resource recovery and recycling is also a strategic goal along with sustained public education and awareness.

**OBJECTIVE NO. 1:** To Oversee Operations of Waste Management Facilities Constructed Under the Solid Waste Management Project I and eventually Solid Waste Management Project II.

**OBJECTIVE NO. 2:** To provide safe and environmentally sound disposal of waste generated in the Western Corridor and across the country.

**OBJECTIVE No. 1 & 2:** OPERATIONS LANDFILL & FINAL DISPOSAL

#### MAIN ACTIONS AND ACHIEVEMENTS:

Implementation of an Integrated Solid Waste Management System based on the waste management hierarchy (reduce, reuse, recycle) An average of **115 tons/day** of solid waste was received at landfill from the five (5) transfer stations in the Western Corridor that otherwise would have gone to open dumpsites.

#### OTHER RELEVANT INFORMATION

- (i) Quantities of solid waste transferred and disposed at the landfill – this is from five transfer stations (Belize City, San Ignacio/Santa Elena, Burrell Boom, San Pedro Ambergris Caye and Caye Caulker)



**Metric tons**

<b>MONTH</b>	<b>SAN IGNACIO/SANTA ELENA</b>	<b>BELIZE CITY</b>	<b>SAN PEDRO</b>	<b>CAYE CAULKER</b>	<b>BURRELL BOOM VIL</b>	<b>DIRECT HAUL TO LANDFILL</b>	<b>TOTAL TONS PER MONTH</b>
<b>2020</b>							
<b>JAN 2020</b>	868	2353	631	134	213	56.68	4256
<b>FEB 2020</b>	629	1543	597	147	203	54.39	3173
<b>MAR 2020</b>	675	1629	348	156	241	58.75	3109
<b>APR 2020</b>	490	1296	554	94	82	32.27	2548
<b>MAY 2020</b>	635	1399	432	106	222	51.13	2845
<b>JUN 2020</b>	873	1954	457	74	260	69.31	3687
<b>JUL 2020</b>	798	2041	359	131	271	65.21	3665
<b>AUG 2020</b>	742	1841	223	44	177	37.69	3064
<b>SEP 2020</b>	662	1789	299	100	147	50.47	3048
<b>OCT 2020</b>	749	1784	264	70	277	33.58	3177
<b>NOV 2020</b>	661	1746	338	46	303	44.56	3139
<b>DEC 2020</b>	819	2290	404	63	247	49.81	3873
<b>TOTALS</b>	8602	21665	4906	1166	2642	604	<b>39,584</b>
<b>2021</b>							
<b>JAN 2021</b>	778	1699.5	509	113.8	252	61.3	3414
<b>FEB 2021</b>	743.6	1564.1	506.1	73.2	163.2	78.6	3129
<b>MAR 2021</b>	767	1874.3	585.2	41.3	233.5	76.9	3578
<b>APR 2021</b>	802	1410.3	452.7	118.7	164.0	60.6	3009
<b>MAY 2021</b>	711.9	1549.5	469.8	73.3	198.3	61.9	3065
<b>JUN 2021</b>	898.7	1957.5	491.9	99.9	305.9	63.4	3817
<b>JUL 2021</b>	833.9	1964.6	625.6	99.3	284.4	64.2	3873
<b>AUG 2021</b>	784	1660.1	936.8	145.4	245.6	59.6	3832

<b>SEP 2021</b>	791.5	1518.8	467.2	154	292	51.7	3275
<b>OCT 2021</b>	789	1849.0	479.5	124.4	231.7	79.3	3553
<b>NOV 2021</b>	737.2	1705.5	519.9	74.9	274.7	75.2	3387
<b>DEC 2021</b>	806.2	1435.9	632.0	169.5	270.4	44.8	4359
<b>TOTALS</b>	9444	21189	6678	1288	2916	778	<b>42289</b>
<b>2022</b>							
<b>JAN 2022</b>	844.93	1702.76	568.91	182.62	273.88	65.77	3638.87
<b>FEB 2022</b>	740.25	1553.72	679.35	76.98	223.33	52.42	3266.05
<b>MAR 2022</b>	847.57	1913.28	625.61	165.30	282.38	50.09	3884.23
<b>APR 2022</b>	710.26	1617.40	467.02	156.47	257.27	49.19	3257.61
<b>TOTALS</b>	3143	6787	2281	581	1037	217	<b>14,047</b>



Month	Plastics (Qty)	Glass (Qty)	Metal (lbs)	Auto Battery (Qty)	Detergent/HDPE
Jul-20	8,532	315	6011	0	0
Aug-20	3,696	200	40	0	0
Sep-20	0	0	0	0	0
Oct-20	5,532	200	8000	0	0
Nov-20	2,040	0	0	0	0
Dec-20	6,288	340	0	0	0
<b>Total</b>	<b>26,088</b>	<b>1,055</b>	<b>14,051</b>	<b>0</b>	<b>0</b>

(ii) **Recyclable Materials Recovered (Data set incomplete)**

(iii) **Total Visits to Transfer Stations (November 2022 to December 2021)**

LOCATION	FREQUENCY	NUMBER
SWMP I SITES SI/SETS, BCTS, BBTS	WEEKLY	49
SWMP I SITES ISLANDS CCTS SPTS	MONTHLY	7
REGIONAL SANITARY LANDFILL	WEEKLY	45
SWMP II SITES (NORTH) OWTS, CZLTS	MONTHLY	9
SWMP II SITES (SOUTH) DGATS PLCTS PGTS	MONTHLY	10

## WASTE REDUCTION/ RECYCLING/ RESOURCE RECOVERY

**OBJECTIVE NO. 3:** To Reduce both the volume and negative impact (pollution) of the waste stream by providing waste reduction, reuse and green purchasing programs and education to businesses, schools, municipalities, and residents.

### MAIN ACTIONS AND ACHIEVEMENTS:

(i) In terms of the implementation of a mechanism to improve and expand the recovery of materials from the municipal solid waste stream the following below is being reported. One buyer with interest to purchase glass bottles from one of the transfer stations was identified. One buyer with

interest in purchasing PET & HDPE containers from the Transfer Stations and the Pilot Project Communities that have been identified under the TC.

Other markets are also being identified. Waste cardboard boxes are being separated from the waste stream at the transfer stations. Preliminary work is being done in conjunction with local municipalities with respect to the flat packing of cardboard boxes at source of generation. There are plans in the pipeline to launch a campaign to implement source separation in the municipalities in the Southern & Northern Corridors. The long-term goal is for it to become a national campaign.

(ii) With no upscale recycling (reprocessing) industry in Belize, the focus is on resource recovery. The recyclers at the SWMP I transfer station are supported through the BSWaMA with PPE's and are provided with time to recover materials from out of the waste deposited in the transfer stations. They are provided with space to separate and store their recovered materials.

(iii) The successful implementation of the TC will influence the development and implementation of the National Source Separation Plan and Policy, which will result in the reduction of material transported to the landfill for final disposal as a significant volume of the recyclable material will be diverted from the system prior to the collection.

#### **OBJECTIVE NO. 4:** Continued Implementation of The Solid Waste Management Project II (SWMP II)

##### **MAIN ACTIONS AND ACHIEVEMENTS:**

The SWMP II continues to be executed and has thus far delivered a total of six (6) transfer stations in the Southern Corridor (Punta Gorda, Placencia, Dangriga) and Northern Corridor (Corozal /Orange Walk) and Belmopan. The expansion of the landfill by an additional cell is the last remaining, major piece of infrastructure work under the SWMP II along with other small consulting services. Support continues to be provided to the marginalized population of Recyclers that operate at the Belize City, Burrell Boom and San Ignacio/Santa Elena transfer stations

A new Cost Recovery Mechanism (CRM) Study has been completed. The CRM is intended to improve the cost effectiveness, efficiency, and long-term sustainability of the municipal solid

waste management system in these Corridors and Belmopan, through improvements in institutional and financial arrangements, including private sector involvement, when feasible. The study will also inform the Government of Belize of how the CRM can be implemented for it to be successful.

Public education is a critical activity that can foster behavioural change and the development of a sustained public awareness program is geared to facilitating public participation, inform and educate the public on the roles and responsibilities of waste generators, system components and functions, source reduction and separation of waste, benefits, and costs of adequate solid waste management services.

**OBJECTIVE No. 5:** Continued Implementation of the TC: Innovation in Solid Waste Management in Belize

#### **MAIN ACTIONS AND ACHIEVEMENTS:**

The implementation of Pilot projects through the Technical Cooperation innovation in the solid waste sector in Belize is being conducted in the villages of Placencia and Caye Caulker. Through the two pilot projects, the interest of residents to separate their waste into several fractions will not only be promoted and encouraged but will also be measured. the outcome of these activities will serve as a basis to inform a national roll out of such scheme.

258 Households participating in the Pilot Project

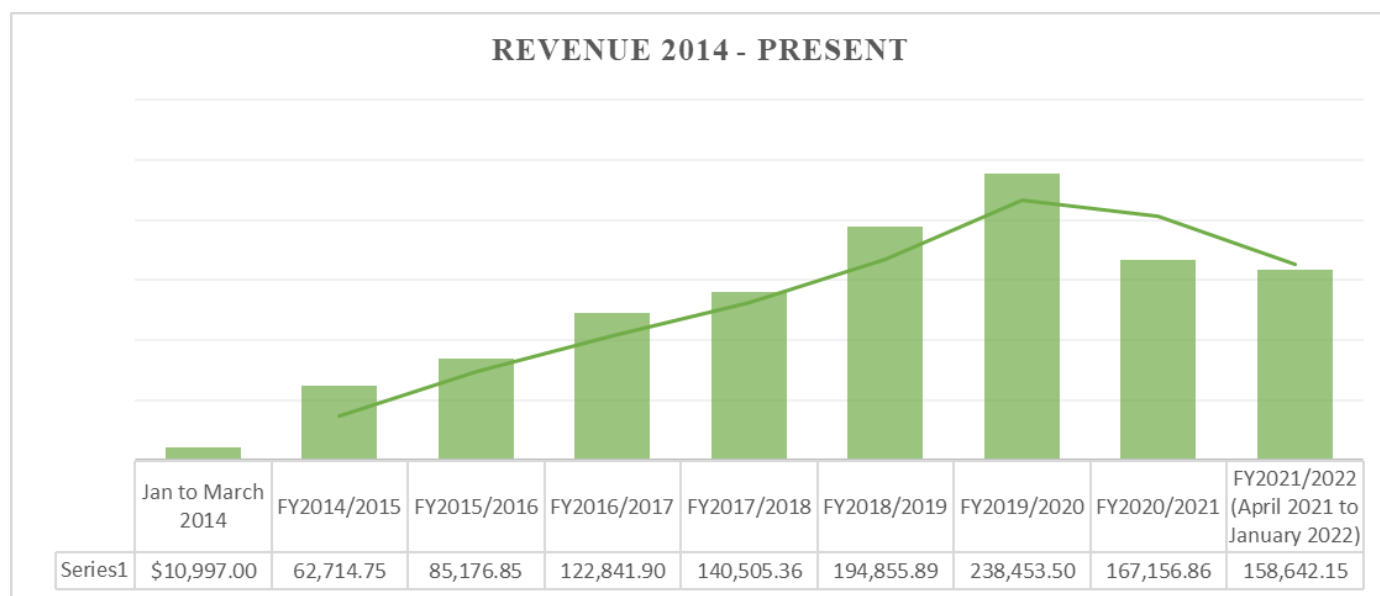
22 Business Participating

**OBJECTIVE No. 6:** Public Awareness and Solid Waste Management Sensitization

Procurement is underway for the hiring of a consultant to design and implement a Stakeholder Engagement Plan to ensure that stakeholders are consistently and effectively engaged in all matters related to Solid Waste management in Belize.

Procurement is underway for the hiring of a consultant to develop and implement a Public Education, Communication and Campaign Strategy to (1) Promote and educate stakeholders and the public on SWMP II & BSWaMA (2) promote source separation and the reduction and recovery

of eligible recyclable material from municipal solid waste generated in line with the operationalization of the new transfer stations (3) Enable open and effective communication between all relevant stakeholders at all levels for the introduction and implementation of the target areas and (4) Establish lines of communication through transparency with all beneficiary communities and stakeholders to maintain interest and participation in the BSWaMA strategic vision.



Shows revenues generated from tipping fees collected at operational facilities for SWaMA from 2014-present. NB not cumulative total

#### 4. LESSONS LEARNT

The performance shortcomings reflected on the overall achievement of targeted goals. According to the findings of the team review meeting, the following recommendations were made to improve in performance.

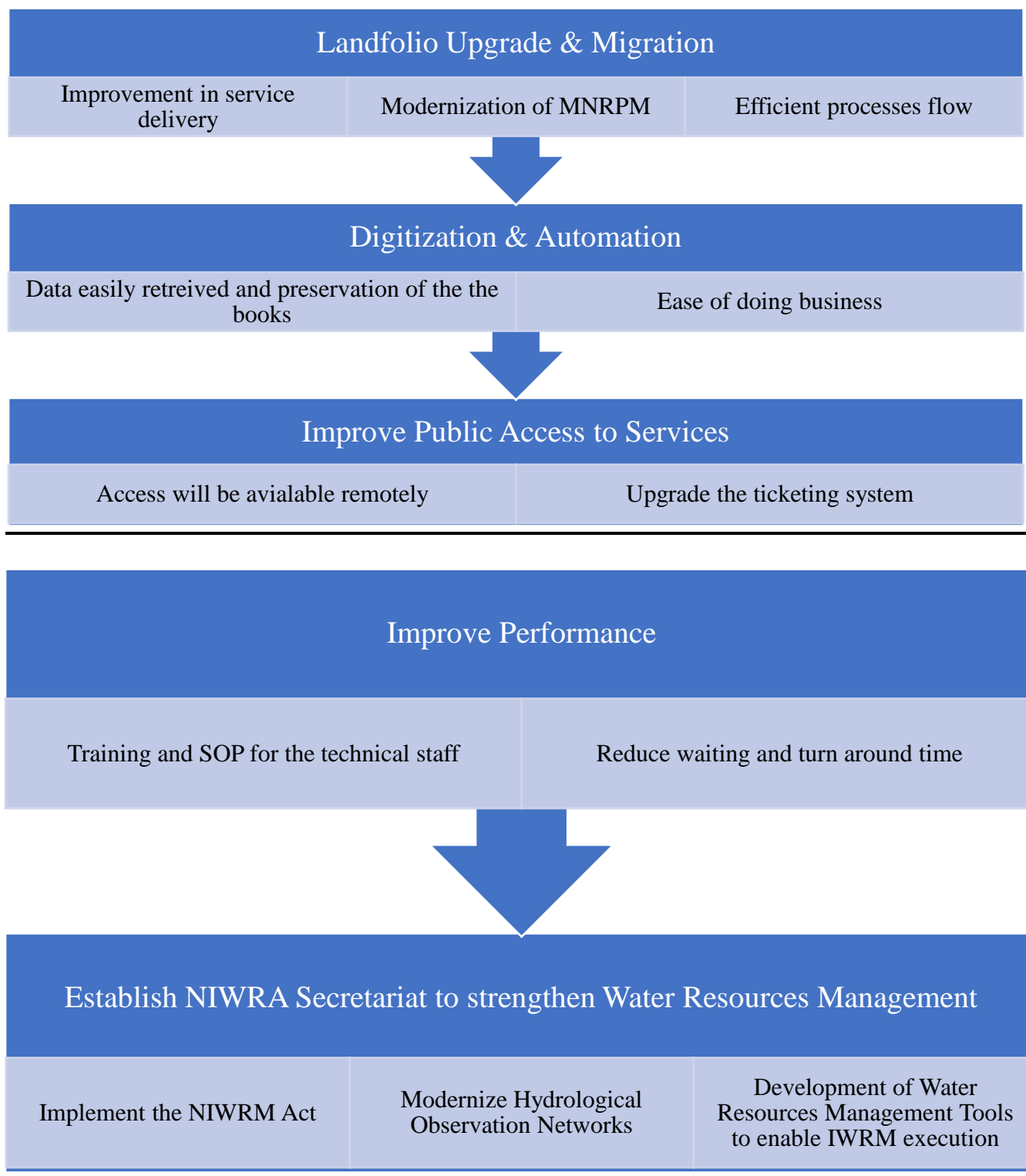
Lesson Learnt	Description
<b>A strategic plan for the ministry developed with the input from technical staff</b>	Attempts should be made to determine the feasibility of a decision by developing the strategic and operational plans in consultation with staff and other stakeholders. The lack of a plan has caused challenges in measuring progress of departments, monitoring performance and in ensuring that departments have a guiding document for service improvement. The planning stage would include resources, capacity building training and orientation components for the staff to articulate and understand the policy goals.
<b>Frequent staff training</b>	One of the main challenges the ministry faces is the lack of staff training especially of new hires. Look for innovative and cost-effective training methodologies for capacity building of the staff such as online tutorials, online quizzes, etc.
<b>Engagement of full staff complement</b>	There are several vacant posts at the ministry. With sections not properly equipped with the human resource, staff are overburdened, and sections struggle to complete all tasks. There was no common understanding of the realistic planning that entailed defining and allocating adequate resources (human, financial and tools), setting in of manageable deadlines and monitoring and evaluation plan for reporting on implementation. Some Units found it difficult to manage the workload as there was inadequate/untimely recruitment.
<b>Management meetings</b>	Examine areas of high risk. Monthly management meetings help in keeping departments aligned and reduces duplication.
<b>Environmental monitoring of regional sanitary landfill</b>	The Environmental Monitoring conducted at the RSL and the other sites is spearheaded by one member of staff in the technical grade with support from two operations personnel. The BSWaMA Strategic Plan 2022-2025 outlined the need for the creation of post and hiring of additional staff within the technical grade who will be trained in the conduct of environmental monitoring, to avoid breaks in monitoring periods. Additional staff is especially necessary to conduct monitoring when the new transfer stations become operational.

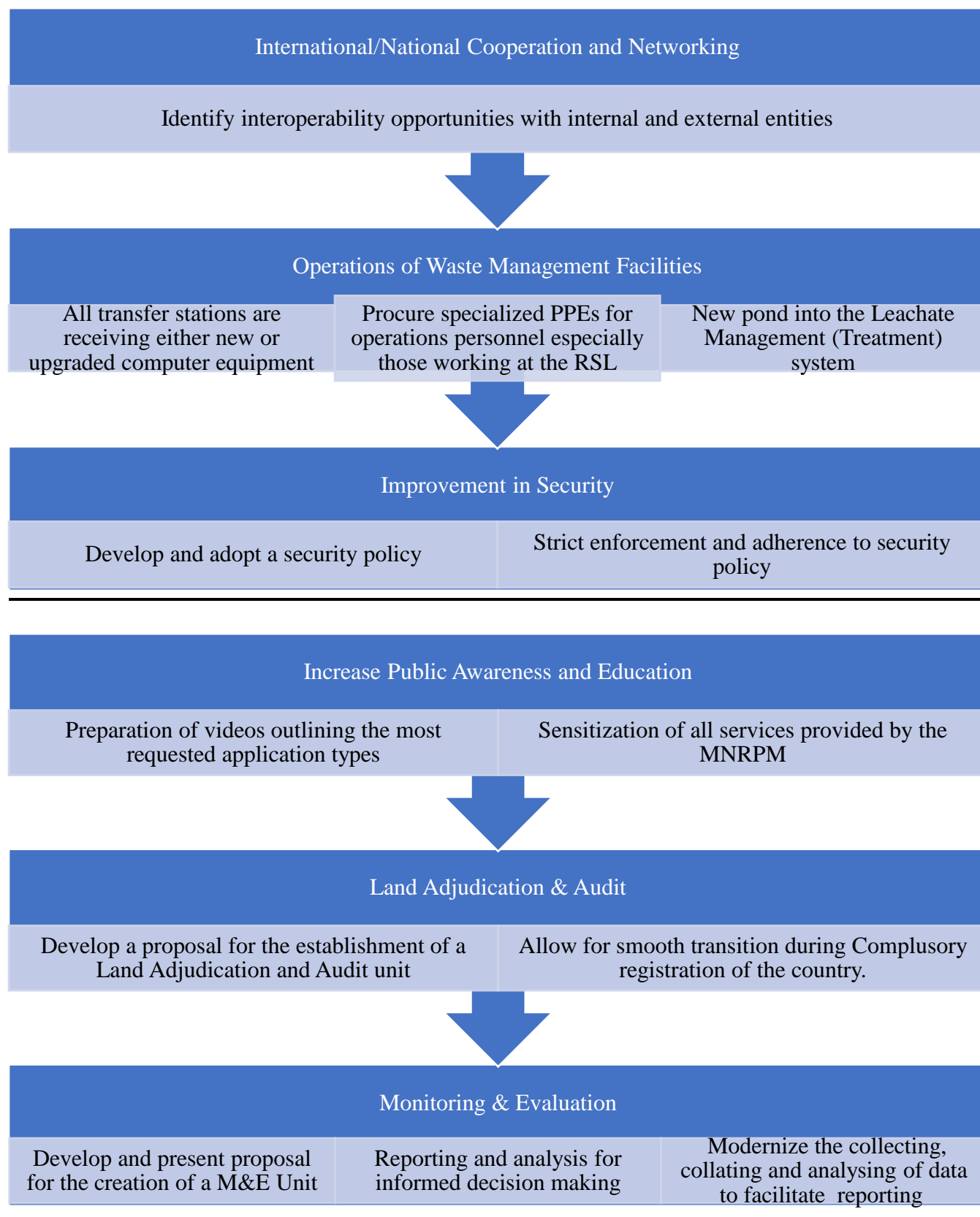
<b>Operations of waste management facilities</b>	The operation of Waste Management Facilities continues to be a challenge, and this period has highlighted some areas for improvement. A strategy is being developed to increase the monitoring and verification of tipping fees (revenue) at all operational transfer stations. This activity will include more frequent visits to the sites for internal auditing by the staff members with responsibility for finance, this will to a considerable extent minimize risk of leakage. The ongoing pandemic continues to bring to the fore weaknesses where continuity of operation services is concerned. With the incapacitation of some staff members due to infection, many processes and activities were stalled as other/ alternative staff members could not fill the role/s. This was because of the lack of a continuity plan and Standard Operating Procedure (SOP) continuity plan and a SOP will now be developed to allow any member of staff the leverage to continue operations support as the need arises
<b>Digitizing</b>	If the system was digitized and updated, we would be able to move more expeditiously in terms of the services that we provide to members of the public and the processing time. Title researchers would have easy access to information and to a kiosk that would enable them to conduct their own searches. This will relieve officers at the department from having to physically retrieve and deliver books to customers on a regular basis. Processing time will be cut significantly.
<b>Communication</b>	Communicate Clearly: Check in often with the team and keep communication lines open. Be clear with your expectations. Update your manager(s) at regular intervals. Improve communication will avoid units/departments operating in silos, overlapping and will help in filling gaps and for work being done to be more effective. Establish a decision point for confirmation of decisions or revising a timeframe that is realistic for task completion.
<b>Adherence to Chain of Command</b>	Not adhering to the chain of command affects proper monitoring of staff. It results in a lack of transparency, accountability and undermines authority.
<b>Collaboration</b>	Immeasurable benefits and advancements can be had through collaborative efforts with international assistance agencies.
<b>Coordination</b>	Clear roles and responsibilities of staff are needed. Ensure the goals are clearly articulated and understood by staff at the beginning of each year. Provide continuous support and maintain team spirit among staff.

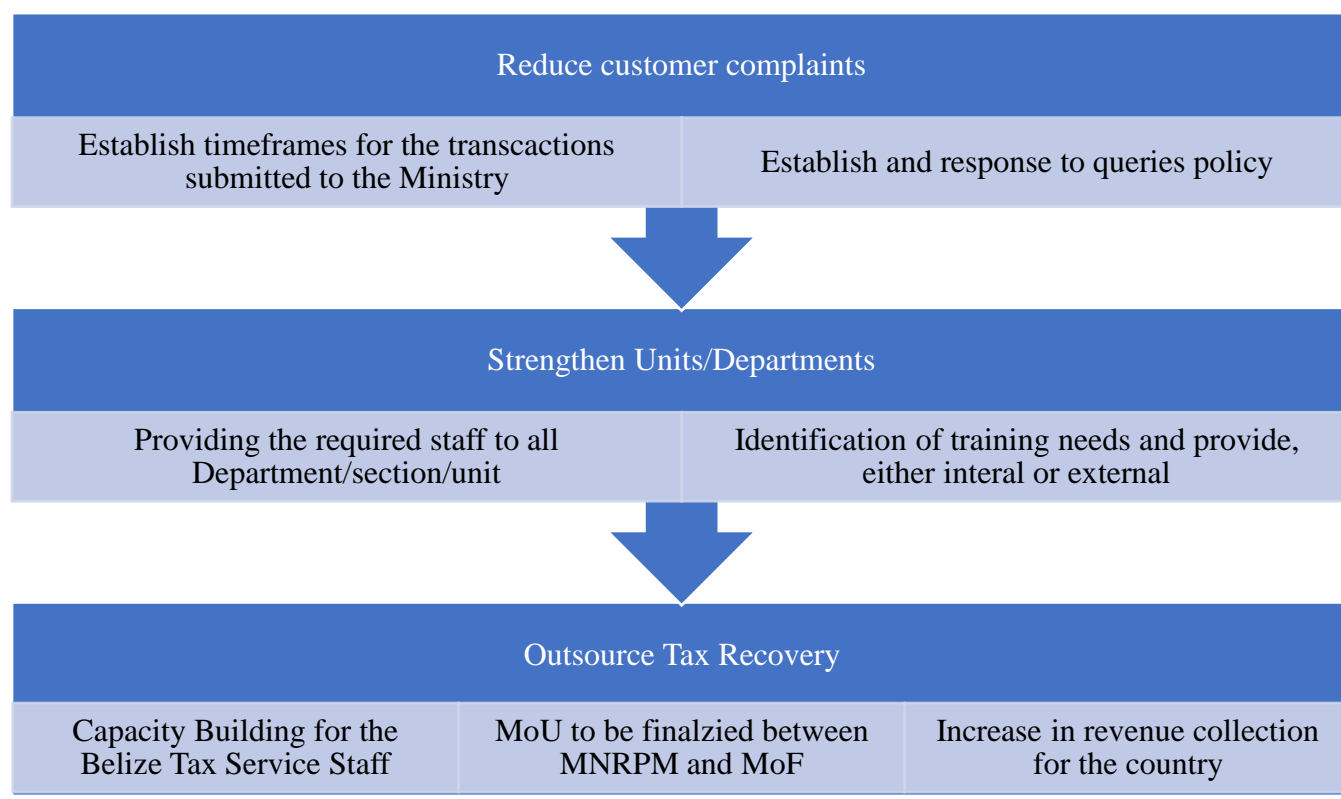
<b>Finances</b>	Allocated adequate funds and other resources including staff should be in place. Having a financial forecast for unexpected expenses. (Capacity building training, purchase of equipment etc.)
<b>Reporting / Monitoring and Evaluation</b>	Request the department heads to submit a monthly activity report. Conduct monthly progress review meetings to share concerns, implementation experience and monitor the progress.
<b>Unfit/improper staff</b>	Develop and adhere to new selection criteria and selection process for recruitment by the Ministry of the Public Service. Make clear the skills and experience required for posts and focus on building the capacity of the needed skills.
<b>Support for Team</b>	Delegate tasks appropriately and enforce realistic deadlines. Foster an environment that encourages collaboration. Ask for the input you need from leaders and teammates. <b>Give Praise Often:</b> Let team know when they have done something well. Use your continuing experience (and that of those around you) to improve processes at every level.
<b>Outline the Big Picture</b>	Clearly define your expectations. Consider budget and time concerns early in the year. Take feedback and use it to improve. This will help you learn from your missteps and grow your successes.
<b>Discipline/Consequences</b>	Must be incorporated to send the right message that self-serving, misuse of office, bribery acceptance and other forms of corruption are not acceptable.



## 5. FUTURE PRIORITIES AND PLANS







## 6. STAFFING AND FINANCIAL CONSIDERATIONS

As at 31 December 2021, there were 201 employees total in post at the Ministry, as detailed below:

<i>Category</i>	<i>Number of Males</i>	<i>Number of Females</i>	<i>Totals</i>
Administration	8	10	18
Finance	3	14	17
Policy & Planning	1	2	3
IT	6	0	6
Legal	1	1	2
Customer Service	0	6	6
National Estate	25	32	57
Survey & Mapping	9	1	10
LIC	4	2	6
Valuation	2	3	5
Physical Planning	7	2	9

Land Registry	7	18	25
Land Titles Unit	1	4	5
Mining	3	1	4
Geology & Petroleum	8	6	14
Solid Waste	4	4	8
Hydrology	3	3	6

A staff listing is attached as Appendix A.

During the period under review, a total of 1 Officer was recruited, 6 officers were promoted, whilst 3 employees retired from the service.

2021 Number of employees (including fixed-term appointments) 202 Permanent full-time equivalents 144 Number of apprentices 1 Number of temporary/contract staff 29 Average sickness days per employee 5.5% Average number of training days per employee 0.2% 4 Training days per apprentice 63 days Female employees 54% Employees working part-time 7% Employees who report they have a disability 0% Staff turnover 3%

Staff report as of 31 December 2021

ITEM	2021
Condition of service	PE- 144
	OV-28
	Contract- 5
	Temporary – 25
	Labour law 1
Total sick leave	1,999.5 days
Total vacation leave	3,446 days
Total vacation leave loss	103 days
Staff turnover	7
Transfer	Out- 13
	In-
Resignation	4
Retirement	3
Total deaths	2

Table 2: Percentage of time spent on facility

Percentage of time	Number of employees	
0%	3 (study leave)	
1 – 30%	1	
31 – 60%	3	
60 – 90%	10	
91 -100%	185	

### ***Debt Management***

Debt amounted to \$ 324,289,455.88 million as at 31 December 2021 – *Freehold accounts \$242,644,316.03 and Leasehold accounts \$81,645,139.85* The Ministry is arranging to initiate legal action for recovery of all dues; The Ministry should promptly follow up and ensure that lease agreements, where applicable are signed within reasonable time; Deterrent measures should be included specifically in the necessary action being initiated by the Finance Section in order to ensure that all amounts due be included in the Recovery of Taxes submitted to the Belize Tax Services and that those amounts tally with those in the Revenue System.

The Ministry should closely follow up the matter and act accordingly so that land tax and land accounts would be adjusted to reflect the correct figure of debtors.



<i><b>Weakness</b></i>	<i><b>Desirable Changes</b></i>
Organisational structure needs strengthening	Revise and accept the draft Organisational Chart
Lack of succession planning	Develop an HR Plan
Aging workforce	A succession plan would address this
Lengthy procedures and paper-based processes.	Implement a fully Digital Land Register to provide a modern land information system and reduce turnaround time for delivery of services
Lack of coordination among the different departments of the Ministry.	Need proper management of Land Folio and utilize it for monitoring, evaluation and reporting
Inappropriate decisions leading to payments of large amount of compensation.	Intelligence gathering, statistical analysis and better-informed decision making
Lack of integrity and trust; Forged documents	Adopt written internal policies and procedures
Reputational and perception issues	Communication strategy
Working environment needs improvement	
Understaffing, overworked, low salary	
Untimely change in Executive Level	

Land Use Policy in draft	
No monitoring and enforcement is done to ensure that departments are performing or improving.	
Staff performance is not the best.	
Departments are not adequately equipped with human resources.	

## 7. CONCLUSIONS AND RECOMMENDATIONS

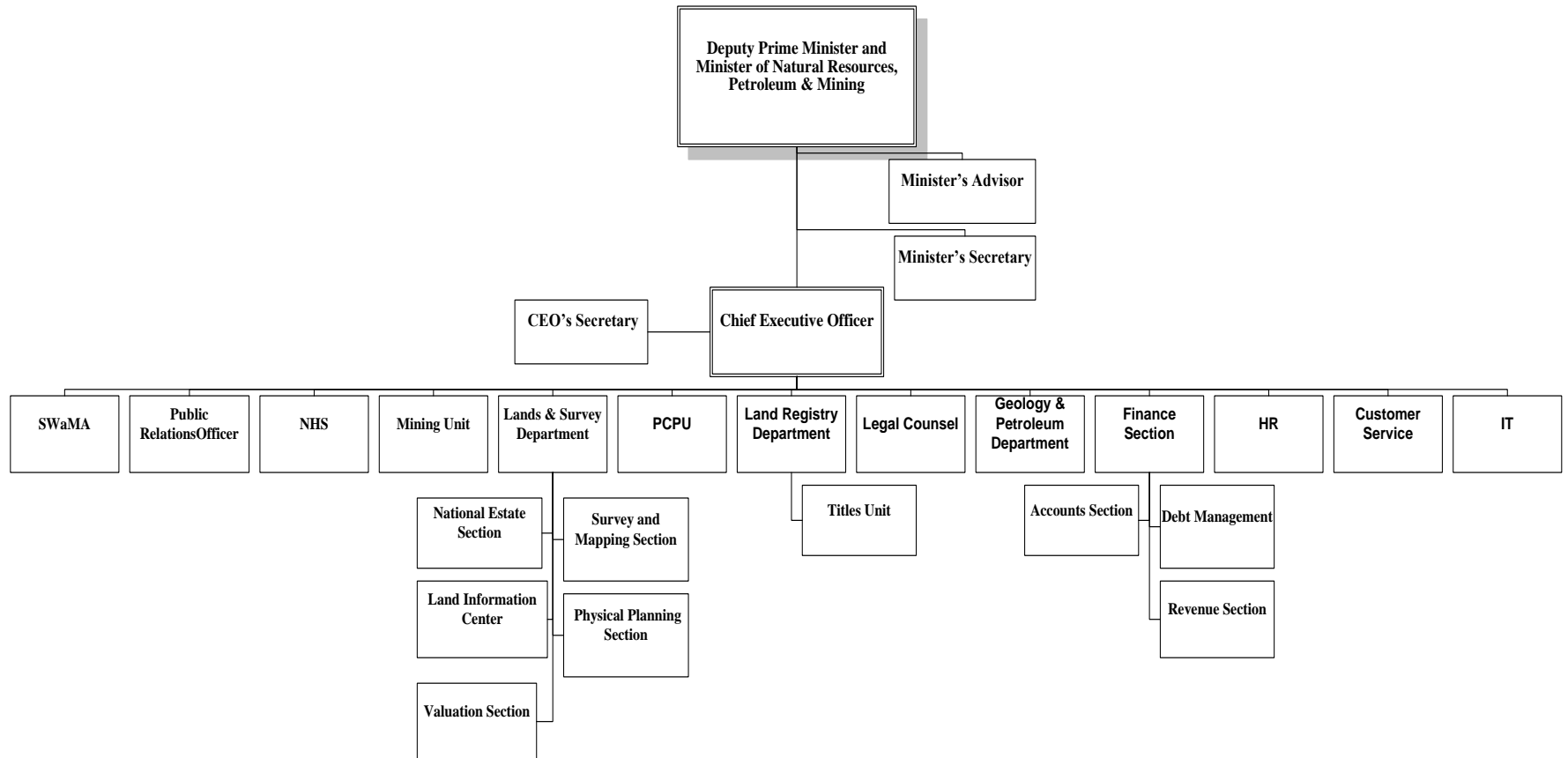
All departments have shown constructive results which in effect have a positive impact in the lives of the citizens of Belize. The efforts being made to accomplish the vision of the Government in #Plan Belize by creating an environment in which every Belizean enjoys as their right the opportunities that the Ministry will afford them. In just one year the Ministry has impacted the lives of at least 10,000 Belizeans, by granting them the opportunity to own a parcel of land or by registering their land transaction; as well as issuance of mineral rights and water abstraction rights; determination of land tenure. While the Ministry still has a long way to go, the efforts to improve service delivery, processing of transactions submitted (survey, land application, private subdivision), and coordination between the sections/units will allow for more advancements. Advancements that in the future will help in reducing poverty in the country, provide stability, sustainably manage land as well as to ensure availability and sustainable management of the water, minerals and petroleum sectors.

### ANNEX 1: LIST OF PUBLICATIONS AND REPORTS

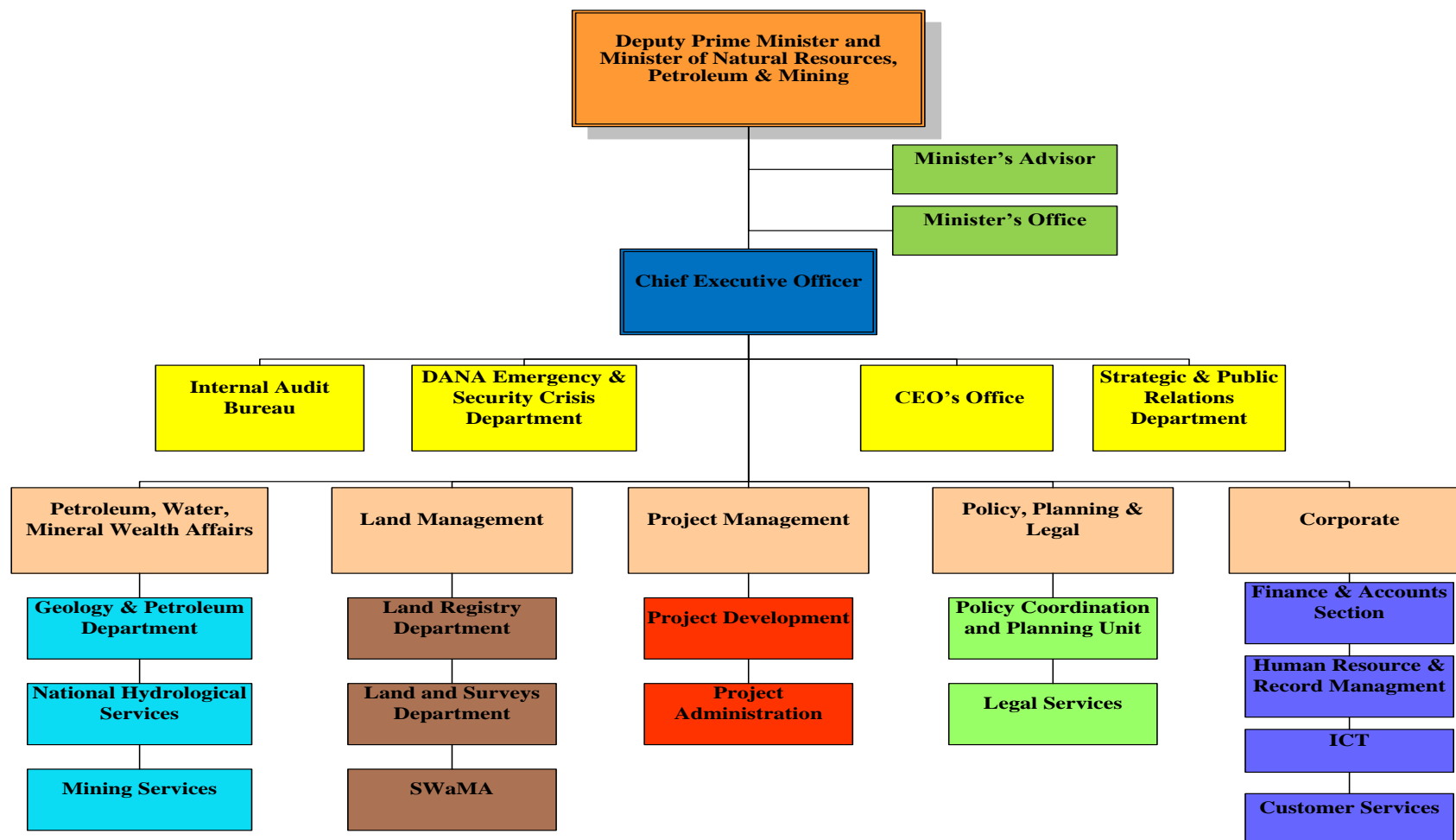
- Operational Plan 2021-2022
- MNRP Information Booklet
- MNRPM Logical Framework Matrix
- Matrix for Econdev- Strata Plan



## ANNEX 2: ORGANIZATIONAL STRUCTURE



## ANNEX 3: VISIONARY ORGANIZATIONAL STRUCTURE



## ANNEX 4: LIST OF PROFESSIONAL AND TECHNICAL STAFF

	Employee	Post
	ARANA, EUGENE JOHN	Second Class Clerk
	ARANA, SHERIDA AGNES	Cleaner
	BUSANO, LLOYDIA SHANICE	Secretary III
	CAL, MARISA MONIQUE	Cleaner
	CARDINEZ, ELSA MARISA	First Class Clerk
	CASTELLANOS, TERESITA	Finance Officer II
	CASTILLO FLOWERS, MERLINE YVONNE	Senior Secretary
	CHACOM, ERNEASE NELDA	Second Class Clerk
	CHIU, CHINGTING	Second Class Clerk
	CHO, NICHOLA NADINE	Senior Crown Counsel
	COC, HIPOLITA SAVINA	Cleaner
	COCOM, LESBIA LISSETTE	Chief Executive Officer
	CONTRERAS, DELSIA	Secretary III
	DIAZ, BRIAN MOISES	Office Assistant
	DOMINGUEZ, DELHART EVAN	Driver
	DOMINGUEZ, LEONEL ALEXANDER	Driver Mechanic
	ESTRADA, CADIA ZAY	First Class Clerk
	EVELYN, KARLEE POLITA	First Class Clerk
	FIGUEROA, ANNA GLADYS	First Class Clerk
	FLORES, SILVIA YARCENY	First Class Clerk
	GARCIA, MAINKA	Inspector Bailiff
	GUTIERREZ, JERJET MICHELL	Senior Lands Officer
	HOPE, KESHA LEE	First Class Clerk
	HYDE, CORDEL	Minister
	IFIELD, DION	Driver
	ITZA, RANEL ALLEN	Second Class Clerk
	JACOBS, SHAIMIR ESTEPHEN	Supplies Officer
	JIMENEZ, ROCIO AMPARO	Customer Service Officer
	JONES, DOYLE FABIAN	Driver
	LEIVA, ZAMIRA JANELL	Project Assistant
	LISBEY, ROSELY LYNETTE	Planning Coordinator
	MIDDLETON, BRITNEY SHAYNE	Second Class Clerk
	MIDDLETON, VALERIE VENICE	Administrative Officer II
	MONTERO BROWN, ELIDA ELIZABETH	Customer Service Manager
	RAMCLAM, KELVIN ROOSEVELT	Second Class Clerk
	REID, MERCI ELIZABETH	Secretary III
	ROMERO, KEIYARI SOLEI	Planning Coordinator

	SABIDO, JULISSA MARCELINA	Cleaner
	SOSA, AMBER JESSELLE	Customer Service Officer
	SUAZO, TANYA	Administrative Officer II
	SWASO, ILKIEI NESAINÉ	Second Class Clerk
	TILLET, DESMOND	First Class Clerk
	USHER, LLEWELYN JOSEPH	Crown Counsel
	USHER, PETRONA MELLY	Finance Officer III Cadet
	VASQUEZ, ANDRES TREVOR	Finance Officer III
	VICENTE, TANISHA MARTHA	Second Class Clerk
	VILLEGAS, PEDRO JULIO	Director Policy and Planning
	VIVAS, LUIS ANTONIO	Senior Lands Officer
	<b>Total</b>	<b>48</b>
<b>LAND INFO CENTER</b>	ARZU, FRANCIS MICHAEL	Principal Lands Information Officer
	CAL, ALFRED	Senior Lands Information Officer
	ELIJIO, RYAN C	Land Information Officer
	ESCOBEDO, BEVERLY SHEVANI	Statistical Officer
	GUTIERREZ, KEVIN IAN	Land Information Technician
	OLIVA, ADRIANA ANDREA	Second Class Clerk
	TORRES, JESUS ELAM	Land Information Officer
	<b>Total</b>	<b>7</b>
<b>PHYSICAL PLANNING UNIT</b>	BROWN, KEVONNE KYLE	Physical Planner I
	CARLOS, MARTIN DOMINIC	Assistant Planner
	CASTILLO, CURDEL ANTHONY	Planning Technician
	ESCALANTE, YAZEL INAIR	Assistant Planner
	HUMES, SHIRLEY LUOISE	Principal Planner
	HYDE, GLENFORD DAVID	Planning Technician
	THIMBRIEL, RAHIM KHALIL	Planning Technician
	<b>Total</b>	<b>7</b>
<b>SURVEYS AND MAPPING</b>	CHAN, IAN REGNER	Draughtsman II
	COYE, RANDY ELIAZER	Draughtsman II
	FRAZER, LEONEL KENDISS	Draughtsman II
	JIMENEZ, ENDER ELIEZER	Survey Technician
	JUAN, NABEEL NASSER	Draughtsman II
	REQUENA, DERICK EDWARD	Survey Technician
	THOMPSON, EARL	Draughtsman I
	USHER, ELVIS	Draughtsman I
	WILLIAMS, DEAN EMORY	Survey Technician
	<b>Total</b>	<b>9</b>
<b>NATIONAL ESTATE</b>	BENGUCHE, WHITNEY JULIET	Office Assistant
	CASEY, DIANELLE KARIMA	First Class Clerk
	CHAN, ROBERTO	Lands Inspector

	CHI, SHANICE ESTHER	Lands Inspector
	JONES, HERSCHEL KENROY	Lands Inspector
	MAS, ROSITA ALICIA	Secretary III
	MATUTE, LORMAN	Assistant Lands Officer
	MEIGHAN, JAHKEMA ELIZABETH	Office Assistant
	PECH, EZRI REGNER	First Class Clerk
	POLLARD, ELIZABETH	Second Class Clerk
	POLLARD, SAHSIL AMERICA	Assistant Lands Officer
	PUC, ARMIN AUDEL	Lands Inspector
	REID, CHRISTOPHER VINCENT	Assistant Lands Officer
	TAMAI, DELIA EDITH	Secretary III
	<b>Total</b>	<b>14</b>
<b>LAND REGISTRY DEPARTMENT</b>	BENNETT, JARED KAREEM	Secretary III
	BERMUDEZ, JHANAY RENEE	Registry Clerk
	BLACKETT, PATRICIA LETICIA	Registrar of Lands
	BRACKETT, KHALIL LIKASI K.	Registry Clerk
	BRICENO, FIONA MARIE	Registry Clerk
	CAIN, NICOLE ARIEL	Registry Clerk
	CAL, SAIDY MARLENI	Registry Clerk
	DALY, GLENFORD ALEXANDER	Office Assistant
	FLOWERS, TICHANA ROSHAUN	Registry Clerk
	GILHARRY, TYESHIA RAVEN	Second Class Clerk
	LISBEY, JAMILA JUDITH	Registry Clerk
	MARIN, JAMES CHRISTOPHER	Registry Clerk
	MCKENZIE, BRITNEY SHENIQUE	First Class Clerk
	MENDEZ, LEOPOLD EDISON	Assistant Registrar II
	PHILLIPS, DEVENIA ANNIKA K	Registry Clerk
	PRICE, YVETTE DENISE	Assistant Registrar II
	REYES, LUCIA EMILY	Senior Registry Clerk
	SMITH, DELVORINE	Senior Registry Clerk
	TILLET, MICAH PAUL	Registry Clerk
	ZELAYA, FRANCISCO SAMUEL	Registry Clerk
	<b>Total</b>	<b>20</b>
<b>VALUATION SECTION</b>		
	BERMUDEZ, DIANA	First Class Clerk
	CASTELLANOS, TRESSY LUSSAN	Referencer
	CASTILLO, HERMAN	Chief Valuer
	HANSON, NERECE SHIRLEY	Office Assistant
	HEREDIA, DEOGRACIA ANACELY	Referencer
	OTTLEY, CADENE KIANE	Referencer

	YOUNG, VALENTINE ERNEST	Referencer
	<b>Total</b>	<b>7</b>
LANDS ADMIN- BELMOPAN	BRACKETT, TALBERT WAYNE	Deputy Commissioner of Lands and Surveys
	COLEMAN, MAUREEN DOREEN	Secretary II
	FLOWERS, SHAVONEY CHARLA	First Class Clerk
	MARTINEZ, KRYSTALEE RENEE	Second Class Clerk
	OH, STEVE FELIX	Caretaker
	PALACIO, AISSA SHANEL	Second Class Clerk
	USHER, MAVIS MARIAN	Assistant Lands Officer
	<b>Total</b>	<b>7</b>
LANDS ADMIN COROZAL		
	AKE, MARGARITA	First Class Clerk
	ESPEJO, HUGO	Lands Inspector
	GUZMAN, NASLY IVETT	First Class Clerk
	HAYLOCK, ROHAN FRANCIS	District Lands and Surveys Officer
	TILLET, ZULIA EMELY	Lands Inspector
	<b>Total</b>	<b>5</b>
LANDS ADMIN ORANGE WALK	BOWDEN, DANE ESMOND	Lands Inspector
	GARCIA, MARIA CAMILA	Cleaner
	GRAJALES, DIEGO	Lands Inspector
	MARIN, ANDREI IVAL	District Lands and Surveys Officer
	PEREZ, SILVITA	Secretary III
	SANCHEZ, KAREN LIZETT	Second Class Clerk
	SOSA, IVY IRIS	First Class Clerk
	VANEGAS, GABRIELA BENITA	Secretary II
	<b>Total</b>	<b>8</b>
LANDS ADMIN BELIZE CITY	BOWMAN, LENNOX AKEEM	Lands Inspector
	CHAN, LINDA LETICIA	Assistant Lands Officer
	ENRIQUEZ, LEW FLOYD	Office Assistant
	FERGUSON, TANISHA TISHAWN	First Class Clerk
	FLOWERS, ADALENY BEATRICE	Lands Inspector
	HENDY, GODFREY HORACE HILTON	Driver
	MATURA, SUSANAH KESHA	Secretary III
	MAZIER, FIONA CRYSTAL	District Lands and Surveys Officer
	WALLACE, KENYON ARTHUR	Second Class Clerk
	WILLIAMS, DIANA MARLENIE	Secretary III
	WILLIAMS, ISMAY IDOLLY	Cleaner
	<b>Total</b>	<b>11</b>

<b>LANDS ADMIN CAYO</b>		
	HERRERA, OWEN	District Lands and Surveys Officer
	HOWE, YURI JESSICA	First Class Clerk
	JIMENEZ, CARLOS	Lands Inspector
	MANZANERO, ALFREDO	Lands Inspector
	MOODY, MELANIE MARCIA	Cleaner
	PINELO, ILLIANA ELIZABETH	Office Assistant
	REQUENA, JAMELIA MAGDALENA	First Class Clerk
	<b>Total</b>	<b>8</b>
<b>LANDS ADMIN STANN CREEK</b>		
	BREGAL, DIANN OLIVIA	First Class Clerk
	BUSANO, DANNA ELAINE	Cleaner
	COB, ADNER GAELE	Lands Inspector
	FLORES, GABRIELA VERONICA	Lands Officer II
	HUGHES, LATAESHA MARECIA	Assistant Lands Officer
	RODRIGUEZ, LYNETTE VIANEY	First Class Clerk
	SOLIS, STEVE CLIFFORD	District Lands and Surveys Officer
	<b>Total</b>	<b>7</b>
<b>LANDS ADMIN TOLEDO</b>		
	ARCHER, MELINDA DIANA	First Class Clerk
	AVILEZ, TARIQ FELIX	Second Class Clerk
	GUTIERREZ, KAYLA MYRALEE	Second Class Clerk
	SERRANO, JUAN ELIAS	District Administrator
	VERNON, ROSENDA MARIVEL	Cleaner
	YAM, OMIR EMMANUEL	Lands Inspector
	<b>Total</b>	<b>6</b>
<b>MESTPU - GEOLOGY DEPT</b>		
	CARR, CELINE JANAY	Office Assistant
	CHUN, MELISSA LILLIANA RICHEZZA	Petroleum Accounting Clerk
	COLEMAN, FAYE NICOLE	Secretary III
	GARCIA FITZPATRICK, TRISHA M. P.	Geologist
	JONES, ASHLEY RONA	Geologist
	MOORE, CRAIG ELLIOT MARTIN	Deputy Director Geology
	ORELLANO, RAY ANTHONY	Driver/Mechanic
	RAYMUNDO, JOHANA YASAIRA	Cleaner
	ROMERO, OSMAN JOSUE	Petroleum Technician
	THOMPSON, RAYMOND UCAL VINCENT	Petroleum Engineer
	USHER, GLENFORD WALTER	Petroleum Technician
	VARGAS, ULRICK ANDONI	Petroleum Technician
	<b>Total</b>	<b>12</b>

<b>SOLID WASTE MGMT AUTHORITY</b>		
	CARRILLO, ALEX CHRISTOPHER	Waste Management Engineer
	CAYETANO, LUMEN MELLISA	Director Solid Waste Management
	CHIMILIO, TYRONNE GREGORY	Communications Officer
	GARCIA, EMERSON ESTUARDO	Solid Waste Management Technician
	TUCKER, LYNN MARIE	Project Assistant
	<b>Total</b>	<b>5</b>
<b>MIN NATURAL RESOURCE INFO TECH</b>		
	ITZA, EDSON LESLIE	Systems Administrator
	LINK, MICHAEL JOHN	Information Technology Manager
	PATT, FERMIN	Information Technology Technician I
	RICHARD, JOSHUA JOEL	Information Technology Technician I
	<b>Total</b>	<b>4</b>
<b>MNR - MINING</b>		
	ALVAREZ, MICHELLE MELISSA	Mines Inspector
	CASTILLO, GIORDAN ISMAEL	Mineral Surveyor
	GILLET, DENVER ADDISON	Mineral Surveyor
	SEBASTIAN, ERROL ELLIS	Geologist
	<b>Total</b>	<b>4</b>
<b>HYDROLOGY</b>		
	CAYETANO, ELLINGTON EDMUND	Hydrological Technician III
	LINO, KAEEM KLIVON	Hydrological Technician III
	LOPEZ, RONA YOUGET	Data Analyst
	WILLIAMS HENDY, TENNIELLE CHERYL	Principal Hydrologist
	WILLIAMS, ISANI SEAN	Hydrological Technician IV
	<b>Total</b>	<b>5</b>
	<b>Total</b>	<b>194</b>