



*EMA*  
*environmental*  
*management*  
*authority*

# 2016

## Annual Report





**ENVIRONMENTAL MANAGEMENT AUTHORITY**  
**ANNUAL REPORT 2016**

### QUICK FACTS ON THE ENVIRONMENTAL MANAGEMENT AUTHORITY (EMA)

- 🌿 The EMA was established by the Trinidad and Tobago Parliament in 1995 through the enactment of the Environmental Management Act, 1995. It was later repealed and re-enacted by the Environmental Management Act, Chap. 35:05.
- 🌿 The Vision of the EMA is to be *“Stewards of Trinidad and Tobago’s Natural Resources and Environment meeting current and future human, ecological and economic needs.”*
- 🌿 Our Mission: We are committed to sustainably manage the natural resources and environment by providing a transparent framework to facilitate policy and decision making in development. This will be undertaken within an approved regulatory system, utilising intensive public education and a collaborative cross-sectoral approach.
- 🌿 Major functions of the EMA include:
  - 💧 Promoting a better understanding and appreciation of the environment.
  - 💧 Encouraging the integration of environmental concerns into private and public decision-making.
  - 💧 Coordinating efforts among the various institutions with responsibility for the environment to establish an integrated environmental management system designed to protect, enhance and conserve the environment.
  - 💧 Developing and implementing laws, policies and programmes to promote sustainable development, achieve economic growth and meet international obligations.
  - 💧 Enhancing the legal, regulatory and institutional framework for environmental management.
- 🌿 The EMA prepares an annual report containing an assessment of the state of the environment, which is intended to:
  - 💧 Provide a foundation for improved decision-making at all levels;
  - 💧 Increase awareness and understanding of environmental trends and conditions;
  - 💧 Facilitate the measurement of key indicators that monitor progress of the pace and direction towards enhancing positive, or mitigating negative, observed conditions and trends.

## **ACKNOWLEDGEMENTS**

The 2016 Annual Report is a publication of the Environmental Management Authority (EMA). The EMA wishes to thank all its technical and support staff for their contribution to the production of this report.





## MESSAGE FROM THE CHAIRMAN

2016 was an exciting year for the EMA; full of change, challenges and progress. We welcomed a new dedicated Board of Directors in June 2016, created a strategy to guide us and have been building relationships with a wide range of individuals and organisations - from government to private sector - to NGOs - that aspire towards sustainability taking its place in Trinidad and Tobago society. Our investments towards making the EMA fit for purpose and well-adjusted to handle emerging environmental challenges have been accompanied by a groundswell in media and civil society contributions to the sustainable development agenda signalling growth in environmental awareness.

The Authority continues to make progress. It formulated a 2017-2021 Strategic Plan that emphasises the United Nations Sustainable Development Goals (SDGs) and aligned to Government's Vision 2030. This Strategic plan truly raises the bar for the EMA itself and the country. The SDGs are prescriptive of EMA's key initiatives in the areas of 'Climate Change' (SDG 13), 'Clean Water and Sanitation' (SDG 6), 'Life on Land and Below Water' (SDGs 14 and 15) and 'Sustainable Cities and Communities' (SDG 11) compelling a "whole of society approach" as a key factor in development success. How the country adapts to these initiatives will define in large part, the quality of life and wellbeing of our future generations and how the society continues on its trajectory to developed country status.

The year also saw the conduct of a 'Baseline Assessment of the Knowledge Attitudes and Practices (KAP) towards the Environment and Sustainable Development in Trinidad & Tobago' and associated national surveys as a major and exciting initiative. The EMA collaborated with the Food and Agricultural Organisation to achieve critically important findings. According to the KAP, the people of Trinidad and Tobago hold a very positive attitude towards the environment; knowledge on environmental dimensions related to the SDGs was moderate; while the application of the knowledge (practice) was found to be wanting. These findings stress an urgent need for environmental education to stimulate an understanding of the synergies between the SDG goals, national development priorities and quality of life for the average citizen. Environmental education will therefore continue to play a vital and instrumental role in maintaining this alignment and augmenting opportunities to hear citizen views and opinions.

The EMA embraces both voluntary and mandatory enforcement measures in handling occasions of breaches emphasizing that there are times when strong enforcement measures are necessary. We are equipping the Authority to measure up to anticipated legal challenges to ensure success in that arena.

There is an inescapable reality that sustainable development is a road best travelled when individuals of any age, households, local communities, business organisations, governmental and non-governmental entities take on the task of shouldering and living a sustainable way of life to the abundant advantage of Trinidad and Tobago as it proceeds towards developed society status.

The EMA's success is the country's success. As we move forward we are proud of what we accomplished in 2016 and are enthusiastic about the future. Together with a strong and vibrant Trinidad and Tobago, the EMA is ready for the challenges, opportunities and successes ahead!

A handwritten signature in black ink, appearing to read 'Nadra Nathai-Gyan'.

**Nadra Nathai-Gyan**  
**Chairman of the Board**  
**February 2018**

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## LIST OF ACRONYMS

APR	Air Pollution Rules
ASOER	Assessment of the State of the Environment Report
CA	Consent Agreement
CBO	Community-Based Organisation
CEC	Certificate of Environmental Clearance
DG - MARE	European Commission's Directorate-General for Maritime Affairs and Fisheries
ED	Electoral Districts
EE	Environmental Education
EIA	Environmental Impact Assessment
EITI	Extractive Industry Transparency Initiative
EMA	Environmental Management Authority
ESA	Environmentally Sensitive Area
ERI	Emergency Response & Investigations
ESD	Education for Sustainable Development
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GHG	Green House Gas
GORTT	Government of the Republic of Trinidad & Tobago
IUU	Illegal, Unreported and Unregulated fishing
KAP	Knowledge Attitudes and Practices
LOC	Levels of Concern
MEEOP	Matura ESA Education and Outreach Project
MDGs	Millennium Development Goals
MNP	Matura National Park
MPU	Ministry of Public Utilities
MSI	Mauritius Strategy for Implementation of the Programme of Action for Small Island Developing States
NELS	National Environmental Literacy Survey
NEP	National Environmental Policy
NGO	Non-Governmental Organization
NOV	Notice of Violation
NPCR	Noise Pollution Control Rules
NRCSWLP	National Restoration, Carbon Sequestration, Wildlife & Livelihoods Project
P3-DM	Participatory 3-Dimensional Models
ProEcoServ	Project for Ecosystem Services
PMCHSE	Permit Monitoring, Complaints and Health, Safety and Environment
PSIP	Public Sector Investment Programme
RSWCP	Recyclable Solid Waste Collection Project
SDGs	Sustainable Development Goals
SER	Source Emitter Registration
SIDS	Small Island Developing States
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UN MSDF	United Nations Multi-Country Framework
UWI	University of the West Indies
WED	World Environment Day
WPP	Water Pollution Permit
WPR	Water Pollution Rules, 2001 (as amended)

# **PART A: 2016 ASSESSMENT OF THE STATE OF THE ENVIRONMENT REPORT (ASOER) - Baseline Assessment of the Knowledge Attitudes and Practices Towards the Environment and Sustainable Development**

## **EXECUTIVE SUMMARY**

The 2016 Assessment of the State of the Environment Report (ASOER) comes at a time when Trinidad and Tobago is developing national policies, plans and programmes towards achieving the United Nation's Sustainable Development Goals (SDGs). The 2030 Agenda recognises that the three pillars of sustainability (social, economic and environmental) challenges cannot be addressed separately, and increasingly pays attention to social dimensions. It calls for a coherent and integrated approach towards sustainability across all sectors and at all levels of decision-making.

Such bold changes demand that each person is willing and empowered to take individual and collective action. Efforts to empower people cannot be done in a vacuum - it must be based on an assessment of existing capacity to be truly effective. Recognising the inherent linkage between knowledge, attitudes and behaviours of individuals, this ASOER seeks to assess the knowledge, attitudes and practices (KAP) of the people of Trinidad and Tobago, to capture the people's perspective and level of participation, in matters related to the environment in 2016.

This ASOER draws from a national KAP survey conducted by the EMA in 2016, as well as, smaller sub-national KAP studies conducted by the EMA and the United Nations Food and Agriculture Organisation (FAO) in 2016. It presents the findings of these KAP surveys in relation to seven (7) of 17 of the SDGs, most relevant to environmental management, to establish a socio-environmental baseline for Trinidad and Tobago. The areas of focus by relevance to the SDGs are:

- Environmental Education (SDG 4 – Quality Education)
- Water Conservation and Management (SDG 6 – Clean Water and Sanitation)
- Industrial Development (SDG 9 – Industry, Innovation and Infrastructure)
- Human Settlements (SDG 11 – Sustainable Cities and Communities)
- Climate Change (SDG 13 – Climate Action)
- Marine Resources Conservation and Management (SDG 14 – Life Below Water)
- Terrestrial Resources Conservation and Management (SDG 15 – Life on Land)

According to the KAP Study, overall, the people of Trinidad and Tobago hold a very positive attitude towards the environment. However, knowledge on environmental dimensions related to the SDGs was found to be moderate, while the application of the knowledge (practice) was found to be wanting. These findings hint of the success of previous initiatives aimed at public education. They highlight a dearth in

programmes and infrastructure which are designed for people, to undertake the required environmentally responsible actions. . Environmental education for sustainable development will continue to remain a core path to a sustainable future for Trinidad and Tobago and the Caribbean. However, there cannot be a sole reliance on environmental education. . The findings of these surveys suggest that financial mechanisms and policy tools that enable pro-environmental infrastructure and programmes must be explored, simultaneously.

As Trinidad and Tobago continues the development of implementation plans for its *Vision 2030*, SDGs and the revision of the 2006 *National Environmental Policy (NEP)*. Priority must be given to actions that capitalises on the results of the literacy survey where the findings show a good public attitude and knowledge for environmental matters.

The key findings of this ASOER for each area of focus are as follows:

### **Environmental Education**

The findings of the KAP surveys indicate that there is a greater need for environmental educators to develop user-friendly information that can be communicated to different target audiences. Awareness of environmental issues appears to be high. However, knowledge of the environment seems to be lacking. This task is not to be under-estimated given the overwhelming exposure to information, at virtually all times. There is a false perception held by many that they are *already informed*. Furthermore, a special focus must be paid to electronic sources of information, particularly, social media. There are effective ways of using such media when engaging school children and young adults. The use of social media and modernisation of education techniques will contribute towards SDG 4, Target 4.7 which states: *“By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development.”*

### **Water Conservation and Management**

The findings indicate that there is a strong perception among the people of Trinidad and Tobago that the island’s freshwater is of low quality. This is a visceral conclusion likely stemming from the widely observed littering and pollution of water bodies. Respondents, in both Trinidad and Tobago, showed above average willingness to conserve water. This snap-shot of KAP suggests that focus should be given to making techniques and technologies, for water conservation, readily accessible to a willing public. On a national scale, efforts to reduce water loss during transmission, through infrastructural development or high-density planning, may garner public support given this finding. The KAP findings suggest that the population is ready to support action towards SDG 6 “Ensuring availability and sustainable management of water and sanitation for all” .

## **Industrial Development**

Industry, particularly the energy industries in Trinidad and Tobago, has traditionally been viewed as being at odds with the environment. This is, in part, due to the high visibility of industrial stacks and heightened awareness of chemical and oil spills communicated via social media. The findings suggest that the public remains highly sensitive to this type of environmental pollution; holding an above average interest in limiting the expansion of industry into coastal wetlands. In addition, the public want increased environmental regulations which target the industry sector. Advancing sustainable industrial development, in keeping with SDG 9, requires continued collaboration and capacity building, within the industrial sectors, to ensure minimal negative environmental and human health impacts.

## **Human Settlements**

The aspects of sustainable human settlements addressed by the KAP survey included solid waste management and air pollution. The findings suggest that most persons hold a moderate to severe concern over the quality of air. Moreso, they identify industry as a leading threat. Regarding solid waste management, the findings indicate that littering is seen as a significant threat to the country's water bodies. Additionally, the effectiveness of recycling efforts was noted as, below average. To achieve the targets of SDG 11 and SDG 12, efforts should be made to: reduce the emissions from industry through permitting regimes. Mainstream recycling activities through the further development of infrastructure and programmes.

## **Climate Change**

Knowledge of climate change and its effects were found to be high across all groups. However, the findings show that this knowledge has not translated into a perception of risk locally among industry and households. Significant work is needed to re-shape public perception regarding climate change, in Trinidad and Tobago, if the targets under SDG 13 and the Paris Agreement are to be met. More specifically, information regarding the impacts of climate change locally needs to be tailored to a variety of targeted demographics.

## **Marine Resource Conservation and Management**

The findings reveal "*significant to very severe concern*" among all groups over the quality of the marine environment. Chemical and oil spills, along with solid waste dumping, were perceived to be the biggest pollution threat to coastal ecosystems and oceanic waters. Persons whose livelihoods are intimately associated with fishing and the use of marine resources, believed that significant threats also included: destructive fishing practices (trawling), absence of zoned sea space for industrial activity, and the attraction of fish to off-shore platforms, as well as, poor monitoring/enforcement in relation to illegal fishing. A significant effort may be required to bridge the gap between different marine resource users, and to ensure the marine resources in Trinidad and Tobago's territorial waters are managed sustainably. Additional efforts are required to ensure that fishery resources are not subjected to larceny from foreign vessels.

## **Terrestrial Resource Conservation and Management**

The findings suggest great public concern over the loss of forests. There was an above average knowledge of the impacts of forest loss. It was seen, at the national and sub-national scales, that individuals routinely overestimate their knowledge of forest species. Moreso, the population status of those species; Often, they identified, inaccurately, species as 'endangered'. Frequently overestimating the severity of a threat can create apathy and '*environmental issue numbness*' among the public. Education efforts should be focused on improving public knowledge of the status of species locally. There should be a focus on the provision of inspirational messages regarding the value of biodiversity, to human well-being and the economy.

As the Government of the Republic of Trinidad and Tobago (GORTT) continues along the path to sustainable development, in alignment with the UN SDGs, the EMA intends to develop, in collaboration with other governmental and international entities, standardised indicators for key SDG targets. This exercise will be conducted in 2017 along with the development of indicators for the Revised *NEP* and *National Development Strategy (Vision 2030)*. Notwithstanding this, continual assessment of the KAP of the people of Trinidad and Tobago will be used to measure the gaps which currently exist between people and environmental practices.



# 1. INTRODUCTION

In September 2015, at the Sustainable Development Summit, the 70<sup>th</sup> General Assembly to the UN adopted a document titled “*Transforming our world: the 2030 Agenda for Sustainable Development*”, also commonly referred to as the Sustainable Development Goals (SDGs)<sup>1</sup>. The SDGs are a set of 17 interdependent global goals with 169 targets between them to be achieved by 2030 (See Box 1). This was widely considered a landmark success as it represented the consensus of 194 Member States and global civil society after a 3-year deliberative process. It recognizes that the greatest global challenges we face, from extreme poverty to climate change, are interconnected and presents a plan of action for “people,

## **BOX 1: The SDGs as listed by the paragraph 54 of A/Res/70/1**

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable reliable and sustainable management of water and sanitation for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development.

planet and prosperity”<sup>2</sup>. Learning from its predecessor the *Millennium Development Goals (MDGs)*, the SDGs also recognise that addressing social, environmental, and economic issues cannot be done in isolation and must be tackled from a multi-dimensional perspective. Consequently, throughout 2016, there have been cascading changes at the regional and national levels to facilitate the implementation of holistic programmes towards achieving these ambitious goals.

At the regional scale, the UN consolidated and restructured its agencies, funds, and programmes towards more effective regional operations. In collaboration with Caribbean governments and civil society, a 5-year plan known as the *UN Multi-Country Sustainable Development Framework for the Caribbean (UN MSDF)*, was developed for advancing the SDGs in the Caribbean region. It also complements regional policies aimed at sustainable development, such as, the *Mauritius Strategy for the Further Implementation of the Programme of Action for Sustainable Development of Small Island Developing States (MSI)* and the *SAMOA Pathway*, and the national development

<sup>1</sup> United Nations. 2015. *Transforming our World: The 2030 Agenda for Sustainable Development*. New York: United Nations

<sup>2</sup> Ibid.

strategy (Vision 2030). This plan outlines four priority areas for the region:

1. An inclusive, equitable and prosperous Caribbean;
2. A safe and just Caribbean;
3. A healthy Caribbean; and
4. A sustainable and resilient Caribbean<sup>3</sup>.

Figure 1 – The UNMSDF areas in relation to the SDGs



Source: UN Caribbean (2016)<sup>4</sup>

In Trinidad and Tobago, 2016 saw the mainstreaming of sustainable development into national policy with the SDGs prominently influencing the design of the National Development Strategy (*Vision 2030*)<sup>5</sup> and the draft *Revised National Environmental Policy (NEP)*<sup>6</sup>. At the core of these two policies, is the philosophy of “putting people first” through socio-economic development and enhancement of our natural environment. But society is not only an object impacted by sustainable development, it is the catalyst. The transition to global sustainability – meeting human needs and reducing hunger and poverty while

<sup>3</sup> United Nations. 2016. *United Nations Multi-Country Sustainable Development Framework for the Caribbean*. New York: United Nations

<sup>4</sup> United Nations. 2016. *The 2030 Agenda*. Accessed 21<sup>st</sup> August 2017. <http://www.2030caribbean.org/>

<sup>5</sup> Government of the Republic of Trinidad and Tobago. 2016. *National Development Strategy (Vision 2030)*

<sup>6</sup> Environmental Management Authority. 2016. *1<sup>st</sup> Draft Revised National Environmental Policy*.

maintaining the life-support systems of the planet – demands changes in human values, attitudes and behaviours<sup>7</sup>. If, Trinidad and Tobago is to achieve its own sustainability and contribute to a sustainable and resilient Caribbean, each person must become willing and empowered to take individual and collective action.

This ASOER reflects the results of a 2016 KAP Survey conducted by the EMA for areas related to the SDGs (See Box 2). In addition to providing data on the actual state of the environment, it reflects the *state of mind* of the people of Trinidad and Tobago whose values and lifestyles significantly affect the environment. In doing so, this ASOER: (i) contextualises the changes to the environment described in previous ASOERs, (ii) establishes a benchmark for knowledge, attitudes and behaviours in support of sustainable development and its subcomponents in Trinidad and Tobago and (iii) aids the development of targeted programmes for achieving national environmental goals and broader SDGs.

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<sup>7</sup> Leiserowitz, Anthony A., Robert W. Kates and Thomas M. Parris. 2005. "Do Global Attitudes and Behaviours Support Sustainable Development?" *Environment* 47(9): 22-38

## Box 2: The 2016 National KAP Survey

- ◆ The National Environmental Literacy/Awareness Survey was commissioned by the EMA as part of the process to revise the 2006 NEP and aimed to assess current trends in environmental knowledge, attitudes and practices in Trinidad and Tobago. Specifically, the survey was intended to capture the nation's knowledge about the environment relative to: environmental threats, household activities that enhance sustainability and behaviours that promote a healthy co-existence with the natural environment.
- ◆ The survey design was based on previous surveys conducted in Trinidad and Tobago as well as international best practice for the measurement of environmental literacy. The questions were categorized into ten environmental dimensions as follows:
  1. Environmental Management and Education/Awareness
  2. Pollution (Water/Air/Land/Noise)
  3. Climate Change
  4. Water Conservation and Management (aquifer preservation/ground water management)
  5. Marine/Coastal Zone Management
  6. Land Use and Development (wetlands conservation)
  7. Deforestation
  8. Ecosystem and Biodiversity (Protected Areas and Species)
  9. Waste Disposal and Management/Recycling
  10. Natural Resource and Energy Conservation
- ◆ The survey was launched on June 8, 2016 and was executed over a period of 6 months. The survey targeted three (3) primary demographic profiles; Households, Schools (forms 3 – 6) and Businesses/Industry.
- ◆ A total of 939 usable surveys were collected across 41 Electoral Districts (EDs) of Trinidad and Tobago for household respondents. This sample size is considered sufficient to represent the views of all Trinidadians and Tobagonians with a 97% confidence level according to standard survey procedures and sample size calculations.
- ◆ The school population was sampled using a combination of sampling methods: Stratified Sampling by Regional Corporation as the Primary Sampling Unit and Random Sampling to select the specific schools within each region - Secondary Sampling Unit. A total of 24 schools were selected across Regional Corporations and 25 students from each school (Forms 3 to 6, where appropriate) were selected to participate.
- ◆ Industry surveys were gathered from 3 – 5 staff members who held a supervisory level position and above for organizations across the following sectors:
  1. Manufacturing and production
  2. Construction and mining
  3. Oil and petrochemical
  4. Transport and Shipping
  5. Services
  6. Agriculture and Food Production
  7. Restaurants and Hotels
  8. Vehicle Maintenance Services and Tyre Shops
  9. Financial Services
- ◆ The full Environmental Literacy Survey can be found at the EMA's Information Centre or via its website at: [https://www.ema.co.tt/images/Files/Literacy\\_Survey/EMA\\_Environmental\\_Literacy\\_Survey\\_Final\\_Formatting.pdf](https://www.ema.co.tt/images/Files/Literacy_Survey/EMA_Environmental_Literacy_Survey_Final_Formatting.pdf)

## 2. SOCIO-ENVIRONMENTAL BASELINE TOWARDS ACHIEVING ENVIRONMENTAL SUSTAINABILITY IN TRINIDAD AND TOBAGO

Although all the SDGs are inter-connected, there are several specific targets which may be predominantly addressed through environmental and natural resource institutions. Ministries with the responsibility for the environment, governmental entities, private sector organisations, non-governmental organisations (NGOs) and the public are all critical stakeholders in ensuring that these ‘environmental’ goals are met. Taking stock of the degree of knowledge, attitudes and existing practices regarding these environmental aspects enables decision makers and project developers, to better assess project risks and the potential for success. It also allows those in the field of environmental sociology to examine the dynamic relationship between environmental efforts and individual capacities.

There are multiple methods of assessing environmental knowledge, attitudes and practices, grounded in several different theoretical and conceptual frameworks<sup>8</sup>. The most widely used, which have had their validity reliably assessed, are the *Ecology scale*, *Environmental Concern scale* and the *New Environmental Paradigm scale*<sup>9</sup>. However, the design of the Ecology scale and Environmental Concern scale can become dated, as new environmental issues emerge. The New Environmental Paradigm scale avoids this issue by using general environmental topics and emphasising the relationship between humans and the environment. This scale has been applied to a limited extent among industrial representatives in Trinidad and Tobago and has highlighted a generally fair attitude towards environmental stewardship and the need for additional legislative support<sup>10</sup>. While this method may measure the broader environmental consciousness of the respondents, it adds little value as an assessment of baseline conditions for practitioners aimed at advancing the targets of the SDGs. Thus, the approach adopted in the national KAP survey was focused on targeted topics related to SDGs, to be led under the environmental sector. This Chapter provides insight into the environmental knowledge, attitudes and practices of various stakeholders, for the following environmental aspects relevant to the SDGs:

- Environmental Education (SDG 4 – Quality Education)
- Water Conservation and Management (SDG 6 – Clean Water and Sanitation)
- Industrial and Infrastructural Management (SDG 9 – Industry, Innovation and Infrastructure)
- Human Settlements (SDG 11 – Sustainable Cities and Communities)
- Climate Change (SDG 13 – Climate Action)
- Marine Resource Conservation and Management (SDG 14 – Life Below Water)
- Terrestrial Resources Conservation and Management (SDG 15 – Life on Land)

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<sup>8</sup> Milfont, Taciano L., and John Duckitt. 2010. “The environmental attitudes inventory: A valid and reliable measure to assess the structure of environmental attitudes” *Journal of Environmental Psychology* 30: 80 - 94

<sup>9</sup> Ibid.

<sup>10</sup> Sookram, Ron. 2013. “Environmental Attitudes and Environmental Stewardship: Implications for Sustainability” *The Journal of Value-based Leadership* 6(2) Article 5

## 2.1 Environmental Education



The SDG on education does not propose specific targets for environmental education, but rather, is focused on improvement in global literacy and numeracy; and access to education, at all levels, with an emphasis on women and children<sup>11</sup>. Implicit in this is the understanding that education, on various subject matters including the environment, will assist directly and indirectly with the achievement of sustainable development. This was commemorated by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in declaring 2004 – 2015 the *UN Decade of Education for Sustainable Development* (ESD) to promote education on sustainable livelihoods, building environmental awareness and re-orienting curricula to include sustainability perspectives<sup>12</sup>.

Though some have critiqued this transition to ESD, with its emphasis on human welfare, equality, rights and equitable distribution of resources. ESD is seen to be an obstruction to traditional environmental education.<sup>13</sup> Trinidad and Tobago is committed to the Global Framework on Environmental Education (*Belgrade Charter*), as enshrined in the 2006 NEP<sup>14</sup>. As such, the EMA and other environmental stakeholders have undertaken distinctly eco-centric education campaigns, over the past two decades. Regardless of the type of campaign, whether Environmental Education (EE) or ESD, knowledge on the environment and its importance is an integral part and enabler of sustainable development. This perception was seen to be high among industrial respondents, as 94% agreed that education on the environment should be a necessary component of primary and secondary school education. The degree to which persons believed themselves to be knowledgeable on the environment is reflected in Figure 2.

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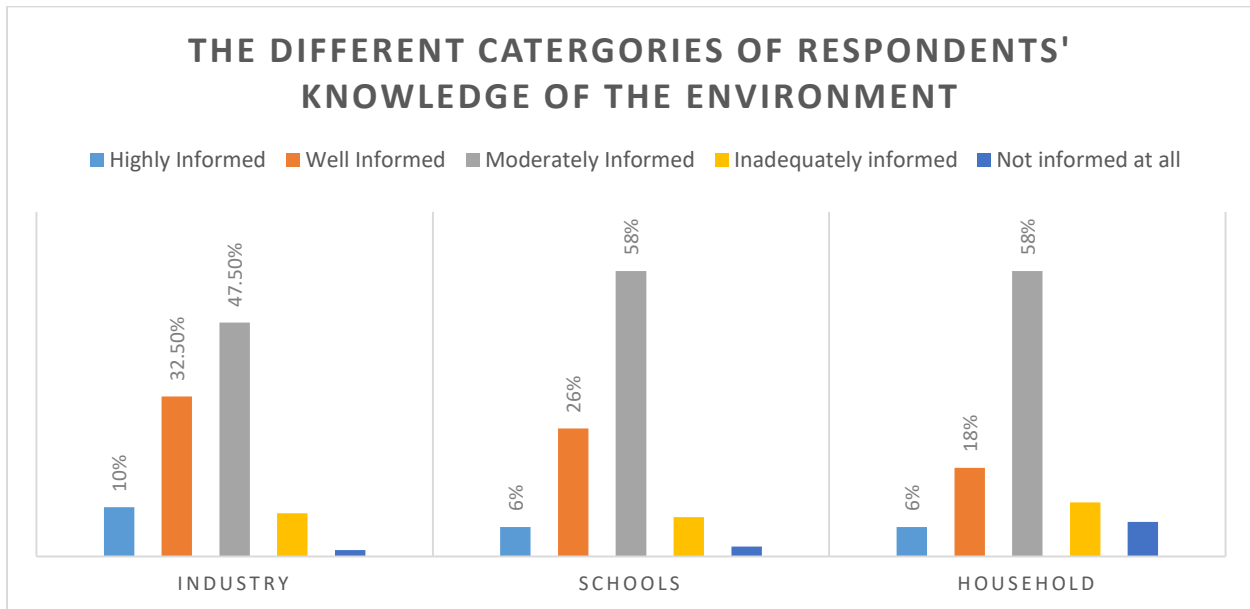
<sup>11</sup> United Nations. 2015. *Transforming our World: The 2030 Agenda for Sustainable Development*. New York: United Nations

<sup>12</sup> United Nations Educational Scientific and Cultural Organisation. 2005. *The UN Decade for Education on Sustainable Development 2004 – 2014: The DESD at a glance*. Paris: UNESCO

<sup>13</sup> Koprina, Hellen. 2012. "Education for Sustainable Development (ESD): the turn away from 'environment' in environmental education?" *Environmental Education Research* 18(5): 699-717

<sup>14</sup> Government of the Republic of Trinidad and Tobago. 2006. *National Environmental Policy*.

Figure 2 – The Self-Reported Degree of Knowledge on Environmental Issues



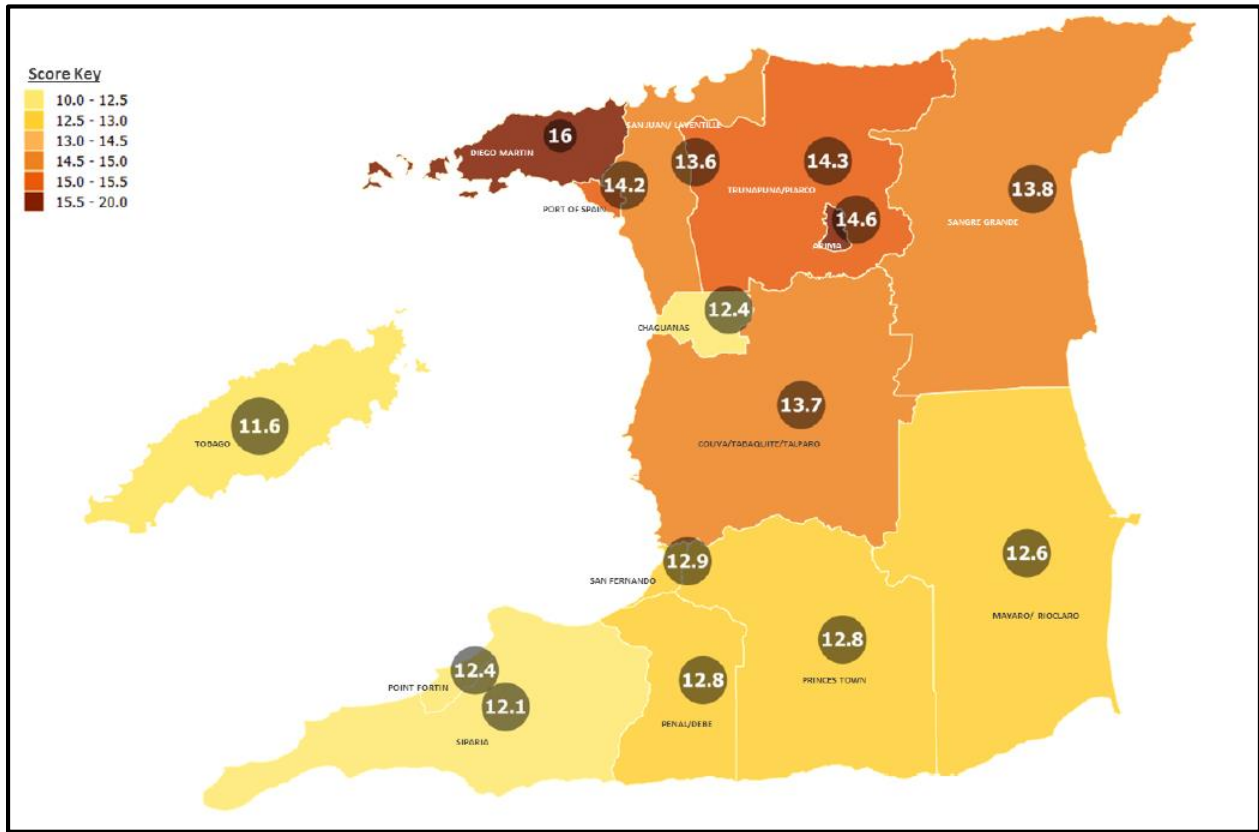
Source: EMA (2016)<sup>15</sup>

It should be noted that the findings reflect the self-reported degree of knowledge and not an objectively measured degree of knowledge on environmental issues. Prior research and age-old wisdom suggest that self-assessments of knowledge may not be as reliable. Routinely, persons tend to overestimate their capabilities<sup>16</sup>. Pointed questions regarding specific environmental topics revealed significantly lower levels of technical knowledge. For example, to the question “*What is your knowledge on the NEP?*” the survey revealed that knowledge on the 2006 NEP stood at 2% among households, 3% among students and 28% among industry. The findings of the knowledge questions were indexed on a scale of 0 – 32 and segregated by Regional Corporations, to produce a baseline of environmental knowledge (Figure 3).

<sup>15</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

<sup>16</sup> Sitzmann, Traci, Katherine Ely, Kenneth G. Brown and Kristina N. Bauer. 2010. “Self-assessment of knowledge: A cognitive learning of affective measure?” *Journal of Management Learning and Education* 9(2): 169 - 191

Figure 3 – The Degree of Environmental Knowledge in Each Regional Corporation in Trinidad and Tobago



Source: EMA (2016)<sup>17</sup>

Evidence that the actual degree of environmental knowledge is significantly lower than perceived levels was shown in other smaller-scale studies conducted in 2016. For example, the EMA’s KAP assessment of communities surrounding the Matura Environmentally Sensitive Area (ESA) (Box 3). In that study, only 30% of the respondents who answered ‘yes’ to the question “Do you know of any endangered animals living in MNP [Matura National Park]?” were able to correctly name any endangered species in the park<sup>18</sup>.

A KAP Survey conducted in 2016 by the FAO under its “Improving Forests and Protected Areas Management in Trinidad and Tobago” project offered more optimistic results with regards to knowledge of protected areas (Figures 4 and 5).

<sup>17</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

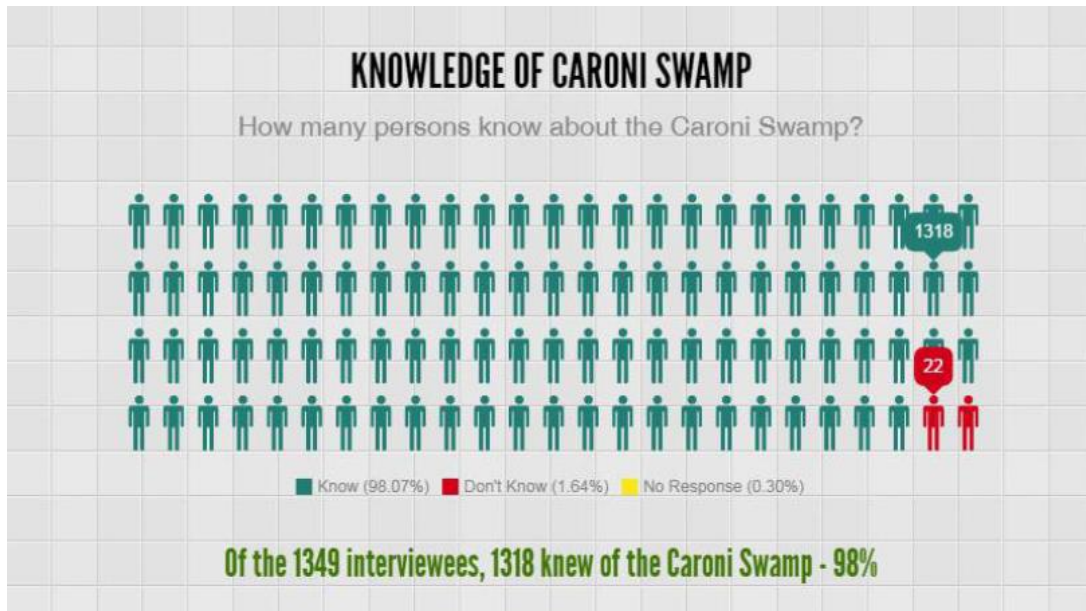
<sup>18</sup> Environmental Management Authority. 2016. *Matura ESA Education and Outreach Project –PSIP 2015/2016: Draft Project Final Report*. Port of Spain: EMA



### **Box 3: Matura ESA Education and Outreach Project – PSIP 2015/2016: KAP SURVEY**

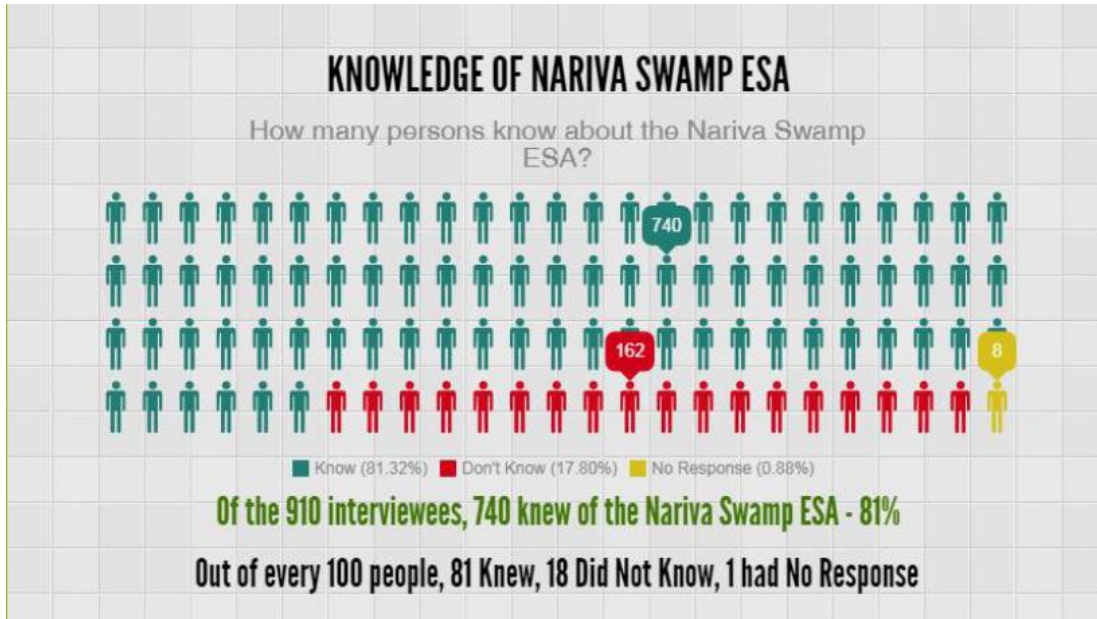
- ◆ The Matura National Park (MNP) was designated an Environmentally Sensitive Area (ESA) under the Environmentally Sensitive Areas Rules, 2001 through legal notice no. 323 of 2004. The most significant outcomes of the designation of this area have been the involvement of community organizations in the management of the park, and increased protection of threatened species such as the Trinidad Piping Guan (*Pipile pipile*) and the Ocelot (*Leopardus pardalis*), whose declining population levels have made them locally endangered in Trinidad.
- ◆ To assist with the development of education and awareness programs, a KAP study was done as Component 2 to the Matura ESA Education and Outreach Project (MEEOP) funded under the Public Sector Investment Programme (PSIP) funding for the period 2015/2016.
- ◆ The Objectives of the study were as follows:
  1. To determine, via survey, the current level of awareness that residents, resource-users and other stakeholders have about the MNP ESA so as to inform the communication strategy;
  2. To obtain, via survey, information related to threats and other issues impacting the ESA to inform the development of the legend for the Participatory 3-dimensional Models (P3DM);
  3. To document and utilise the information obtained to further aid management efforts;
  4. To establish a baseline awareness level against which a post-education/outreach assessment could be compared to determine the effectiveness of the communication strategy.
- ◆ The study sampled 368 persons across the 15 communities surrounding the Matura ESA over the period 4-8 April, 2016.

Figure 4 – The Knowledge of Caroni Swamp Based on the FAO's 2016 KAP Study



Source: FAO (2016)<sup>19</sup>

Figure 5 – The Knowledge of Nariva Swamp Based on the FAO's 2016 KAP Study



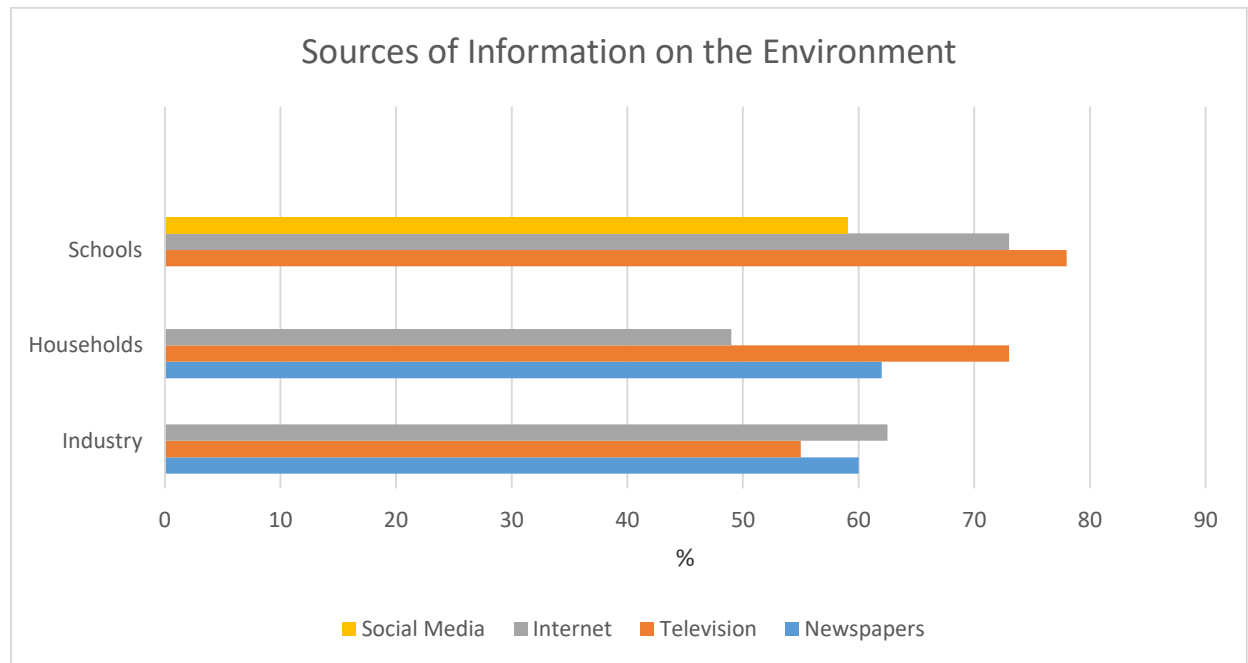
Source: FAO (2016)<sup>20</sup>

<sup>19</sup> United Nations Food and Agriculture Organisation. 2016. *Improving Forests and Protected Areas Management in Trinidad and Tobago, KAP Knowledge Attitudes and Practices Report.*

<sup>20</sup> Ibid.

Despite the differences between perceived and retained knowledge on the environment. The responses to the national KAP survey are indicative of the acute awareness of the population after exposure to environmental information. Beyond education in the classroom, the population reported that they gathered knowledge on the environment from a variety of different sources, as seen in Figure 6.

**Figure 6 – The Preferred Sources of Environmental Education Among Respondent Groups**



Taken together, these findings indicate that there is a greater need among environmental educators to deliver information that resonates and is retained, by the population. ‘Awareness of’ may be high, but ‘knowledge on’ is lacking. This task is not to be under-estimated given the overwhelming exposure to information, at virtually all times. Additionally, there is the false perception held by many that they are ‘already informed’. Furthermore, a special focus must be paid to electronic sources of information, particularly social media. There are ways to effectively use that media when engaging school children and young adults. Given that the most recent census for Trinidad and Tobago reveals an aging population, the value of social media as a medium for transmitting information is likely to appreciate. The use of social media and modernisation of education techniques will contribute towards target 4.7 which states: *“By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development.”*



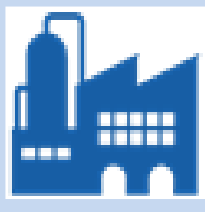
The baseline of the national KAP survey has yielded a disaggregated map which reflects the degree of knowledge across Trinidad and Tobago. This map will be of great significance to educators on the environment and sustainable development in developing targeted education campaigns. Progress towards SDG 4 can be supported by environmental institutions which utilise social media to bridge the gap between perceived and actual knowledge.

## 2.2 Water Conservation and Management



Water and sanitation are at the core of sustainable development, as they are critical to the survival of people and the planet<sup>21</sup>. Goal 6 addresses the issues relating to drinking water, sanitation and hygiene, as well as, the quality and sustainability of water resources worldwide<sup>22</sup>. The findings of the national KAP survey on water are summarised in Figure 7.

**Figure 7 – The Findings of the Three Groups Sampled in the National KAP Survey regarding Water Quality, Conservation and Management in Trinidad and Tobago**

	KNOWLEDGE	ATTITUDE	PRACTICES
	<p><b>69%</b></p> <p>identified littering as a major source of pollution</p>	<p><b>46%</b></p> <p>believe that T&amp;T's supply of freshwater is of low quality</p>	<p><b>73%</b></p> <p>likely to conserve water</p>
	<p><b>75%</b></p> <p>identified littering as a major source of pollution</p>	<p><b>42%</b></p> <p>believe that T&amp;T's supply of freshwater is of low quality</p>	<p><b>57%</b></p> <p>likely to conserve water</p>
	<p><b>24%</b></p> <p>identified proper maintenance and water recycling/treatment as water conservation methods</p>	<p><b>52%</b></p> <p>believe that T&amp;T's supply of freshwater is of low quality</p>	<p><b>60%</b></p> <p>likely to conserve water</p>

Source: EMA 2016<sup>23</sup>

Though the questions regarding water pollution were not comprehensive, the findings suggest that the public has a fair degree of knowledge about sources of water pollution and methods of conserving water. Respondents identified littering (solid waste) as the most predominant source of water pollution. By large they indicated water quality was being sub-par. A wide array of solid waste deposited into the environment finds its way to surface water bodies and solid waste management, in Trinidad and Tobago

<sup>21</sup> United Nations. 2016. Sustainable Development Knowledge Platform. Progress of goal 6 in 2016.

<sup>22</sup> Ibid.

<sup>23</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

continues to be a pervasive issue. This may have contributed to the perception that littering was as a major cause of decreased water quality<sup>24</sup>.

Generally, water quality management has focused on pollutants often invisible to the naked eye, but which have significant consequences for human and environmental health. The 2015 ASOER reflected improvements in water quality, in areas of Trinidad and Tobago, which was likely due to the enforcement of the *Water Pollution Rules, 2001 (as amended)* over the period 2011-2015<sup>25</sup>. Given that the 2015 ASOER was not made available to the public prior to the execution of the KAP Survey, the view being held that water is of low quality can be understood. The GORTT will continue to manage our water resources through the establishment of policy measures, such as, ambient water quality standards, revised NEP, and the Integrated *Water Resources Management policy for Trinidad and Tobago*<sup>26</sup>. The latter will enhance coordination and collaboration in the water management sector and bolster the achievement of SDG 6<sup>27</sup>.

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<sup>24</sup> Environmental Management Authority. 2011. *Assessment of the State of the Environment Report 2011: Solid and Hazardous Waste in Trinidad and Tobago*. Port-of-Spain: EMA

<sup>25</sup> Environmental Management Authority. 2016. *Assessment of the State of the Environment Report 2015: Water Quality in Trinidad and Tobago*. Port-of-Spain: EMA

<sup>26</sup> Ibid.

<sup>27</sup> Ministry of Public Utilities. 2016. *Draft Revised National Integrated Water Resources Management Policy*.

## 2.3 Industrial Development



The 9<sup>th</sup> SDG focuses specifically on infrastructure, industry and innovation as interrelated concepts that together drive economic growth and poverty reduction<sup>28</sup>. The World Economic Forum's Global Competitive Index 2016/17 ranks Trinidad and Tobago 54<sup>th</sup> of 138 countries with respect to infrastructural development<sup>29</sup>. Competitive advantages include:

- 3<sup>rd</sup> for port capacity in the English-speaking Caribbean<sup>30</sup>
- 2<sup>nd</sup> most developed road network in the English-speaking Caribbean<sup>31</sup>
- High telecommunications penetration and an efficient air transport system<sup>32</sup>

Those factors have contributed significantly to the country's development, as Trinidad and Tobago is considered the most industrialised economy in the English-speaking Caribbean<sup>33</sup>. The energy sector accounts for more than 40% of GDP and 80% of exports, but only 5% of employment<sup>34</sup>. Economists consider Trinidad and Tobago to have features of a 'dual economy,' in which the energy sector represents a wealthy sector; with excellent growth prospects. While the rest of the economy lags behind, since the investments into the oil and gas sector do not spill over into non-energy sectors<sup>35</sup>. Nevertheless, the GORTT has committed to continued investment into the energy sector, while developing other industries such as, maritime services, tourism and manufacturing<sup>36</sup>. The perception of industrial development and its impact on the environment can play a major role in decision-making. The findings of the national KAP survey with regards to industrial development are summarised in Figure 8 and Figure 9.

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<sup>28</sup> United Nations. 2017. *Sustainable Development Goal 9: Progress and Info (2016)*. Sustainable Development Knowledge Platform. Accessed from: <https://sustainabledevelopment.un.org/sdg9>

<sup>29</sup> World Economic Forum. 2016. *The Global Competitiveness Report 2016-2017*. Geneva: WEF

<sup>30</sup> InvesTT. 2017. *Country Profile: Infrastructure*. Accessed from: <http://www.investt.co.tt/country-profile/infrastructure>

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

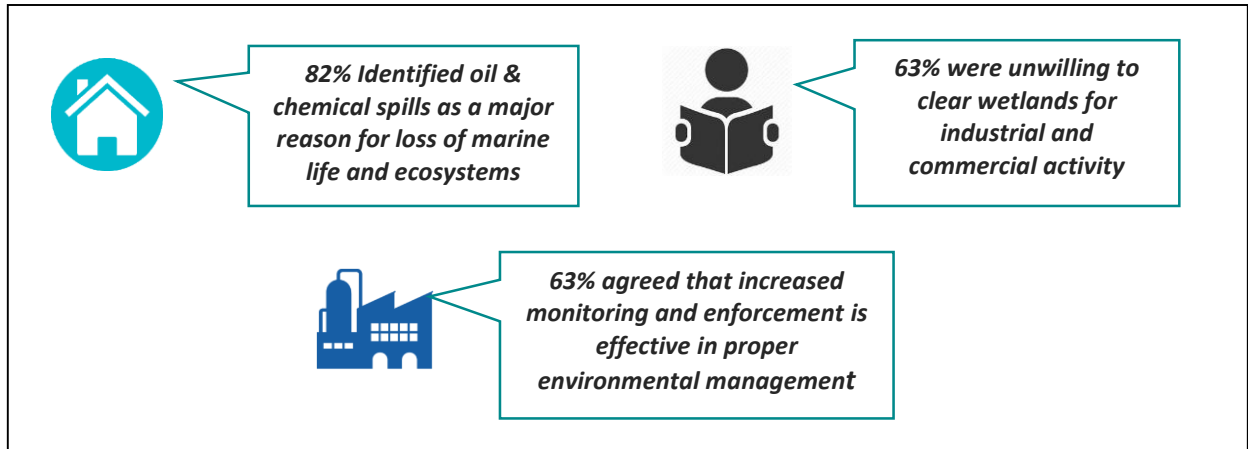
<sup>33</sup> Inter-American Development Bank. 2007. *Trinidad and Tobago: Economic Growth in a Dual Economy*.

<sup>34</sup> Ibid.

<sup>35</sup> Ibid.

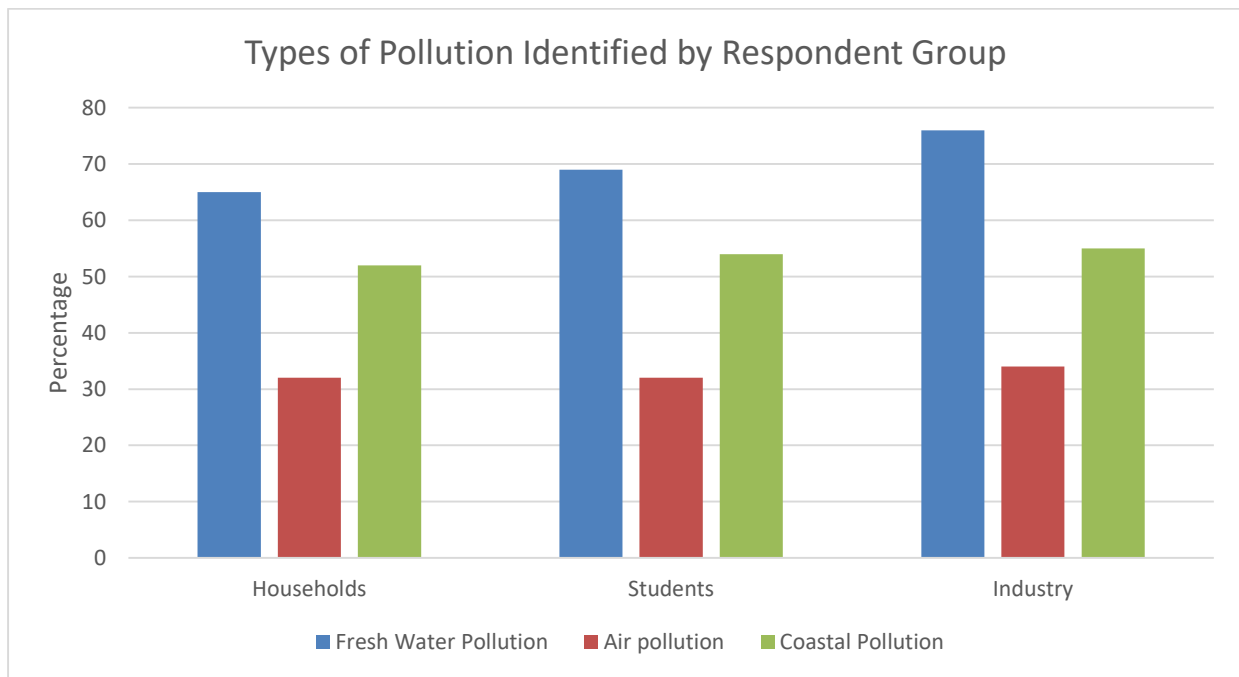
<sup>36</sup> Government of the Republic of Trinidad and Tobago. 2017. *National Development Strategy 2016 – 2030 (Vision 2030)*. Port of Spain: Ministry of Planning and Development

**Figure 8 – The National KAP Survey Findings regarding Industrial Development and the Environment in Trinidad and Tobago**



Source: EMA 2016<sup>37</sup>

**Figure 9 – The National KAP Survey Findings regarding the Impact of Industry on the Environment**



Source: EMA 2016<sup>38</sup>

<sup>37</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

<sup>38</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

Although, the findings suggest that industry is the backbone of the local economy, it is also seen as a significant source of pollution, to Trinidad and Tobago's water bodies and air. Over the period 2014 – 2016, an average of 95 oil spills and releases were reported to the EMA<sup>39</sup>. Among the larger spills, in recent times, were the contamination of the Guaracara River with 5,000 barrels of slop oil, in November 2014 and the rupture of Sea Line No. 10 in the Gulf of Paria. The latter resulted in the contamination of the south-western coast with 7,554 barrels of bunker fuel oil in December 2013<sup>40</sup>. The 2013 oil spill alone cost state-owned Petrotrin TT\$57 million<sup>41</sup>.

Chemical and oil spills attract a great deal of publicity from media houses given the extensive financial, social and environmental impacts. The high visibility of industrial stacks also heightens perceptions of air pollution. Thus, the public remains highly sensitive to these aspects of environmental pollution. Moreso, they hold an above average interest in limiting the expansion of industry into coastal wetlands, and advocate for an increase in regulations and enforcement of laws to prevent environmental harm.

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<sup>39</sup> Environmental Management Authority. 2016. Summary Report from the Complaints Database 2014 – 2016. Port of Spain: Trinidad and Tobago

<sup>40</sup> Ragoonath, Reshma. 2014. *Petrotrin slow with oil spill info: EMA eyes another fine*. Trinidad Guardian. Retrieved from: <http://www.guardian.co.tt/news/2014-12-25/petrotrin-slow-oil-spill-info>

<sup>41</sup> Ibid.

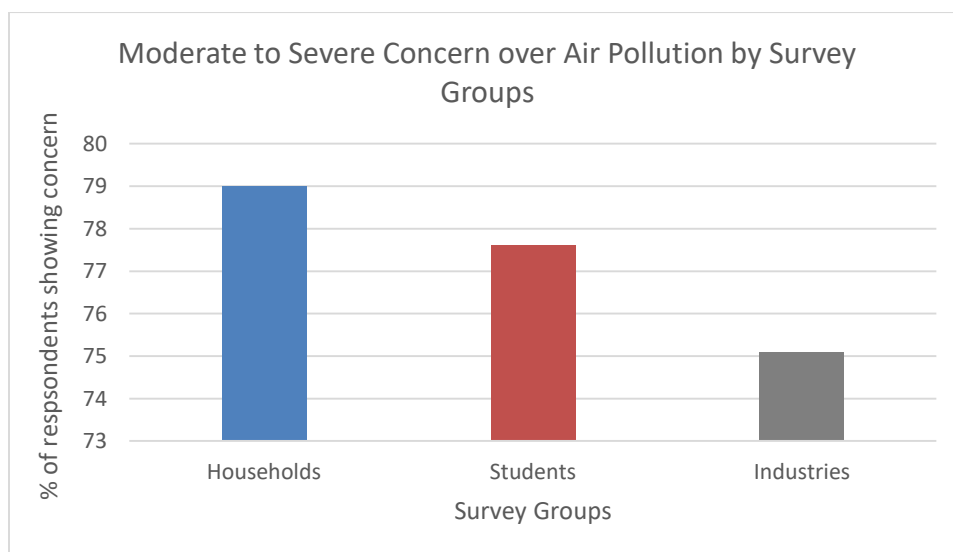


## 2.4 Human Settlements



While the topics of air and solid waste pollution do not comprise stand-alone SDGs, they are cross-cutting topics that transcend many targets. For instance, in SDG 3, one of the targets state that “By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination”<sup>42</sup>. This applies to Goal 11 of the SDGs. *sustainable cities and communities*, with one of the targets being that, “By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management”. Integrated and sustainable human settlement planning and management, and a reduction of the adverse environmental impact of cities, including municipal and other waste management, are part of the main objectives or targets of SDG 11. The National KAP Survey focused specifically on the aspects of pollution, rather than city planning and management. The views of the public regarding air pollution and solid waste management are shown in Figures 10 and 11.

**Figure 10 – The Percentage of Persons with Moderate to Severe Concern Over Air Pollution by Respondent Group**



Source: EMA 2016<sup>43</sup>

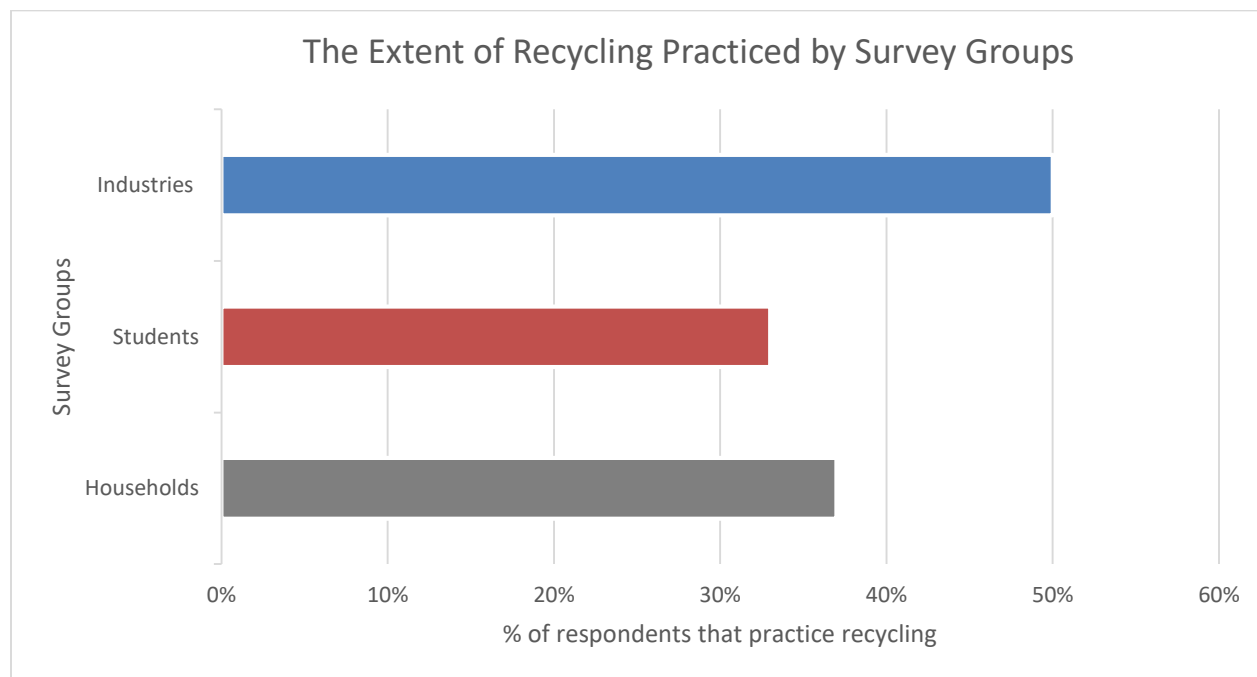
It is noteworthy that across all stakeholder groups there was a 75% – 80% consensus that air pollution is of *moderate-to-severe concern*. The topic of air quality is handled in many ways in Trinidad and Tobago, with specific laws, such as, the *Air Pollution Rules (APR)* being enacted in 2014 to address this type of pollution from point sources. The EMA continues to register facilities, as sources of emissions, as per Section 4 of the *APR, 2014*<sup>44</sup>. Regulation via Air Pollution permits is expected to commence in 2018.

<sup>42</sup> United Nations. 2017. *Sustainable Development Goal 3: Facts and Figures (2016)*. Sustainable Development Knowledge Platform. Accessed from <http://www.un.org/sustainabledevelopment/health/>

<sup>43</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

<sup>44</sup> Government of the Republic of Trinidad and Tobago. *Air Pollution Control Rules, 2014*.

Figure 11 – The National KAP Survey Findings Regarding the Practice of Recycling



Source: EMA 2016<sup>45</sup>

The findings regarding recycling suggest that there is modest penetration of recycling programmes across Trinidad and Tobago. Recycling remains a key feature in the GORTT’s development plan<sup>46</sup> and there are several legislative and policy changes underway in 2016 to better facilitate national recycling. These include the revision of the *National Environmental Policy (2006)*, the development of the national Waste Management Rules under the *Environmental Management Act, Chap. 35:05*, and the development of a Waste Recycling Act<sup>47</sup>. These policy changes are expected to come into effect between 2018 and 2019. In lieu of these programmes, the EMA continues to push the recycling agenda forward through its public education efforts and the *National Recyclable Solid Waste Collection Project* (branded as “iCARE”) which was launched in 2015. A total of 86 collection sites have been established throughout Trinidad and approximately 209,121 bags containing both recyclable and non-recyclable material were collected during 2015 and 2016<sup>48</sup>.

<sup>45</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/Awareness Survey*. Port-of-Spain: Trinidad and Tobago.

<sup>46</sup> Government of the Republic of Trinidad and Tobago. 2017. *National Development Strategy 2016 – 2030 (Vision 2030)*. Port of Spain: Ministry of Planning and Development.

<sup>47</sup> Parliament of Trinidad and Tobago. 2015. *Agenda for Parliament 2015 – 2020*. Accessed from: <http://www.ttparliament.org/documents/2346.pdf>

<sup>48</sup> Environmental Management Authority. 2017. *The Implementation of the 2006 National Environmental Policy: A summary of the EMA’s Activities*. Port-of-Spain: EMA.

## 2.5 Global Climate Change

Climate Change poses an urgent and possibly irreversible threat to societies and the planet. Small Island Developing States (SIDS), such as, Trinidad and Tobago, are among those most vulnerable to the effects of climate change due to their unique political, social and cultural milieu; character, size and state of economic development<sup>49,50</sup>.



These effects include shifts in climate variability towards higher average daily and nightly temperatures, reduced rainfall volumes and increased rainfall intensity; more frequent and intense extreme weather events, such as, droughts, floods and tropical storms; and increased ocean acidification, sea level rise and distribution of disease-carrying vectors<sup>51</sup>.

Towards the end of the 21st century, it is estimated that the total annual climate change related economic impacts would conservatively amount to US\$2 billion for Trinidad and Tobago<sup>52</sup>. Specifically, the country may suffer reductions in the US\$132 – US\$218 million worth of ecosystem benefits provided by its coral reefs each year<sup>53</sup>; incur TT\$137 – TT\$258 million annually in damages due to increased sea level rise and frequency of tropical storms<sup>54</sup>; and sustain a minimum of TT\$1.815 million annually in losses due to more severe droughts<sup>55</sup>. Health care costs are expected to rise due to increased incidents of dengue, zika, leptospirosis, gastroenteritis and food-borne illnesses<sup>56</sup>. Locally, the anticipated loss of pollinators is expected to reduce food security. It will have an impact on subsistence farmers who stand to lose as much as US\$12,692.00 per cycle on crops, such as, cucumbers<sup>57</sup>.

SDG 13 addresses climate change and is tied specifically to the *Paris Agreement*, under the United Nations Framework Convention on Climate Change (UNFCCC). As a signatory to the Paris Agreement, Trinidad and Tobago has agreed to work to limit global temperature rise, to well below 2 degrees Celsius. Given the grave risks, the country will strive to a reduce temperature to 1.5 degrees Celsius. Public knowledge on climate change, the consequences and needed actions, is critical for achieving the targets of the *Paris Agreement*. Figures 12, 13 and 14 reflect the findings from the national KAP survey regarding climate change.

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<sup>49</sup> Inter-governmental Panel on Climate Change. 2014. *Climate Change 2014: Impacts, Adaptation and Vulnerability*. Geneva: IPCC.

<sup>50</sup> Everest-Phillip, M. 2014. *Small, So Simple? Complexity in Small Island Developing States*. UNDP Global Centre for Public Service Excellence

<sup>51</sup> Environmental Management Authority. 2013. *Assessment of the State of the Environment Report 2013: Climate Change Evidence, Impacts and Responses in Trinidad and Tobago*. Port-of-Spain: EMA

<sup>52</sup> Bueno, R., C. Herzfeld, E.A. Stanton and F. Ackerman. 2008. *The Caribbean and Climate Change: The Cost of Inaction*. Global Development and Environment Institute, Tufts University.

<sup>53</sup> Burke, L., S. Greenhalgh and D. Prager. 2008. *Coastal Capital – Economic Valuation of Coral Reefs in Tobago and St. Lucia*. Washington: World Resources Institute

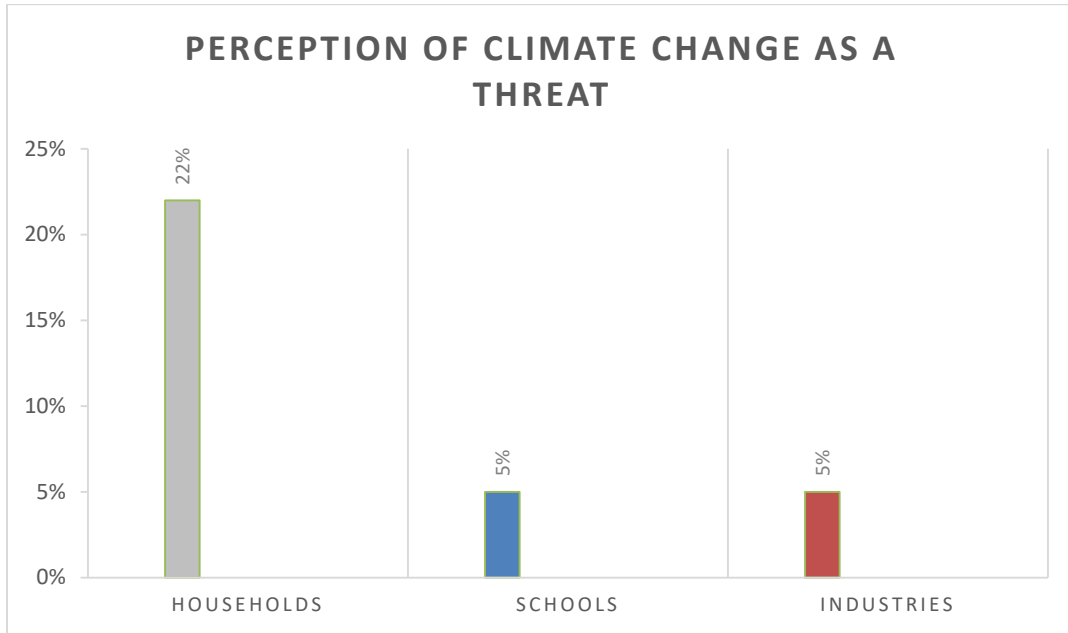
<sup>54</sup> Ibid.

<sup>55</sup> Inter-American Development Bank. 2014. *Understanding the Economics of Climate Change Adaptation in Trinidad and Tobago*. Port-of-Spain: IDB

<sup>56</sup> Theodore, K., Ali, H. and Simon T. 2008. *An Analysis of the Impact of Climate Variables on Selected Diseases in Trinidad and Tobago, with Economic Implications*. Presented at the 11<sup>th</sup> Conference on the Economy

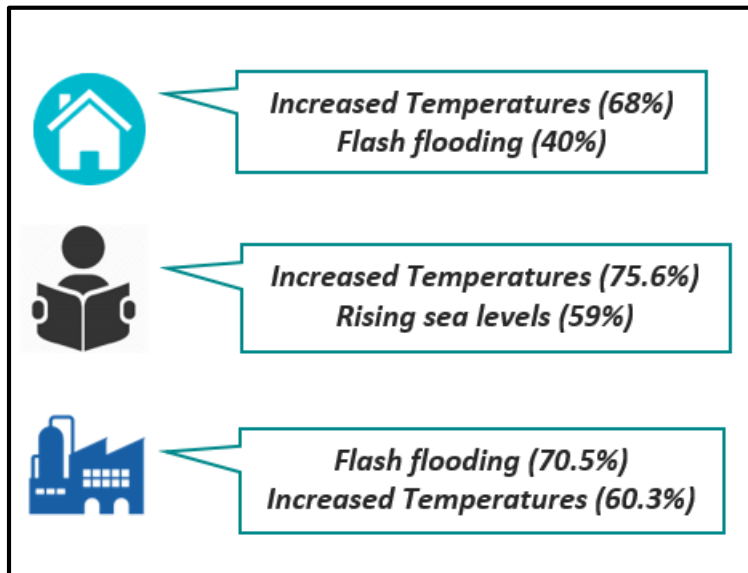
<sup>57</sup> Government of the Republic of Trinidad and Tobago. 2016. *Trinidad and Tobago's Fifth National Report to the United Nations Convention on Biological Diversity*. Port-of-Spain: Ministry of Planning

Figure 12 – The National KAP Survey Findings regarding the Identification of Climate Change as a Threat



Source: EMA 2016<sup>58</sup>

Figure 13 – The National KAP Survey Findings regarding the Effects of Climate Change

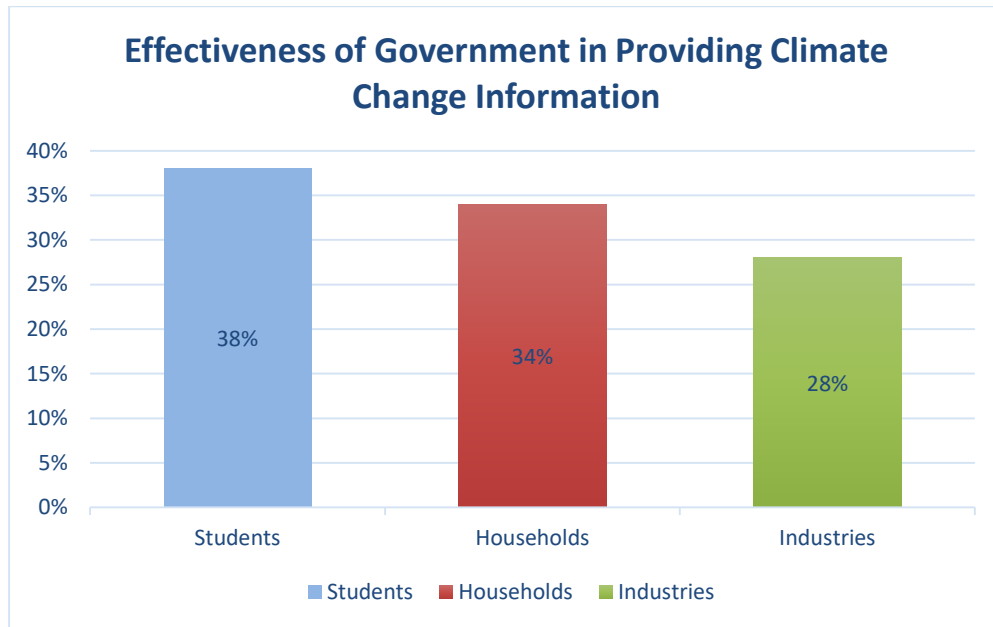


Source: EMA 2016<sup>59</sup>

<sup>58</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

<sup>59</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

Figure 14 – The National KAP Survey Findings regarding the Effectiveness of Government in Providing Climate Change Information



Source: EMA 2016<sup>60</sup>

A significant number of respondents in each group were able to correctly identify some effects of global climate change, namely, increased surface air temperatures, flash flooding and sea-level rise. However, recognition of the broader identification of climate change, as a national threat is paltry. The near negligible perception that climate change is not a threat, by industry is of concern. Moreso, given that it is a major focus of the government to reduce national emissions. Additionally, industry, is among the more vulnerable sectors, as most of its infrastructure exists along the coast<sup>61,62</sup>. Schools also showed a dismal 5% indication that climate change is a threat to Trinidad and Tobago. Respondents across all groups believed that the government is highly ineffective at translating climate change information.

Taken all together, the findings reveal a form of cognitive dissonance whereby people acknowledge the threat of climate change *globally*. However, they believe falsely that it is a non-issue *locally*. Public support or opposition to proposed climate policies and programmes is greatly influenced by their risk perceptions<sup>63</sup>. Consequently, if the targets under SDG 13 and the Paris Agreement are to be met, significant work is needed to re-shape public perception regarding climate change, in Trinidad and Tobago.

<sup>60</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

<sup>61</sup> Government of the Republic of Trinidad and Tobago. 2015. *Strategy for Reduction of Carbon Emissions in Trinidad and Tobago, 2015 – 2040*. Port-of-Spain: Ministry of Environment and Water Resources.

<sup>62</sup> Environmental Management Authority. 2017. *Is Sustainable Development Relevant to National Security? Enabling Proactive Environmental Management is Critical to National Security*. Port-of-Spain: EMA

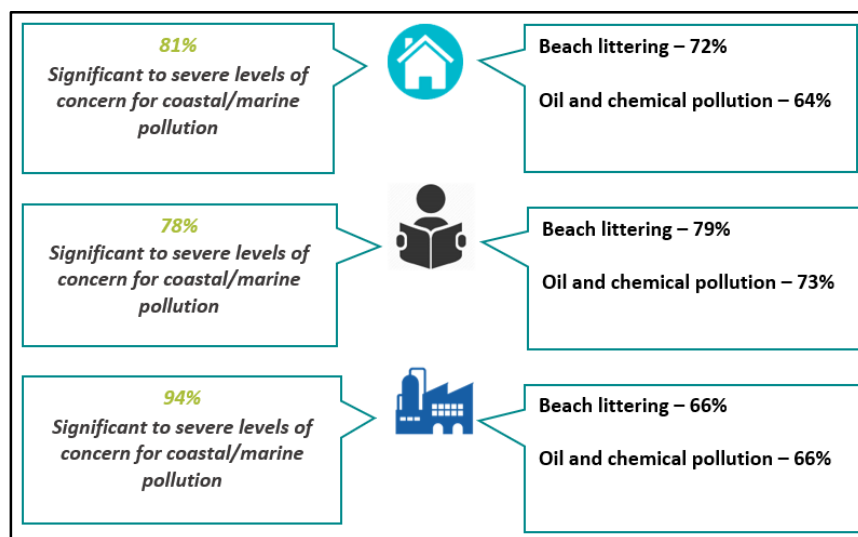
<sup>63</sup> Leiserowitz, Anthony. 2007. *Public Opinion, Perception, and Understanding of Global Climate Change*. Human Development Report 2007/2008

## 2.6 Marine Resource Conservation and Management



Oceans cover three quarters of the Earth’s surface and contain 97% of the earth’s water. Their temperature, chemistry and biodiversity underpin the biogeochemical cycles that make the earth habitable for humankind. The fisheries and biological resources of the oceans and coastal ecosystems are critical for economic growth and food security globally. In Trinidad and Tobago, the marine fisheries sector accounts for 15% of the agricultural Gross Domestic Product (GDP) which translates to 0.45% of the national GDP supporting approximately 40,000 persons directly and indirectly<sup>64</sup>. Moreover, for coastal communities that depend on fisheries and marine resources, the ocean serves as a core component to their livelihoods, traditions and cultural identity. The sustainability of the Earth’s oceans, including Trinidad and Tobago’s territorial seas, is encumbered by several threats including unsustainable fishing practices, degradation of coastal ecosystems and land-based pollution. SDG 14 aims to conserve and sustainably use the oceans, seas and marine resources. Figure 15 reflects the findings from the national KAP survey regarding the sustainable use of oceans and marine resources.

**Figure 15 – The National KAP Survey Findings regarding the Concern for Marine Pollution and the Major Sources of Marine Pollution**



Source: EMA 2016<sup>65</sup>

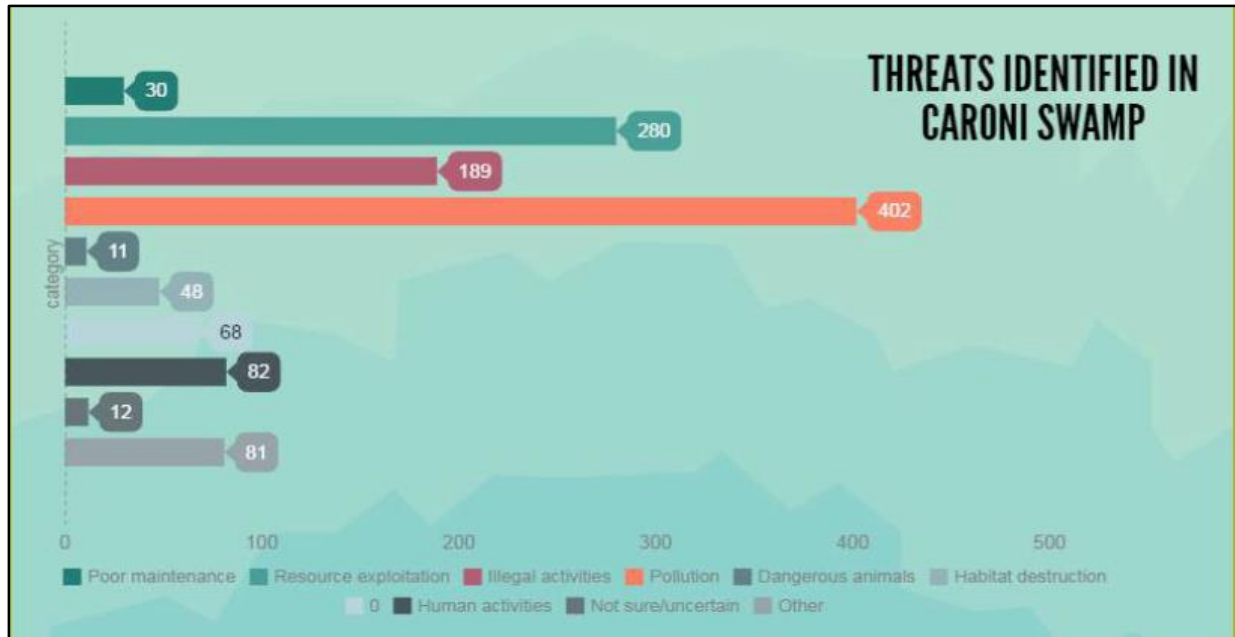
The results show high levels of concern among all respondent groups for coastal/marine pollution. Many identified littering, and chemical and oil spills as predominant causes of marine pollution. These findings align with previous KAP studies done in Trinidad and Tobago. Figure 16 and 17 illustrate the perceived

<sup>64</sup> Mohammed, Elizabeth. 2017. *Current Initiatives for Fisheries Management in Trinidad and Tobago*. Presented at the Enhancing Ocean Governance in the Caribbean Symposium at UTT Chaguaramas (June 29 – 30, 2017).

<sup>65</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

threats to coastal ecosystems gathered from the 2016 KAP survey under the FAO’s “Improving Forests and Protected Areas Management in Trinidad and Tobago” project<sup>66</sup>.

Figure 16 – The FAO’s KAP Survey Findings regarding Threats to the Caroni Swamp



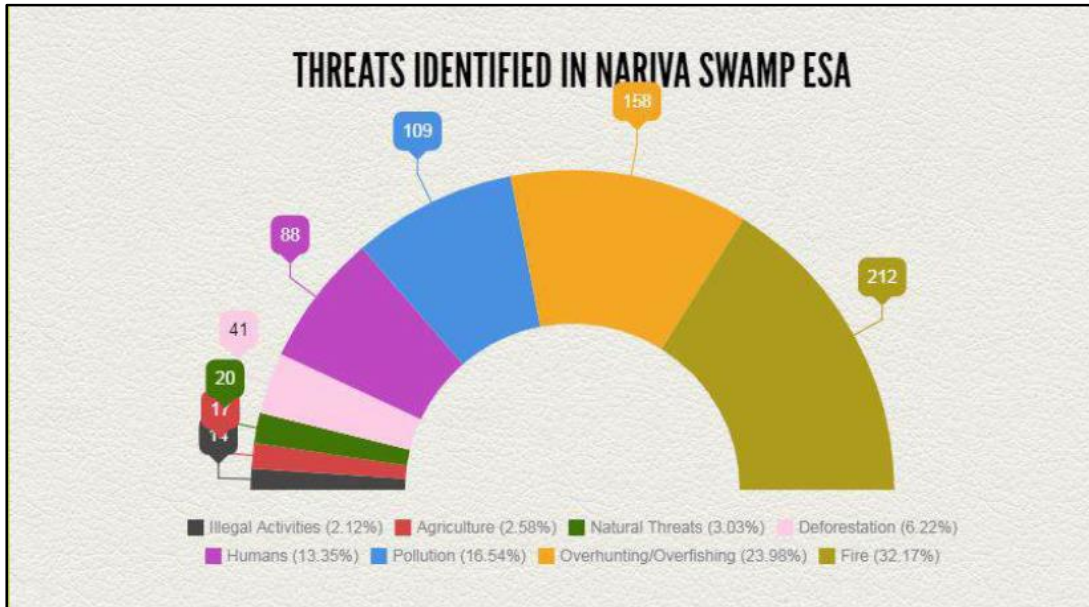
Source: FAO (2016)<sup>67</sup>

<sup>66</sup> United Nations Food and Agriculture Organisation. 2016. *Improving Forests and Protected Areas Management in Trinidad and Tobago, KAP Knowledge Attitudes and Practices Report.*

<sup>67</sup> United Nations Food and Agriculture Organisation. 2016. *Improving Forests and Protected Areas Management in Trinidad and Tobago, KAP Knowledge Attitudes and Practices Report.*



Figure 17 – The FAO’s KAP Survey Findings regarding Threats to the Nariva Swamp.



Source: FAO (2016)<sup>68</sup>

Potts *et al* (2010) conducted a survey of the fisheries sector to determine stakeholder needs. They found, *inter alia*, significant concerns among respondents with regard to the management of waste streams at fish landing sites, land-based effluents entering the ocean, and off-shore development activities related to the oil and gas sector<sup>69</sup>. Concerns among fisherfolk also included poor monitoring and surveillance of fishing vessels, unmitigated trawling, and establishment of off-shore platforms which attract fish beyond the permissible grasp of artisanal vessels<sup>70</sup>.

The issue of unregulated fishing is particularly problematic for SDG 14 which sets a target for protection of fish stocks from destructive fishing practices, overfishing, and unregulated fishing. In April 2016, Trinidad and Tobago was identified by the European Commission’s Directorate-General for Maritime Affairs and Fisheries (DG-MARE) as a non-cooperating state in the global fight against illegal, unreported and unregulated (IUU) fishing<sup>71</sup>. In response to potential sanctions, the GORTT established a Cabinet-

<sup>68</sup> United Nations Food and Agriculture Organisation. 2016. *Improving Forests and Protected Areas Management in Trinidad and Tobago, KAP Knowledge Attitudes and Practices Report.*

<sup>69</sup> Potts, Arthur, Judy Rocke, Ben Maharaj, Shanta Ramnath, and Lester Doodnath. 2010. *Evaluating the Needs of Fishing and Associated Livelihoods in the Coastal Fishing Sector of Trinidad and Tobago.* Proceedings of the 63<sup>rd</sup> Gulf and Caribbean Fisheries Institute at San Juan, Puerto Rico (November 1 – 5, 2010)

<sup>70</sup> Potts, Arthur, Judy Rocke, Ben Maharaj, Shanta Ramnath, and Lester Doodnath. 2010. *Evaluating the Needs of Fishing and Associated Livelihoods in the Coastal Fishing Sector of Trinidad and Tobago: Early Results.* Proceedings of the 61<sup>st</sup> Gulf and Caribbean Fisheries Institute at Gosier, Guadeloupe (November 10 – 14, 2008)

<sup>71</sup> European Commission. 2016. *Fighting illegal fishing: Warnings for Kiribati, Sierra Leone, and Trinidad and Tobago, while Sri Lanka is delisted.* Press Release. Brussels: EC.



appointed Committee in November 2016 to finalise and initiate implementation of an “*Action Plan to Address Illegal, Unreported and Unregulated Fishing in the Ports and Waters under the jurisdiction of Trinidad and Tobago*”. The Committee is expected to produce a final action plan by September 2017. The GORTT has also sought to incorporate fisheries specifically into the revised NEP<sup>72</sup>.

Additionally, the GORTT, through the EMA, continues to undertake projects, to mitigate land-based pollution into the marine environment. This includes but is not limited to: actively pursuing the designation of the Caroni Swamp, as an ESA, under the *Environmentally Sensitive Areas Rules (2001)*, the development of ambient water quality standards, and continuous enhancement of its process for the granting and the monitoring of Certificates of Environmental Clearance (CEC) and Water Pollution Permits (WPP).

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<sup>72</sup> Environmental Management Authority. 2016. *1<sup>st</sup> Draft Revised National Environmental Policy*.

## 2.7 Terrestrial Resource Conservation and Management



Meeting the world's increasing demand for food and other land-based products will require highly productive landscapes that are managed sustainably. Forests play a key role in the water cycle, soil conservation, carbon sequestration and habitat protection. The sustainable management of forests is therefore crucial for food security. Over the period 1990 – 2015, the global forest area declined by 129 million hectares (3.1%). The forest loss occurred mostly in tropical regions<sup>73</sup>. However, the global net rate of deforestation has slowed from an average 7.3 million hectares per year in the 1990s to 3.3 million hectares, per year, over the period 2010 – 2016. This was due to the expansion of forest into abandoned agricultural lands in former Soviet Union territories<sup>74</sup>.

The state of forests in Trinidad and Tobago mirrors global trends. There has been progressive loss of forest cover since the 1990s. However, the rate of deforestation has been declining since 2006<sup>75</sup>. Conversely, there has been a corresponding increase in agriculture and built development during that time<sup>76</sup>. As of 2010, Trinidad and Tobago's forest cover stood at 3,353 square kilometres – approximately 65% of its land area. Under the *Project for Ecosystem Services (ProEcoServ)* the economic value of the services provided by Trinidad and Tobago's terrestrial ecosystems were estimated as follows<sup>77</sup>:

- ✓ Carbon sequestration: US\$1,088 per hectare per year
- ✓ Water purification: US\$88 million per year
- ✓ Soil retention (Northern Range): US\$622 million per year
- ✓ Flood prevention: US\$5 million per year
- ✓ Coastal protection (mangroves, marshes): US\$49.6 million per year
- ✓ Coastal recreation/tourism-based activities: US\$390,428 per hectare per year
- ✓ Insect based pollination services: US\$10 million per year

SDG 15 recognises the inherent importance of forests, wetlands and mountains for a sustainable future. This goal aims to conserve and restore the use of terrestrial ecosystems. The targets of SDG 15 not only focus on terrestrial ecosystem conservation. Additional focus, is on the protection and wise use of terrestrial species associated with forests, as well as, soil conservation<sup>78</sup>. Figure 18 reflects the findings from the national KAP survey regarding sustainable management of forests and forest biodiversity.

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<sup>73</sup> United Nations Food and Agriculture Organisation. 2016. *State of the World's Forests: Forest and Agriculture – challenges and opportunities*. Rome: FAO

<sup>74</sup> Ibid.

<sup>75</sup> Environmental Management Authority. 2010. *Assessment of the State of the Environment Report 2010: Land Cover and Land Use Changes*. Port-of-Spain: EMA

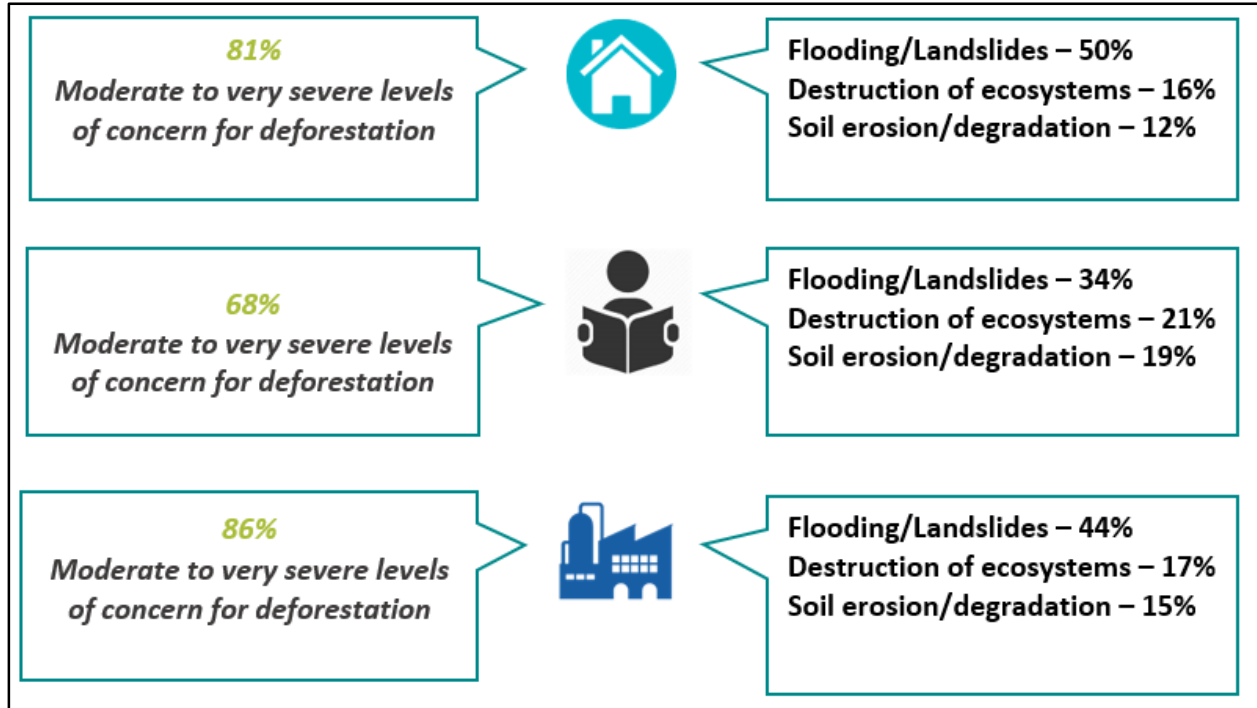
<sup>76</sup> Ibid.

<sup>77</sup> Government of the Republic of Trinidad and Tobago. 2016. *Trinidad and Tobago's Fifth National Report to the United Nations Convention on Biological Diversity*. Port-of-Spain: Ministry of Planning and Development.

<sup>78</sup> United Nations. 2017. *Sustainable Development Goal 15: Targets and indicators*. Sustainable Development Knowledge Platform. Accessed from: <https://sustainabledevelopment.un.org/sdg15>

Figures 19, 20, and 21 reflect public knowledge on endangered and protected terrestrial species from sub-national KAP surveys.

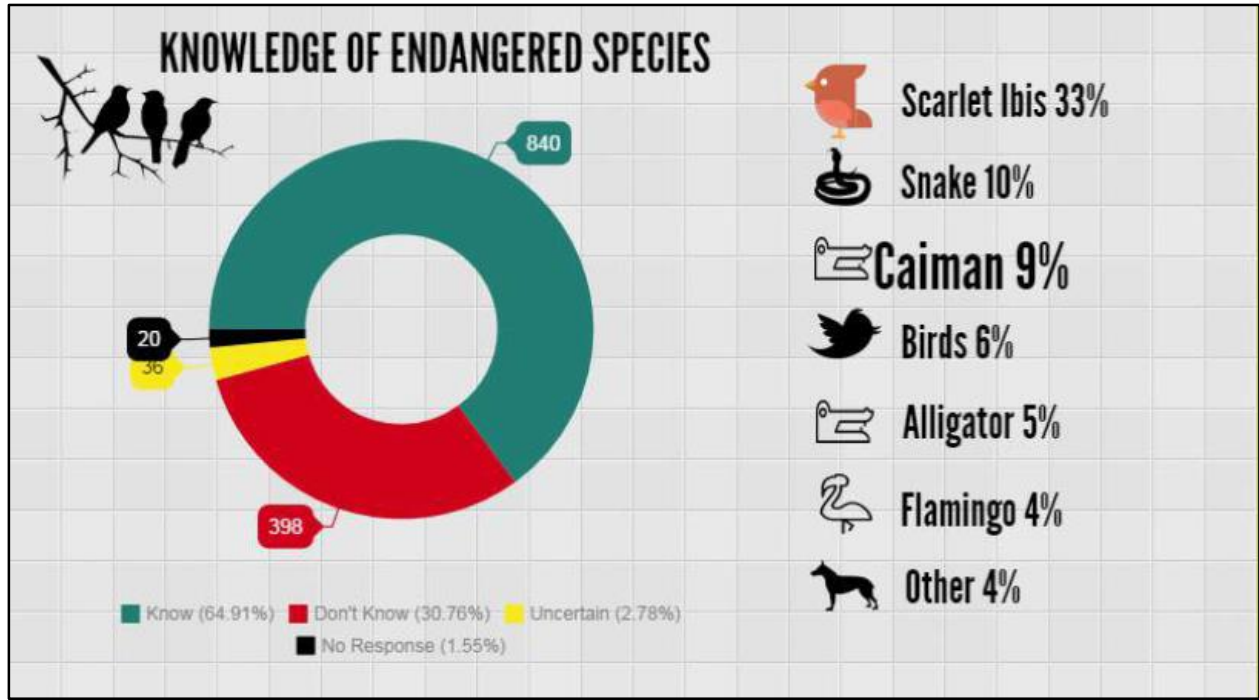
**Figure 18 – The National KAP Survey Findings regarding Concern for Deforestation and Consequences of Deforestation.**



Source: EMA 2016<sup>79</sup>

<sup>79</sup> Environmental Management Authority. 2016. *Draft KAP National Environmental Literacy/ Awareness Survey*. Port-of-Spain: Trinidad and Tobago

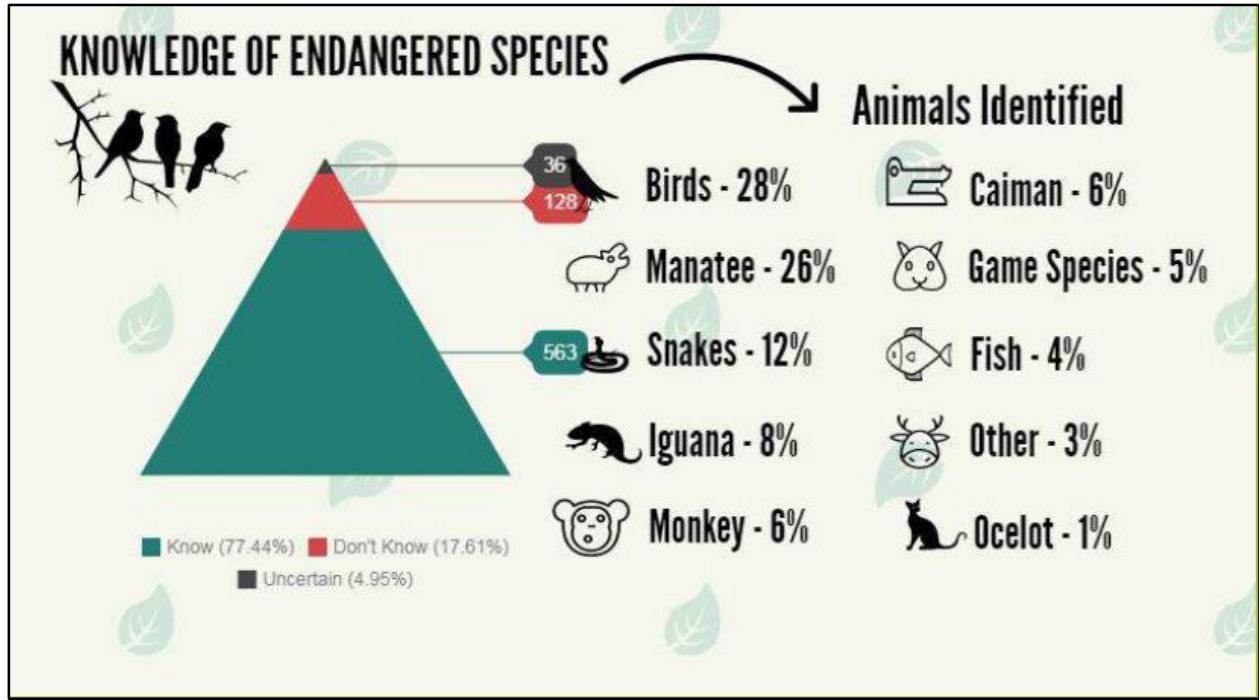
Figure 19 – The FAO’s KAP Survey Findings regarding the Identification of Endangered Species in the Caroni Swamp



Source: FAO (2016)<sup>80</sup>

<sup>80</sup> United Nations Food and Agriculture Organisation. 2016. *Improving Forests and Protected Areas Management in Trinidad and Tobago, KAP Knowledge Attitudes and Practices Report.*

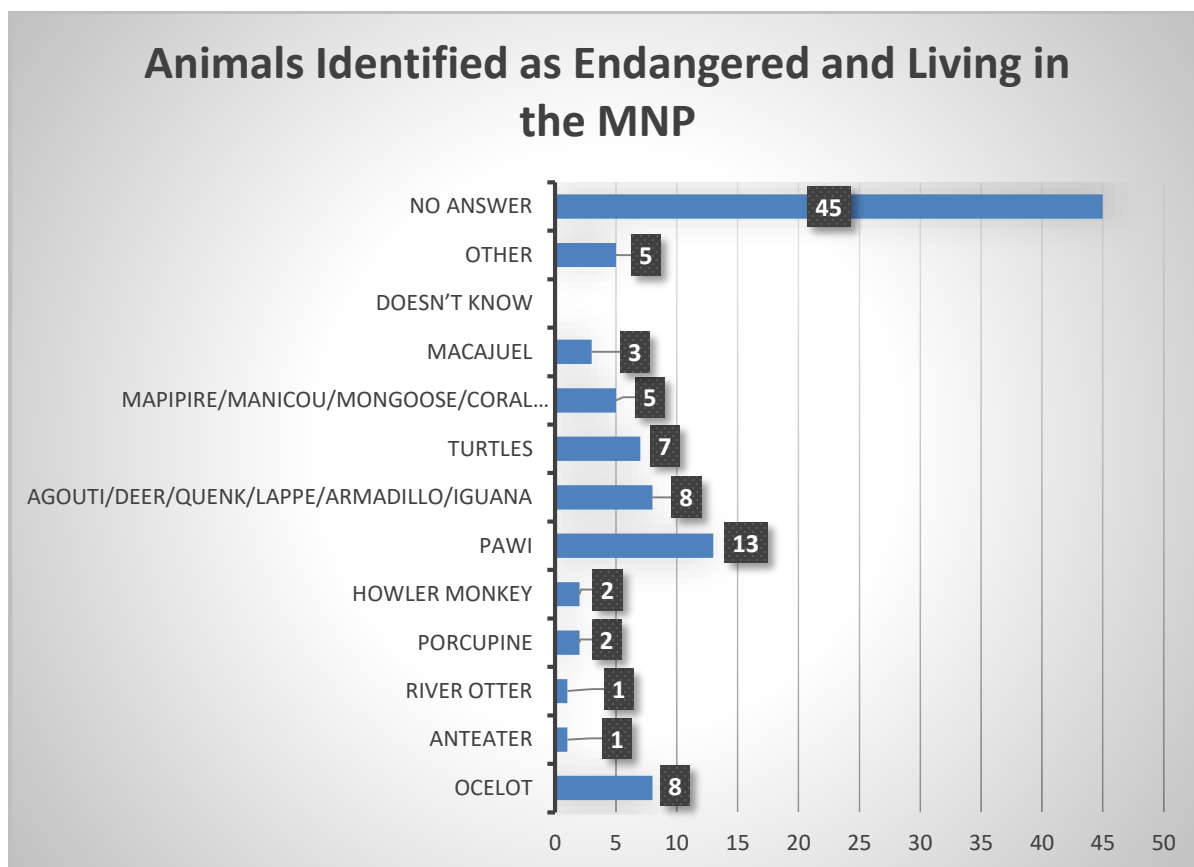
Figure 20 – The FAO’s KAP Survey Findings regarding the Identification of Endangered Species in the Nariva Swamp



Source: FAO (2016)<sup>81</sup>

<sup>81</sup> United Nations Food and Agriculture Organisation. 2016. *Improving Forests and Protected Areas Management in Trinidad and Tobago, KAP Knowledge Attitudes and Practices Report.*

Figure 21 – The MEEOP’s KAP Survey Findings regarding Endangered Species in the Matura Forest Reserve



Source: EMA 2016<sup>82</sup>

The results of the national KAP survey indicate that all respondent groups hold a *moderate to very severe level of concern* for deforestation, in Trinidad and Tobago. All groups were able to identify potential impacts to society due to the loss of forests. “Flooding/landslides” was the most described impact among all groups. The findings from the sub-national KAP surveys, on the other hand, revealed the cognitive over-estimation effect<sup>83</sup> observed at the national level. At all ecosystems surveyed, the majority of respondents indicated that they were knowledgeable of endangered species. However, when asked to name endangered species present in the ecosystem, a near-negligible number of respondents were able to do so correctly. A common conflation was to name ‘protected’ species as ‘endangered’. This finding reveals a major challenge in garnering support for the targets of SDG 15. The general population over-estimates their knowledge of issues and holds inaccurate views on the status of biodiversity. Moreover,

<sup>82</sup> Environmental Management Authority. 2016. *Matura ESA Education and Outreach Project –PSIP 2015/2016: Draft Project Final Report*. Port of Spain: EMA

<sup>83</sup> Sitzmann, Traci, Katherine Ely, Kenneth G. Brown and Kristina N. Bauer. 2010. “Self-assessment of knowledge: A cognitive learning of affective measure?” *Journal of Management Learning and Education* 9(2): 169 - 191

the tendency to incorrectly over-estimate environmental threats lends itself to ‘environmental issue numbness’ and fosters apathy among individuals.<sup>84</sup> This false perception harms the all conservation and environmental efforts. As such, education efforts must be built around understanding our local species and their population status.

The GORTT, through the Forestry Division of the Ministry of Agriculture, Land and Fisheries, is currently undertaking a plethora of programmes to halt and reverse the national deforestation rate. These include: the distribution of over 1 million forest seedlings to re-forest plantations and degraded sites, over the next year; to conduct visits to schools, communities and farms to educate on forestry issues and agroforestry; and to partner with 2,100 registered private farmers to plant forest trees on unoccupied lands<sup>85</sup>. The GORTT has partnered with the European Union to develop an environmental programme aimed at improving forest and land management over the period 2013 – 2018<sup>86</sup>. As of 2016, Trinidad and Tobago has become an Extractive Industry Transparency Initiative (EITI) compliant country. It has undertaken the process of rehabilitating 24% of abandoned stated owned mined areas for carbon sequestration and climate resilience<sup>87</sup>.

The EMA, under the *National Restoration Carbon Sequestration Wildlife and Livelihoods Project (NRCSWLP)*, has partnered with the Forestry Division, the University of the West Indies (UWI), and over 21 Community Based Organisations (CBOs) to reforest 500 hectares of the Nariva Swamp; to train communities on prevention of forest fires in the Nariva Swamp, and gather baseline data on the status of several game species, throughout Trinidad and Tobago<sup>88</sup>. As of the end of 2016, a total of 214 hectares have been reforested<sup>89</sup>. The EMA intends to extend its partnership with the Forestry Division by supporting additional public education and public involvement, in the replanting of trees, at schools and communities in the future. Through its project to revise the 2006 NEP the national strategies and policy approaches to address issues related to soil, land use, forestry and agriculture have been updated<sup>90</sup>.

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<sup>84</sup> Gifford, Robert. 2011. *Psychological barriers that limit climate change mitigation and adaptation*. *American Psychologist*, 66(4), 290-302

<sup>85</sup> Government of the Republic of Trinidad and Tobago. 2017. *Forestry in Trinidad and Tobago and Climate Change*. Accessed from: <http://www.news.gov.tt/content/forestry-trinidad-and-tobago-and-climate-change#.WhNliLpFxPY>

<sup>86</sup> European Union. 2013. *Environmental Programme for Trinidad and Tobago (2013 – 2018)*. Port-of-Spain: EU Delegation

<sup>87</sup> Ibid.

<sup>88</sup> Environmental Management Authority. 2013. *Assessment of the State of the Environment Report 2013: Climate Change Evidence, Impacts and Responses in Trinidad and Tobago*. Port-of-Spain: EMA

<sup>89</sup> Environmental Management Authority. 2017. *The Implementation of the 2006 National Environmental Policy: A summary of the EMA's Activities*. Port-of-Spain: EMA

<sup>90</sup> Environmental Management Authority. 2016. *1<sup>st</sup> Draft Revised National Environmental Policy*.

### 3. THE WAY FORWARD – Improving KAP and Achieving the SDGs

The GORTT is establishing a robust framework towards the achievement of the UN SDGs and regional policies, such as, the *Mauritius Strategy for the Further Implementation of the Programme of Action for Sustainable Development of Small Island Developing States (MSI)* and the *SAMOA Pathway*. The ‘twin pillars’ of policy for this are the draft Revised National Environmental Policy and the National Development Strategy (*Vision 2030*) which have sustainable development interwoven to their core. These documents set out broad policy actions to which the government of Trinidad and Tobago is committed. By 2018, it is envisaged that these documents would be formalised and that the GORTT would have in place, both an implementation plan, and a monitoring and evaluation plan, for both policies.

However, the success of these policies and plans, depends on the meaningful participation of people across all sectors, age groups and socio-economic brackets. The findings of the 2016 KAP survey establishes a baseline for the type of programmes to be built. Public attitudes towards the environment are seen to be very positive. Nevertheless, there is work to be done, to build public knowledge and enable environmental practices based on that knowledge. Moving forward, the utilisation of social media will be critical toward building public environmental knowledge. Work is needed to move towards holistic education on sustainable development that goes beyond the traditional environmental education. It is expected that the *Action Plan for the draft Revised NEP* and future work plans, for government agencies, such as, the EMA would take these lessons to heart. Likewise, there should be a greater effort from the public, private and non-governmental sectors to create enabling conditions, for environmentally-friendly behaviours. The EMA will play a pivotal role in the co-ordination of these endeavours.

The EMA hopes to make access to environmental information easier, as it heads into 2017. It is envisioned that ASOERs will be simplified to an indicator-based reporting format in harmony with the ASOERs of other regional jurisdictions.



**PART B: ACTIVITIES AND ACCOMPLISHMENTS OF THE EMA FOR  
2016**



# ACTIVITIES & 2016 ACCOMPLISHMENTS

[WWW.EMA.CO.TT](http://WWW.EMA.CO.TT)

## AIR



EMA's Air Pollution Control Rules (APR 2014) came into effect in 2015. In 2016 industry-wide stakeholder consultation led to progress in Source Emitter Registration (SER) and the issue of the first set of SER Certificates.

Green House Gas  
Inventory  
Database



**Ongoing**

SER  
Applications  
Received



**141**

SER Certificates  
issued



**11**

Ambient Air Quality  
Monitoring Stations



**2**

# BIODIVERSITY



The Authority's efforts in biodiversity conservation focused on the Matura National Park Environmentally Sensitive Area (ESA) with the creation of a 3-D Participatory Model, creation of a Communication and Outreach Stakeholder Working Group and conduct of a Knowledge, Attitudes and Practices (KAP) Survey.

## MATURA 3-D MODEL



The 3-D Model incorporated scientific, local and traditional knowledge of the Matura ESA and its environment.



## CERTIFICATES OF ENVIRONMENTAL CLEARANCE (CEC)

The CEC Rules (2001) continue to be an integral tool used by the Authority to regulate development activities, ensuring that the environmental impacts of proposed developments are properly planned for and mitigated.

CEC Applications Received



**312**

CECs Granted



**176**

Environmental Impact Assessments Required



**4**

CECs Refused



**17**



# EMERGENCY RESPONSE & INVESTIGATIONS



Complaints Investigated



Environmental Emergencies Responded to

**98**

Oil Spills / Chemical Releases

**14**

Animal Deaths including Fish Incidents in Gulf of Paria

**114**

Other

The Authority's Information Centre continues to provide the public with access to the 'National Register' and other environmental resource materials.

## INFORMATION CENTRE



Visitors



Email Requests



Pages of Information Accessed by Public



Documents & Files Accessed by Public



# LEGAL

The suite of Legislation related to Air, CECs, Noise & Water continues to be the backbone of Legal, Compliance & Enforcement at the Authority.

**58**

Consent Agreements  
93% increase from 2015

**33**

Freedom of Information Requests  
27% increase from 2015

**2**

Litigation

## NOTICE OF VIOLATIONS (NOV) SERVED

Noise-related  
34%

**123**

CEC-related  
66%

# NATIONAL ENVIRONMENTAL POLICY (NEP)

Review of the 2006 NEP commenced in 2016 with:

National Environmental Literacy Survey to inform the revision of the NEP

Produce 1st Draft of Revised NEP

Gap Analysis and Focus Group exercises with key stakeholders

## NOISE

The Noise Pollution Control Rules (NPCR 2001) and the issuing of Noise Variations continue to be the main regulatory tools used by the Authority in the fight against noise pollution.

499



Noise Variations Processed

491



Noise Variations Issued

7



Stakeholder Consultations

2

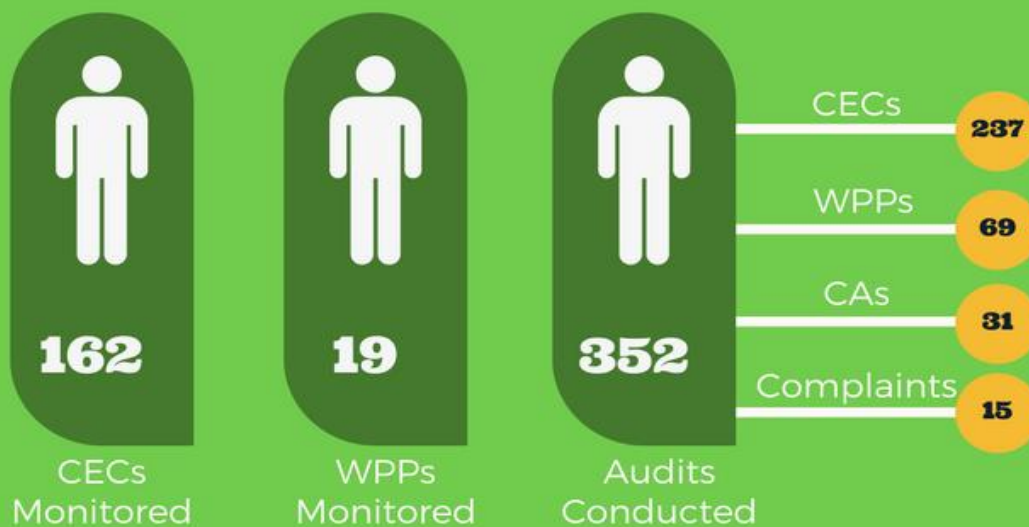


Stakeholder Workshops



# PERMIT MONITORING & COMPLAINTS

The Permit Monitoring & Complaints (PMC) function at the Authority was established to monitor Consent Agreements (CAs), CECs, Water Pollution Permits (WPPs), and conduct audits related to issued permits.



# PUBLIC EDUCATION

Through its Public Education Unit, the Authority conducts environmental education and awareness to everyone- from Pre-Schools to Universities, Community Groups & Companies.

45

Lectures

22

Exhibitions

13

Stakeholder Sessions

7

Workshops

# WASTE



## Waste Survey

Industry-wide survey to establish levels and types of wastes completed.



## Technical Review

Completed technical review of Draft Waste Management Rules.

## BASEL CONVENTION: PROCESSING OF NOTIFICATIONS



EXPORT

IMPORT

TRANSIT

3

**NIL**

**33**



# WATER

The Water Pollution Rules, 2001 (as amended) is the main legislative tool used for the regulation and monitoring of point-source discharges from industry.



Source Registration Renewal

**58**

Source Registration

**53**

Water Pollution Permits

**9**

Water Pollution Permits Variations

**7**

Water Pollution Permits Renewals

**6**



## AMBIENT WATER QUALITY STANDARDS

Collecting and analysing water and sediment samples for 36 physico-chemical and microbiological parameters, as well as, land use and land cover data

Phase 2 of study ongoing in Arima & Courland watersheds.

**36**



**PARAMETERS**

## Activities & Accomplishments 2016

[WWW.EMA.CO.TT](http://WWW.EMA.CO.TT)



**PART C: FINANCIAL STATEMENTS FOR THE YEAR 2016**

**Environmental Management Authority  
Environmental Trust Fund**

**Financial statements  
for the year ended 30 September 2016**  
(Expressed in Trinidad and Tobago dollars)

## **Environmental Management Authority Environmental Trust Fund**

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<b>Contents</b>	<b>Page</b>
Statement of management's responsibility	1
Independent auditor's report	2
Statement of financial position	3
Statement of profit or loss and other comprehensive income	4
Statement of movement in funds	5
Statement of cash flows	6
Notes to the financial statements	7 – 28

## Environmental Management Authority Environmental Trust Fund

### Statement of management's responsibilities

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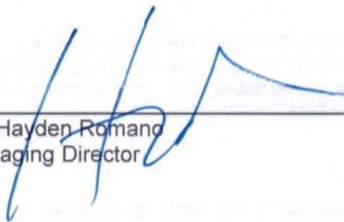
Management is responsible for the following:

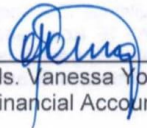
- Preparing and fairly presenting the accompanying financial statements of Environmental Management Authority Environmental Trust Fund ('the Authority') which comprise the statement of financial position as at 30 September, 2016, the statements of profit or loss and other comprehensive income and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information;
- Ensuring that the Authority keeps proper accounting records;
- Selecting appropriate accounting policies and applying them in a consistent manner;
- Implementing, monitoring and evaluating the system of internal control that assures security of the Authority's assets, detection/prevention of fraud, and the achievement of the Authority's operational efficiencies;
- Ensuring that the system of internal control operated effectively during the reporting period;
- Producing reliable financial reports that comply with laws and regulations; and
- Using reasonable and prudent judgement in the determination of estimates.

In preparing these audited financial statements, management utilised the International Financial Reporting Standards, as issued by the International Accounting Standards Board and adopted by the Institute of Chartered Accountants of Trinidad and Tobago. Where International Financial Reporting Standards presented alternative accounting treatments, management chose those considered most appropriate in the circumstances.

Nothing has come to the attention of management to indicate that the Authority will not remain a going concern for next twelve months from the reporting date; or up to the date; the accompanying financial statements have been authorised for issue, if later.

Management affirms that it has carried out its responsibilities as outlined above.

  
\_\_\_\_\_  
Mr. Hayden Romand  
Managing Director

  
\_\_\_\_\_  
Ms. Vanessa Young  
Financial Accountant

18 January, 2018

18 January, 2018



**Independent auditor's report to the Shareholder of  
Environmental Management Authority Environmental Trust Fund**

**Report on the financial statements**

We have audited the accompanying financial statements of Environmental Management Authority Environmental Trust Fund (the 'Authority'), which comprise the statement of financial position as of 30 September 2016, the statement of profit or loss and other comprehensive income, the statement of movement in funds and statement of cash flows for the year then ended and a summary of significant accounting policies and other explanatory information.

**Management's responsibility for the financial statements**

Management is responsible for the preparation and the fair presentation of these financial statements in accordance with International Financial Reporting Standards ('IFRS'), and for such internal control as Management determines necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

**Auditor's responsibility**

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal controls relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our qualified audit opinion.

**Basis for qualified opinion**

The Company adopted the revaluation model of International Accounting Standard 16 Property, Plant and Equipment (IAS 16) for its land and buildings. The Company has not revalued its land and buildings since 2010 and therefore has not complied with IAS 16. Revaluations should be carried out regularly, so that the carrying amount of an asset does not differ materially from its fair value at the balance sheet date. The impact of any revaluation adjustments to the financial statements are unknown.

**Opinion**

In our opinion, except for the possible effects of the matter described in the basis for Qualified Opinion paragraph, the financial statements present fairly, in all material respects, give a true and fair view of the financial position of the Environmental Management Authority Environmental Trust Fund as at 30 September, 2016, and of its financial performance and its cash flows for the year ended in accordance with IFRS.

Deloitte & Touche  
Port of Spain  
Trinidad

18 January 2018



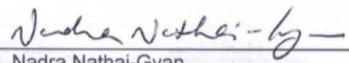
## Environmental Management Authority Environmental Trust Fund

### Statement of financial position (Expressed in Trinidad and Tobago dollars)

	Notes	Year ended 30 September	
		2016	2015
		\$	\$
<b>ASSETS</b>			
<b>Non-current assets</b>			
Property, plant and equipment	8	75,164,273	77,331,668
<b>Total non-current assets</b>		<u>75,164,273</u>	<u>77,331,668</u>
<b>Current assets</b>			
Cash in hand and at bank	5	129,301,044	135,138,233
Short-term investments	6	3,131,320	3,100,021
Accounts receivable and prepayments	7	3,178,019	3,333,996
<b>Total current assets</b>		<u>135,610,383</u>	<u>141,572,250</u>
<b>Total assets</b>		<u><b>210,774,656</b></u>	<u><b>218,903,918</b></u>
<b>LIABILITIES AND FUNDS</b>			
<b>Current liabilities</b>			
Accounts payable and accruals	9	128,068,800	134,893,550
<b>Total liabilities</b>		<u>128,068,800</u>	<u>134,893,550</u>
<b>Funds</b>			
Government of Trinidad and Tobago (GORTT)		60,853,882	62,158,394
United Nations Development Programme (UNDP)		199,131	199,131
International Bank for Reconstruction and Development (IBRD)		2,806,990	2,806,990
Other		863,709	863,709
Revaluation surplus		17,982,144	17,982,144
<b>Total funds</b>		<u>82,705,856</u>	<u>84,010,368</u>
<b>Total liabilities and funds</b>		<u><b>210,774,656</b></u>	<u><b>218,903,918</b></u>

The notes on pages 7 to 28 form an integral part of these financial statements.

On 18 January 2018, the Board of Directors of Environmental Management Authority Environmental Trust Fund authorized these financial statements for issue.

  
Ms. Nadra Nathai-Gyan  
Chairman/Trustee

  
Mr. Vyash Nandlal  
Trustee/Director

## Environmental Management Authority Environmental Trust Fund

### Statement of profit or loss and other comprehensive income

(Expressed in Trinidad and Tobago dollars)

	Notes	Year ended 30 September	
		2016	2015
<b>Fund income</b>		\$	\$
Government fund		47,762,804	45,151,763
Beverage container project		-	217,527
NSRCSL project fund		5,228,945	5,614,491
UNEP		25,105	220,783
Activities income		2,837,691	3,281,006
Highway police surveillance bays fund		-	163,990
Recycling solid waste collection project		4,070,783	2,948,495
Oil spill		-	3,133,852
Interest income		45,185	42,540
Miscellaneous Income		96,820	-
<b>Total income</b>		<b>60,067,333</b>	<b>60,774,447</b>
Project expenses	13	(10,020,139)	(12,141,770)
<b>Income after project expenditure carried forward</b>		<b>50,047,194</b>	<b>48,632,677</b>
<b>Other expenses</b>			
Advertising		174,126	381,171
Audit fees		120,000	90,600
Conference costs		2,000	235,373
Contract services		317,224	548,781
Depreciation		3,391,591	3,297,681
Directors' fees and expenses		260,116	712,584
Interest and bank charges		37,052	27,1545
Insurance		512,215	564,973
Loss on foreign exchange		22,694	15,995
Motor vehicle expenses		343,499	303,894
Maintenance contracts		-	-
Management fees		81,000	71,252
Office and general expenses		372,936	504,241
Permitting and compliance costs		528,687	280,226
Professional fees		3,115,097	1,836,859
Reference and research costs		263,367	291,588
Rent		3,781,250	3,828,750
Repairs and maintenance		654,187	1,047,201
Salaries and benefits		33,865,413	30,803,396
Security		983,389	1,150,380
Selection and recruitment		51,012	92,044
Severance		-	-
Supplies		994,878	1,016,310
Training		152,399	151,058
Travel		7,377	122,944
Utilities		1,320,197	1,474,701
<b>Total operating expenditure</b>		<b>51,351,706</b>	<b>48,849,547</b>
<b>Total (loss) for the year</b>		<b>(1,304,512)</b>	<b>(216,870)</b>
<b>Other comprehensive income</b>		<b>-</b>	<b>-</b>
<b>Total comprehensive loss</b>		<b>(1,304,512)</b>	<b>(216,870)</b>

The notes on pages 7 to 28 form an integral part of these financial statements.



**Environmental Management Authority Environmental Trust Fund**

**Statement of movement in funds**

(Expressed in Trinidad and Tobago dollars)

	<b>GORTT Fund \$</b>	<b>UNDP Fund \$</b>	<b>IBRD Fund \$</b>	<b>Other Fund \$</b>	<b>Revaluation Surplus \$</b>	<b>Total \$</b>
<b>Year ended 30 September 2016</b>						
Balance as at 1 October 2015	62,158,394	199,131	2,806,990	863,709	17,982,144	84,010,368
Total loss for the year	(1,304,512)	-	-	-	-	(1,304,512)
<b>Balance at 30 September 2016</b>	<b>60,853,882</b>	<b>199,131</b>	<b>2,806,990</b>	<b>863,709</b>	<b>17,982,144</b>	<b>82,705,856</b>
<b>Year ended 30 September 2015</b>						
Balance as at 1 October 2014	62,375,264	199,131	2,806,990	863,709	17,982,144	84,227,238
Total loss for the year	(216,870)	-	-	-	-	(216,870)
<b>Balance at 30 September 2015</b>	<b>62,158,394</b>	<b>199,131</b>	<b>2,806,990</b>	<b>863,709</b>	<b>17,982,144</b>	<b>84,010,368</b>

The notes on pages 7 to 28 form an integral part of these financial statements.

## Environmental Management Authority Environmental Trust Fund

### Statement of cash flows

(Expressed in Trinidad and Tobago dollars)

	Notes	Year ended 30 September 2016 \$	2015 \$
<b>Cash flows from operating activities</b>			
Loss for year		(1,304,512)	(216,455)
Adjustments for non-cash items:			
Depreciation	8	3,977,614	3,624,256
		2,673,102	3,407,801
<b>Movement in working capital</b>			
Net change in accounts receivable and prepayments		155,977	3,916,110
Net change in accounts payable and accruals		(6,824,750)	87,139,019
Net change in deferred income		-	(218,725)
<b>Cash (used in) / generated from operating activities</b>		<b>(3,995,671)</b>	<b>94,244,205</b>
<b>Cash flows from investing activities</b>			
Purchase of property, plant and equipment	8	(1,810,219)	(6,763,379)
<b>Cash used in investing activities</b>		<b>(1,810,219)</b>	<b>(6,763,379)</b>
<b>Net change in cash and cash equivalents</b>		<b>(5,805,890)</b>	<b>87,480,826</b>
Cash and cash equivalents at the beginning of year		138,238,254	50,757,428
<b>Cash and cash equivalents at the year ended</b>		<b>132,432,364</b>	<b>138,238,254</b>
<b>Represented by:</b>			
Cash in hand and at bank		129,301,044	135,138,233
Short-term Investments		3,131,320	3,100,021
		<b>132,432,364</b>	<b>138,238,254</b>

The notes on pages 7 to 28 form an integral part of these financial statements.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 1. Registration and activities

The Environmental Management Authority (the Authority) is a Statutory Authority established when Parliament assented to the Environmental Management Act, 1995 on 7 March 1995. The Authority was established to develop and implement instructional arrangements for the regulation and management of the environment in the Republic of Trinidad and Tobago. Its principal place of operation is at #8 Elizabeth Street, St. Clair.

The Environmental Trust Fund was established by the Environmental Management Act, 1995 to fund the operations of the Authority and is administered by five members of the Board of Directors, designated by the President to act as Trustees.

The Environmental Management Act, 1995 was repealed on 8 March 2000 and replaced by the Environmental Management Act, 2000. The new Act changed the financial year end of the Authority to 30 September.

During the twelve month period ended 30 September 2016, the Authority continued its work in enforcing the Noise Pollution Control Rules, 2001; the Noise Pollution Control (Fees) Regulation 2001; Certificate of Environmental Clearance Rules; the Certificate of Environmental Clearance (Designated Activities) Amendment Order, 2007 & 2008; Certificate of Environmental Clearance (Designated Activities) Order, 2001; the Certificate of Environmental Clearance (Fees and Charges) Regulations, 2001; the Environmental Commission Rules of Practices and Procedure; Water Pollution (Amendment) Rules, 2006; Water Pollution Rules, 2001; Water Pollution (Amendment) Fees; Water Pollution (Fees) Regulations, 2001; the Environmentally Sensitive Areas Rules, 2001; and Environmentally Sensitive Species Rules, 2001; Air Pollution Rules, 2014 and Air Pollution (Fees) Regulations, 2014.

The draft Waste Management Rules, 2008 is still being developed. The Authority has completed its Strategic Plan for the period 2017-2021

#### 2. Summary of significant accounting policies

##### a) Basis of preparation

These financial statements are prepared in accordance with International Financial Reporting Standards (IFRS), and are stated in Trinidad and Tobago dollars, rounded to the nearest dollar. The financial statements are prepared under the historical cost convention as modified by the revaluation of land and buildings.

##### b) Cash and cash equivalents

Cash and cash equivalents include cash in hand, deposits held at call with banks and other short-term highly liquid investments with original maturities of three months or less at the time of purchase, which are subject to an insignificant risk of changes in value.

##### c) Property, plant and equipment

Land and building comprise offices occupied by the Authority and include land purchased for construction of a new office in Trincity. A valuation was completed on the building at #8 Elizabeth Street, St. Clair by independent valuator G. A. Farrell & Associate Limited. The effective date of the valuation was 4 January 2010 and the value of TT\$26 million was determined after consideration and use of one or more of the following approaches: the Direct Sale Comparison Approach; the Income Approach; and the Cost Approach. Land and building are stated at historical cost/valuation, less depreciation in the case of building. Historical cost include expenditure that is directly attributable to the acquisition of the items.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 2. Summary of significant accounting policies (continued)

##### c) Property, plant and equipment (continued)

Subsequent costs are included in the asset's carrying amount recognised as a separate asset, as appropriate, only when it is probable that future economic benefit associated with the item will flow to the Authority and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the statement of profit or loss during the financial period in which they are incurred.

Depreciation is calculated on the reducing balance method to write off the cost of assets to their residual values over their estimated useful life as follows:

Leasehold improvement	-	10% per annum
Building	-	2% - 20% per annum
Furniture and fitting	-	10% per annum
Office equipment	-	20% per annum
Motor vehicles	-	25% per annum
Specialized equipment	-	20% per annum
Library/information	-	10% per annum
Computer equipment	-	20% per annum

Land is not depreciated as it deemed to have an indefinite life.

Where the carrying amount of an asset is greater than its estimated recoverable amount, it is written down immediately to its recoverable amount.

Gains and losses on disposal of property, plants and equipment are determined by reference to their carrying amounts and are included in the statement of profit or loss and other comprehensive income.

##### d) Government grants

###### Income and funding

Funding was provided to the Environmental Management Authority Environmental Trust Fund as follows:

- (i) Proceeds of a loan of US\$6.25 million from International Bank for Reconstruction and Development also known as the World Bank (IBRD) to the Government of the Republic of Trinidad and Tobago (GORTT). This loan facility closed on 31 December 2000.
- (ii) Ongoing funding from GORTT to cover recurrent and development programme expenditure. Government Grants are accounted for using the income approach. Under this approach, the grant is recognised in profit or loss on a systematic basis over the period in which the entity recognises as expenses, the related costs for which the grant is intended to compensate.
- (iii) Grant funds are provided by the United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP) to fund specific activities that are set out in the relevant multilateral agreements. The main projects administered by the Environmental Management Authority Environmental Trust Fund during the financial year ended 30 September 2012 are the Second National Communication to the Convention on Climate Change; Phase V of the Institutional Strengthening Programme for the Phase-out of Ozone Depleting Substances; and phase 11 of the Terminal Management Plan for the Phase-out of CFS's.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 2. Summary of significant accounting policies (continued)

##### d) Government grants (continued)

###### Income and funding (continued)

- (iv) A Memorandum of Agreement was signed on 20 April 2010 with the Minister of Planning, Housing and the Environment acting on behalf of the GORTT to receive funding from the Green Fund to continue with the Nariva Swamp Restoration, Carbon Sequestration and Livelihoods Project (NSRCSL Project). The project duration is from 20 April 2011 to 31 March 2017. Upon the signing of the agreement, the first tranche of TT\$8.471 million was received. The total amount to be disbursed over the period is TT\$68.545 million. Future disbursement will be made based on approved progress report.
- (v) A Memorandum of Agreement (MOA) was signed on 19<sup>th</sup> June 2015 with the Minister of the Environment and Water Resources acting on behalf of the GORTT to receive funding from the Green Fund to execute the Recyclable Solid Waste Collection Project (RSWCP). The project's initial duration was nine months, with an end date of 29<sup>th</sup> March 2016. The project has since requested approval for a MOA amendment to June 2020 and is awaiting approval of the revised project plan and budget. Upon the signing of the agreement, the first tranche of TT\$80 million was received by the EMA. The total amount to be disbursed over the period is TT\$107,754,431.00. Future disbursement will be made based on approved progress report.

##### e) Foreign currency transactions

The presentation and functional currency of the Company's financial statements is Trinidad and Tobago Dollars (TT\$). Monetary assets and liabilities denominated in foreign currencies are expressed in Trinidad and Tobago dollars at rates of exchange ruling at the reporting date. All revenue and expenditure transactions denominated in foreign currencies are translated at the rates of exchange ruling at the date of the transaction and the resulting profits and losses on exchange from trading activities are recorded in the statement of profit or loss and other comprehensive income.

##### f) Trade and other payables

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Trade payables are classified as current liabilities if payment is due within one year or less (or in the normal operating cycle of the business if longer). If not, they are presented as non-current liabilities.

Trade payables and other payables are recognised at fair value.

##### g) Taxation

The authority is exempt from taxation under the Environmental Management Act of 2000, Part V11 Section 76. According to Section 76:-

*'The Fund and the Authority shall be exempted from stamp duty, corporation tax, customs duties, value added taxes, motor vehicle taxes, fees, charges, assessments, levies and imposts on any income or profit or assets which are acquired for use by the Fund or the Authority.'*

##### h) Comparative information

Where necessary, comparative amounts have been adjusted to conform to changes in presentation in the current year.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 3. Application of new and revised International Financial Reporting Standards ('IFRS')

##### 3.1 New IFRS and amendments to IFRS that are mandatorily effective for the current year

In the current year, there were no amendments to IFRS and new Interpretations issued by the International Accounting Standards Board ('IASB') that are mandatorily effective for an accounting period that begins on or after 1 October 2015.

##### 3.2 New and revised IFRS in issue but not yet effective

The Authority has not applied the following new and revised IFRS that have been issued but are not yet effective:

- IFRS 9 Financial instruments<sup>3</sup>
- IFRS 14 Regulatory Deferral Accounts<sup>1</sup>
- IFRS 15 Revenue from Contracts with Customers<sup>3</sup>
- IFRS 16 Leases<sup>4</sup>
- Amendments to IFRS 11 Accounting for Acquisitions of Interest in Joint Operations<sup>1</sup>
- Amendments to IAS 16 and IAS 38 Clarification of Acceptable Methods of Depreciation and Amortization<sup>1</sup>
- Amendments to IFRS Annual Improvements to IFRS 2012-2014<sup>1</sup>
- Amendments to IAS 1 Disclosure Initiative<sup>1</sup>
- Amendments to IAS 27 Equity Method in Separate Financial Statements<sup>1</sup>
- Amendments to IAS 12 Recognition of Deferred Tax Assets Unrealised Losses<sup>2</sup>
- Amendments to IAS 7 Disclosure initiative<sup>2</sup>
- Amendments to IFRS 2 Classification and Measurement of Share-based

<sup>1</sup> Effective for annual periods beginning on or after 1 January, 2016, with earlier application permitted.

<sup>2</sup> Effective for annual periods beginning on or after 1 January, 2017, with earlier application permitted.

<sup>3</sup> Effective for annual periods beginning on or after 1 January, 2018, with earlier application permitted.

<sup>4</sup> Effective for annual periods beginning on or after 1 January, 2019, with earlier application permitted.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 3. Application of new and revised International Financial Reporting Standards ('IFRS') (continued)

##### 3.2 New and revised IFRS in issue but not yet effective (continued)

- **IFRS 9 *Financial Instruments***

IFRS 9 issued in November 2009 introduced new requirements for the classification and measurement of financial assets. IFRS 9 was subsequently amended in October 2010 to include requirements for the classification and measurement of financial liabilities and for derecognition, and in November 2013 to include the new requirements for general hedge accounting. Another revised version of this IFRS was issued in July 2014 mainly to include a) impairment requirements for financial assets and b) limited amendments to the classification and measurement requirements by introducing 'fair value through other comprehensive income' (FVTOCI) measurement category for certain simple debt instruments.

Key requirements of IFRS 9:

- all recognised financial assets that are within the scope of IAS 39 *Financial Instruments: Recognition and Measurement* are required to be subsequently measured at amortised cost or fair value. Specifically, debt investments that are held within a business model whose objective is to collect the contractual cash flows, and that have contractual cash flows that are solely payments of principal and interest on the principal outstanding are generally measured at amortised cost at the end of subsequent accounting periods. Debt instruments that are held within a business model whose objective is achieved both by collecting contractual cash flows and selling financial assets, and that have contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding, are measured at FVTOCI. All other debt investments and equity investments are measured at their fair value at the end of the subsequent accounting periods. In addition, under IFRS 9, entities may make an irrevocable election to present subsequent changes in the fair value of an equity investment (that is not held for trading) in other comprehensive income, with only dividend income generally recognised in profit or loss.
- with regard to the measurement of financial liabilities designated as at fair value through profit or loss, IFRS 9 requires that the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability is presented in other comprehensive income, unless the recognition of the effects of changes in the liability's credit risk in other comprehensive income would create or enlarge an accounting mismatch in profit or loss. Changes in fair value attributable to a financial liability's credit risk are not subsequently reclassified to profit or loss. Under IAS 39, the entire amount of the change in the fair value of the financial liability designated as fair value through profit or loss is presented in profit or loss.
- in relation to the impairment of financial assets, IFRS 9 requires an expected loss model, as opposed to an incurred loss model under IAS 39. The expected loss model requires an entity to account for expected credit losses and changes in those expected credit losses at each reporting date to reflect changes in credit risk since initial recognition. In other words, it is no longer necessary for a credit event to have occurred before credit losses are recognised.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 3. Application of new and revised International Financial Reporting Standards ('IFRS') (continued)

##### 3.2 New and revised IFRS in issue but not yet effective (continued)

- **IFRS 9 *Financial Instruments* (continued)**

- the new general hedge accounting requirements retain three types of hedge accounting mechanisms currently available in IAS 39. Under IFRS 9, greater flexibility has been introduced to the types of transactions eligible for hedge accounting, specifically broadening the types of instruments that qualify for hedging instruments and the types of risk components of non-financial items that are eligible for hedge accounting. In addition, the effectiveness test has been overhauled and replaced with the principle of an 'economic relationship'. Retrospective assessment of hedge effectiveness is also no longer required. Enhanced disclosure requirements about an entity's risk management activities have also been introduced.

The directors of the Authority anticipate that the application of IFRS 9 in the future may have a material impact on the amounts reported in respect of the Authority's financial assets and liabilities. However, it is not practicable to provide a reasonable estimate of the effect of IFRS 9 until the Authority undertakes a detailed review.

- **IFRS 14 *Regulatory Deferral Accounts***

IFRS 14 specifies the accounting for regulatory deferral account balances that arise from rate-regulated activities. The Standard is available only to first-time adopters of IFRSs who recognised regulatory deferral account balances under their previous GAAP. IFRS 14 permits eligible first-time adopters of IFRSs to continue their previous GAAP rate-regulated accounting policies, with limited changes, and requires separate presentation of regulatory deferral account balances in the statement of financial position and statement of profit or loss and other comprehensive income. Disclosures are also required to identify the nature of, and risk associated with, the form of rate regulation that has given rise to the recognition of regulatory deferral account balances.

The directors of the Authority do not anticipate that the application of these amendments will have a significant impact on the Authority's financial statements.

- **IFRS 15 *Revenue from Contracts with Customers***

In May 2014, IFRS 15 was issued which establishes a single comprehensive model for entities to use in accounting for revenue from contracts with customers. IFRS 15 will supersede the current revenue recognition guidance including IAS 18 *Revenue*, IAS 11 *Construction Contracts* and the related Interpretations when it becomes effective.



## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 3. Application of new and revised International Financial Reporting Standards ('IFRS') (continued)

##### 3.2 New and revised IFRS in issue but not yet effective (continued)

- **IFRS 15 Revenue from Contracts with Customers (continued)**

The core principle of IFRS 15 is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Specifically, the Standard introduces a 5-step approach to revenue recognition:

- Step 1: Identify the contract(s) with a customer
- Step 2: Identify the performance obligations in the contract
- Step 3: Determine the transaction price
- Step 4: Allocate the transaction price to the performance obligations in the contract
- Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation

Under IFRS 15, an entity recognizes revenue when (or as) a performance obligation is satisfied, i.e. when 'control' of the goods or services underlying the particular performance obligation is transferred to the customer. Far more prescriptive guidance has been added in IFRS 15 to deal with specific scenarios. Furthermore, extensive disclosures are required by IFRS 15.

On 20 June 2016, the IASB issued amendments in *Clarifications to IFRS 15 'Revenue from Contracts with Customers'* which addressed three of the five topics identified (identifying performance obligations, principal versus agent considerations, and licensing) and provide some transition relief for modified contracts and completed contracts. The IASB concluded that it was not necessary to amend IFRS 15 with respect to collectability or measuring non-cash consideration. In all its decisions, the IASB considered the need to balance helping entities with implementing IFRS 15 and not disrupting the implementation process.

The directors of the Authority anticipate that the application of IFRS 15 in the future may have a material impact on the amounts reported and disclosures made in the Authority's financial statements. However, it is not practicable to provide a reasonable estimate of the effect of IFRS 15 until the Authority performs a detailed review.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 3. Application of new and revised International Financial Reporting Standards ('IFRS') (continued)

##### 3.2 New and revised IFRS in issue but not yet effective (continued)

- **IFRS 16 Leases**

IFRS 16 specifies how an IFRS reporter will recognise, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognise assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Lessors continue to classify leases as operating or finance, with IFRS 16's approach to lessor accounting substantially unchanged from its predecessor, IAS 17.

The directors of the Authority anticipate that the application of IFRS 16 in the future may have a material impact on the amounts reported and disclosures made in the Authority's financial statements. However, it is not practicable to provide a reasonable estimate of the effect of IFRS 16 until the Authority performs a detailed review.

- **Classification and Measurement of Share-based Payment Transactions  
(Amendments to IFRS 2)**

Amendments to IFRS 2 Share-based Payment clarify the standard in relation to the accounting for cash-settled share-based payment transactions that include a performance condition, the classification of share-based payment transactions with net settlement features, and the accounting for modifications of share-based payment transactions from cash-settled to equity-settled.

The directors of the Authority do not anticipate that the application of these amendments will have a significant impact on the Authority's financial statements.

- **Amendments to IFRS 11 Accounting for Acquisitions of Interest in Joint Operations**

The amendments to IFRS 11 provide guidance on how to account for the acquisition of a joint operation that constitutes a business as defined in IFRS 3 *Business Combinations*. Specifically, the amendments state that the relevant principles on accounting for business combinations in IFRS 3 and other standards (e.g. IAS 36 *Impairment of Assets* regarding impairment testing of a cash-generating unit to which goodwill on acquisition of a joint operation has been allocated) should be applied. The same requirements should be applied to the formation of a joint operation if and only if an existing business is contributed to the joint operation by one of the parties that participate in the joint operation.

A joint operator is also required to disclose the relevant information required by IFRS 3 and other standards for business combinations.

The amendments to IFRS 11 apply prospectively for annual periods beginning on or after 1 January 2016. The directors of the Authority do not anticipate that the application of these amendments to IFRS 11 will have a material impact on the Authority's financial statements.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 3. Application of new and revised International Financial Reporting Standards ('IFRS') (continued)

##### 3.2 New and revised IFRS in issue but not yet effective (continued)

- **Amendments to IAS 16 and IAS 38 *Clarification of Acceptable Methods of Depreciation and Amortization***

The amendments to IAS 16 prohibit entities from using a revenue-based depreciation method for items of property, plant and equipment. The amendments to IAS 38 introduce a rebuttable presumption that revenue is not an appropriate basis for amortization of an intangible asset. This presumption can only be rebutted in the following two limited circumstances;

- a) when the intangible asset is expensed as a measure of revenue; or
- b) when it can be demonstrated that revenue and consumption of the economic benefits of the intangible asset are highly correlated.

The amendments apply prospectively for annual periods beginning on or after 1 January 2016. Currently, the Authority uses the straight-line method for depreciation and amortization of its property, plant and equipment, and intangible assets respectively. The directors of the Authority believe that the straight-line method is the most appropriate method to reflect the consumption of economic benefits inherent in the respective assets and accordingly, the directors of the Authority do not anticipate that the application of these amendments to IAS 16 and IAS 38 will have a material impact on the Authority's financial statements.

- **Annual Improvements 2012 – 2014**

The *Annual Improvements to IFRS 2012-2014* include a number of amendments to various IFRS, which are summarised below.

IFRS 5 — Adds specific guidance in IFRS 5 for cases in which an entity reclassifies an asset from held for sale to held for distribution or vice versa and cases in which held-for-distribution accounting is discontinued.

IFRS 7 — Additional guidance to clarify whether a servicing contract is continuing involvement in a transferred asset, and clarification on offsetting disclosures in condensed interim financial statements.

IAS 19 — Clarify that the rate used to discount post-employment benefit obligations should be determined by reference to market yields at the end of the reporting period on high quality corporate bonds. The assessment of the depth of for high quality corporate bonds should be at the currency level (i.e. the same currency as the benefits are to be paid). For currencies for which there is no deep market in such high quality corporate bonds, the market yields at the end of the reporting period on government bonds denominated in that currency should be used instead.

IAS 34 — Clarify the meaning of 'elsewhere in the interim report' and require a cross-reference.

The directors of the Authority do not anticipate that the application of these amendments will have a significant impact on the Authority's financial statements.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 3. Application of new and revised International Financial Reporting Standards ('IFRS') (continued)

##### 3.2 New and revised IFRS in issue but not yet effective (continued)

- **Amendment to IAS 1: *Disclosure Initiative***

Amendments were made to IAS 1 Presentation of Financial Statements to address perceived impediments to preparers exercising their judgement in presenting their financial reports by making the following changes:

- a) clarification that information should not be obscured by aggregating or by providing immaterial information, materiality considerations apply to all parts of the financial statements, and even when a standard requires a specific disclosure, materiality considerations do apply;
- b) clarification that the list of line items to be presented in these statements can be disaggregated and aggregated as relevant and additional guidance on subtotals in these statements and clarification that an entity's share of OCI of equity-accounted associates and joint ventures should be presented in aggregate as single line items based on whether or not it will subsequently be reclassified to profit or loss;
- c) additional examples of possible ways of ordering the notes to clarify that understandability and comparability should be considered when determining the order of the notes and to demonstrate that the notes need not be presented in the order so far listed in paragraph 114 of IAS 1.

The directors of the Authority do not anticipate that the application of these amendments will have a significant impact on the Authority's financial statements.

- **Amendments to IAS 27: *Equity Method in Separate Financial Statements***

Amendments were made to IAS 27 Separate Financial Statements to permit investments in subsidiaries, joint ventures and associates to be optionally accounted for using the equity method in separate financial statements. Consequently, an entity is permitted to account for these investments either:

- (i) at cost; or
- (ii) in accordance with IFRS 9 (or IAS 39); or
- (iii) using the equity method.

This is an accounting policy choice for each category of investment.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 3. Application of new and revised International Financial Reporting Standards ('IFRS') (continued)

##### 3.2 New and revised IFRS in issue but not yet effective (continued)

- **Amendments to IAS 12, (*Recognition of Deferred Tax Assets for Unrealised Losses*)**

Unrealised losses on debt instruments measured at fair value and measured at cost for tax purposes give rise to a deductible temporary difference regardless of whether the debt instrument's holder expects to recover the carrying amount of the debt instrument by sale or by use.

The carrying amount of an asset does not limit the estimation of probable future taxable profits.

Estimates for future taxable profits exclude tax deductions resulting from the reversal of deductible temporary differences.

An entity assesses a deferred tax asset in combination with other deferred tax assets. Where tax law restricts the utilisation of tax losses, an entity would assess a deferred tax asset in combination with other deferred tax assets of the same type.

The directors of the Authority do not anticipate that the application of these amendments will have a significant impact on the Authority's financial statements.

- **Amendments to IAS 7, (*Disclosure Initiative*)**

Amends IAS 7 Statement of Cash Flows to clarify that entities shall provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities.

The directors of the Authority do not anticipate that the application of these amendments will have a significant impact on the Authority's financial statements.

## **Environmental Management Authority Environmental Trust Fund**

### **Notes to the financial statements for the year ended 30 September 2016** (Expressed in Trinidad and Tobago dollars)

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#### **4. Critical accounting estimates and judgements**

The preparation of financial statements in accordance with International Financial Reporting Standards requires management to make judgements, estimates and assumptions in the process of applying the Authority's accounting policies.

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The Authority makes estimates and assumptions concerning the future and actual results could differ from those estimates as the resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below:

Changes in accounting estimates are recognised in the statement of profit or loss and other comprehensive income in the period in which the estimate is changed, if the change affects that period only. If the change affects a prior period, the Authority recognizes this change in the Statement of Movement of Funds in the current period.

The critical judgements, apart from that involving estimations, which has the most significant effect on the amounts recognised in the financial statements, is as follows:

1. Which depreciation method for building and equipment is used and the useful life.
2. Whether fixed assets are measured at cost or revalued amount.

#### **Contingent liabilities**

Management applies its judgement to the facts and advice it receives from its attorneys, advocates and other advisors in assessing if an obligation is probable, more likely than not or remote. Such judgement is used to determine if the obligation is recognised as a liability or disclosed as a contingent liability.

The key assumption concerning the future and other key sources of estimation uncertainty at the reporting date (requiring management's most difficult, subjective or complex judgements) that has a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year is with respect to building and equipment. Management exercises judgement in determining whether future economic benefits can be derived from expenditures to be capitalised and in estimating the useful lives and residual values of these assets.

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

#### 5. Cash in hand and at bank

	2016 \$	2015 \$
Petty cash	15,000	13,385
Republic Bank Limited:		
Operating account	9,172,730	8,808,379
US Dollar account	1,052,003	836,297
NSRCSL project account	10,696,910	15,752,260
Highway Police Surveillance HPS Bays Project	1,994,626	1,994,926
Green Fund National BCBC Project	2,529,875	2,530,175
Recyclable Solid Waste Collection Project	72,742,286	76,711,161
First Citizens Bank Limited:		
Oil Spill Assessment	16,865,188	16,865,637
IDB Technical	427,204	837,150
Permit income account	12,972,118	9,993,992
RBTT Bank Limited:		
Other projects	244,707	245,091
Biodiversity	13,003	13,375
Biosafety	96,443	96,815
National Capacity Needs Self-Assessment	394,821	395,181
Scotiabank Trinidad and Tobago Limited:		
VTM card	15,779	15,779
Terminal Phase out Management Plan	68,351	28,630
	<u>129,301,044</u>	<u>135,138,233</u>

#### 6. Short-term investments

	2016 \$	2015 \$
Republic Bank Limited Pool Bond	2,276,203	2,253,517
Trinidad and Tobago Unit Trust Corporation Money Market	855,117	846,504
	<u>3,131,320</u>	<u>3,100,021</u>

#### 7. Accounts receivable and prepayments

	2016 \$	2015 \$
Accounts receivable	838,485	824,470
VAT Receivable	1,595,819	1,956,391
Other receivables	622,100	430,814
Prepayments	121,615	122,321
	<u>3,178,019</u>	<u>3,333,996</u>

**Environmental Management Authority Environmental Trust Fund**

**Notes to the financial statements  
for the year ended 30 September 2016**  
(Expressed in Trinidad and Tobago dollars)

8. **Property, plant and equipment**

	Land	Leasehold Improvements	Building	Furniture and Fittings	Office Equipment	Motor Vehicles	Computer Equipment	Specialised Equipment	Library / Information	Recyclable Solid Waste Collection Project	Total
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>Cost / valuation</b>											
Balance as at 1 October 2015	13,729,868	3,609,071	52,343,247	7,670,855	5,837,099	5,403,778	5,911,809	2,979,912	332,331	-	97,817,970
Additions	-	13,206	-	93,798	129,310	-	79,729	497,559	-	996,616	1,810,218
Balance as at 30 September 2016	13,729,868	3,622,277	52,343,247	7,764,653	5,966,409	5,403,778	5,991,538	3,477,471	332,331	996,616	99,628,188
<b>Accumulated depreciation</b>											
Balance as at 1 October 2015	-	278,569	3,949,268	3,441,438	4,408,915	3,025,793	4,639,893	464,685	277,741	-	20,486,302
Charge for the year	-	334,020	1,113,797	427,292	301,705	594,496	328,106	566,911	5,459	305,827	3,977,613
Balance as at 30 September 2016	-	612,589	5,063,065	3,868,730	4,710,620	3,620,289	4,967,999	1,031,596	283,200	305,827	24,463,915
<b>Net book value</b>											
Balance as at 30 September 2016	13,729,868	3,009,689	47,280,182	3,895,923	1,255,789	1,783,489	1,023,539	2,445,875	49,131	690,789	75,164,273
Balance as at 30 September 2015	13,729,868	3,330,502	48,393,979	4,229,417	1,428,184	2,377,985	1,271,916	2,515,227	54,590	-	77,331,668

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**Environmental Management Authority Environmental Trust Fund**

**Notes to the financial statements  
for the year ended 30 September 2016**  
(Expressed in Trinidad and Tobago dollars)

8. **Property, Plant and Equipment (continued)**

	Land	Leasehold Improvements	Building	Furniture and Fittings	Office Equipment	Motor Vehicle	Computer Equipment	Specialised Equipment	Library / Information	Total
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>Cost / valuation</b>										
Balance as at 1 October 2013	13,729,868	-	26,000,000	7,029,447	5,396,837	4,750,199	5,492,368	450,758	332,331	63,181,808
Additions	-	770,467	25,771,725	225,052	398,164	1,330,134	510,315	381,016	-	29,386,873
Disposals	-	-	-	(4,865)	(261,591)	(876,555)	(384,733)	(4,400)	-	(1,532,144)
Balance as at 30 September 2014	13,729,868	770,467	51,771,725	7,249,634	5,533,410	5,203,778	5,617,950	827,374	332,331	91,036,537
<b>Accumulated depreciation</b>										
Balance as at 1 October 2013	-	-	2,139,620	2,537,457	3,963,100	2,334,809	4,234,825	120,576	264,935	15,595,322
Charge for the year	-	12,447	666,113	462,206	347,391	707,325	355,914	99,490	6,740	2,657,626
Disposals	-	-	-	(3,808)	(236,816)	(809,001)	(357,823)	(1,508)	-	(1,408,956)
Balance as at 30 September 2014	-	12,447	2,805,733	2,995,855	4,073,675	2,233,133	4,232,916	218,558	271,675	16,843,992
<b>Net book value</b>										
Balance as at 30 September 2014	13,729,868	758,020	48,965,992	4,253,779	1,459,735	2,970,645	1,385,034	608,816	60,656	74,192,545
Balance as at 30 September 2013	13,729,868	-	23,860,380	4,491,990	1,433,737	2,415,390	1,257,543	330,182	67,396	47,586,486

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## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

#### 8.1 Property Plant and Equipment (continued)

Fair value measurement of The Authority's Building

The Authority's buildings are stated at their revalued amounts, being the fair value at the date of revaluation, less any subsequent accumulated depreciation and subsequent accumulated impairment losses. The buildings were revalued by an independent valuator G. A. Farrell & Associate Limited. The effective date of the valuation was January 4, 2010 and the value of TT\$26 million was determined after consideration and use of one or more of the following approaches: the Direct Sale Comparison Approach; the Income Approach; and the Cost Approach.

Details of the Authority's buildings and information about the fair value hierarchy as at 30 September 2016 and 2015 are as follows:

	Level 1 \$	Level 2 \$	Level 3 \$	Total \$
<b>At 30 September 2016</b>	-	<b>47,280,182</b>	-	<b>47,280,182</b>
<b>At 30 September 2015</b>	-	<b>48,393,980</b>	-	<b>48,393,980</b>

There were no transfers between levels during the year.

If the properties were stated using the historical cost basis, the carrying values would have been as follows:

	2016 \$	2015 \$
<b>Buildings</b>		
Cost	34,361,103	34,361,103
Accumulated depreciation	(2,771,326)	(1,977,741)
	<b>(31,589,777)</b>	<b>32,383,362</b>

#### 9. Accounts payable and accruals

	2016 \$	2015 \$
Accounts payable	2,316,476	1,193,101
Other payables	5,196	5,145
Contingent Liability	1,132,827	-
Accruals	1,942,634	2,388,483
Violations payable	9,492,538	8,823,133
Ministry of Public Utilities and the Environment National Forest Inventory Project	486,463	412,545
National Restoration, Carbon Sequestration, Wildlife and Livelihood Projects	11,981,374	17,208,879
Recyclables Solid Waste Collection Project	74,047,813	77,051,237
Highway Police Surveillance Bays	2,943,709	2,944,714
Oil Spill Assessment Remediation and Rehabilitation	16,787,763	16,865,637
National Beverage Container Bill Clean Up Project	6,634,856	6,635,156
World Bank loans	297,151	1,365,520
	<b>128,068,800</b>	<b>134,893,550</b>

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 10. Fair values

Fair value is the amount for which an asset could be exchanged, or a liability settled between knowledgeable, willing parties in an arm's length transaction. The existence of published price quotation in an active market is the best evidence for fair value. Where market prices are not available, fair values are estimated using various valuation techniques, including using recent arm's length market transactions between knowledgeable, willing parties, if available, current fair value of another financial instrument that is substantially the same and discounted cash flow analysis.

#### Current assets and liabilities

The carrying amounts of current assets and liabilities are a reasonable approximation of the fair values because of their short-term nature.

#### 11. Related party transactions

Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial decisions.

Key management personnel are those persons having the authority and responsibility for planning, directing and controlling the activities of the Authority.

A number of transactions are entered into with related parties in the normal course of business. These transactions were carried out on commercial terms at market rates.

Balances and transactions with related parties and key management personnel during the year were as follows:

	2016	2015
	\$	\$
<b>Other expenses</b>		
Directors' fees	220,000	673,750
Directors' expenses	40,116	38,834
	<u>260,116</u>	<u>712,584</u>
<b>Key management compensation</b>		
Short-term benefits	<u>4,846,944</u>	<u>4,304,769</u>

#### 12. Financial risk management

##### Financial risk factor

The Authority's activities are primarily related to the use of financial instruments. The Authority accepts funds mainly from the GORTT and earns interest by investing short term money market instruments.

##### Financial instruments

The following table summarizes the carrying amounts and fair value of the Authority's financial assets and liabilities:

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

#### 12. Financial risk management (continued)

##### Financial risk management categorization

	Financial assets and liabilities \$	Non-financial assets and liabilities \$	Equity \$	Total \$
<b>As at September 30, 2016</b>				
<b>Assets:</b>				
Cash in hand and at bank	129,301,044	-	-	129,301,044
Short-term investments	3,131,320	-	-	3,131,320
Accounts receivable and prepayments	3,056,404	121,615	-	3,178,019
Property, plant and equipment	-	75,164,273	-	75,164,273
<b>Total</b>	<b>135,488,768</b>	<b>75,285,888</b>	<b>-</b>	<b>210,774,656</b>
<b>Liabilities and funds:</b>				
Accounts payable and accruals	128,068,800	-	-	128,068,800
Funds	-	-	65,856,538	65,856,538
Revaluation surplus	-	-	17,982,144	17,982,144
<b>Total</b>	<b>128,068,800</b>	<b>-</b>	<b>83,838,682</b>	<b>211,907,482</b>
<b>As at September 30, 2015</b>				
<b>Assets:</b>				
Cash in hand and at bank	135,138,233	-	-	135,138,233
Short-term investments	3,100,021	-	-	3,100,021
Accounts receivable and prepayments	3,211,675	122,321	-	3,333,996
Property, plant and equipment	-	77,331,668	-	77,331,668
<b>Total</b>	<b>141,449,929</b>	<b>77,453,989</b>	<b>-</b>	<b>218,903,918</b>
<b>Liabilities and funds:</b>				
Accounts payable and accruals	134,893,550	-	-	134,893,550
Funds	-	-	66,028,639	66,028,639
Revaluation surplus	-	-	17,982,144	17,982,144
<b>Total</b>	<b>134,893,550</b>	<b>-</b>	<b>84,010,783</b>	<b>218,904,333</b>

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

#### 12. Financial risk management (continued)

The Authority is exposed to interest rate risk, credit risk, liquidity risk, currency risk, operational risk, compliance risk and reputation risk arising from the financial instruments that it holds. The risk management policies employed by the Authority to manage these risks are discussed below:

##### (a) Interest rate risk

Interest rate risk is the risk that the value of financial instruments will fluctuate due to changes in market interest rates. The Authority's income and operating cash flows are substantially independent of changes in market interest rates as the Authority has no significant interest bearing assets. The Authority is only exposed to interest rate risk in relation to its current account held at Republic Bank Limited, RBC Royal Bank (Trinidad and Tobago) Limited, Scotiabank (Trinidad and Tobago) Limited and First Citizens Bank Limited. As the Authority has no significant variable interest-bearing asset, the Authority's income and operating cash flows are substantially independent of changes in market interest rates.

##### (b) Credit risk

Credit risk arises when a failure by counter parties to discharge their obligations could reduce the amount of future cash inflows from financial assets on hand at the reporting date. The Authority has policies in place to ensure that all amounts due are collected within the specified credit period.

Cash balances are held with high credit quality financial institutions and the Authority has policies to limit the amount of exposure to any financial institution.

##### (c) Liquidity risk

Liquidity risk is the risk that arises when the maturity of assets and liabilities does not match. An unmatched position potentially enhances profitability, but can also increase the risk of losses. The Authority has procedures with the objective of minimizing such losses such as maintaining sufficient cash and other highly liquid current assets.

##### Liquidity gap

The Authority's exposure to liquidity risk is summarized in the table below which analyses assets and liabilities based on the remaining period from the reporting date to the contractual maturity date:

	On demand \$	Up to 1 year \$	1 to 5 years \$	Over 5 years \$	Total \$
<b>As at 30 September 2016:</b>					
<b>Financial assets:</b>					
Cash in hand and at bank	129,301,044	-	-	-	129,301,044
Short term investments	3,131,320	-	-	-	3,131,320
Accounts receivable and prepayments	838,485	2,339,535	-	-	3,178,019
	<b>133,270,849</b>	<b>2,339,535</b>	-	-	<b>135,610,383</b>
<b>Financial liabilities</b>					
Accounts payable and accruals	-	(128,068,800)	-	-	(128,068,800)
<b>Net liquidity gap</b>	<b>133,270,849</b>	<b>(125,729,265)</b>	-	-	<b>7,541,584</b>

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

#### 12. Financial risk management (continued)

##### (a) Liquidity risk (continued)

##### Liquidity gap (continued)

	On demand \$	Up to 1 year \$	1 to 5 years \$	Over 5 years \$	Total \$
<b>As at 30 September 2015:</b>					
<b>Financial assets:</b>					
Cash in hand and at bank	135,138,233	-	-	-	135,138,233
Short term investments	3,100,021	-	-	-	3,100,021
Accounts receivable and prepayments	853,843	2,480,153	-	-	3,333,996
	<b>139,092,097</b>	<b>2,480,153</b>	-	-	<b>141,572,250</b>
<b>Financial liabilities</b>					
Accounts payable and accruals	-	(134,893,135)	-	-	(134,893,135)
<b>Net liquidity gap</b>	<b>139,092,097</b>	<b>(132,412,982)</b>	-	-	<b>6,679,115</b>

##### d) Currency risk

Currency risk is the risk that the value of financial instruments will fluctuate due to changes in foreign exchange rates. Currency risk arises when future commercial transactions and recognised assets and liabilities are denominated in a currency that is not the Authority's measurement currency. The Authority is exposed to foreign exchange risk arising from various currency exposures primarily with respect to the United States Dollars. The Authority's management monitors the exchange rate fluctuations on a continuous basis and acts accordingly.

The Authority had the following significant currency positions:

##### As at September 30, 2016

	USD (TT\$ equivalent)
<b>Assets</b>	
Cash at bank	1,052,003
<b>Total foreign currency assets</b>	<b>1,052,003</b>

##### As at September 30, 2015

	USD (TT\$ equivalent)
<b>Assets</b>	
Cash at bank	836,297
<b>Total foreign currency assets</b>	<b>836,297</b>

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

#### 12. Financial risk management (continued)

##### d) Currency risk (continued)

###### Foreign currency sensitivity analysis

The following table details the sensitivity to a 5% increase and decrease in the Trinidad and Tobago dollar against the US dollar with all other variable held constant. 5% is the sensitivity rates used when reporting foreign currency risk internally to key management personnel and represents management's assessment of the possible change in foreign exchange rates. The sensitivity analysis includes only outstanding foreign currency denominated monetary items.

If the Trinidad and Tobago dollar strengthens or weakens by 5% against the US dollar the effect would be as follows:

	US dollar impact	
	2016	2015
	\$	\$
<b>Effect</b>	<b>52,900</b>	<b>41,815</b>

##### e) Operational risk

Operational risk is the risk derived from deficiencies relating to the Authority's information technology and control systems, as well as the risk of human error and natural disasters. The Authority's systems are evaluated, maintained and upgraded continuously.

##### f) Compliance risk

Compliance risk is the risk of financial loss, including fines and other penalties, which arise from non-compliance with laws and regulations of the state. The risk is limited to the extent of monitoring controls applied by the Authority.

##### g) Reputation risk

The risk of loss of reputation arising from the negative publicity relating to the Authority's operations (whether true or false) may result in a reduction of its clientele, reduction in revenue and legal cases against the Authority. The Authority applies procedures to minimize this risk.

#### 13. Project expenses

Project expenses comprise of general expenses incurred by the different projects managed by the Authority.

Description	2016	2015
	\$	\$
National Beverage Containers Bill Clean-up Project	-	217,528
IDB Technical Cooperation	-	11,416
Finance and Administration Services	-	220,910
Legal and Enforcement Services	-	58,050
National Restoration, Carbon Sequestration, Wildlife and Livelihoods Project	5,228,945	6,754,600
Other	(34,339)	123,212
Pollution Prevention and Control	717,049	690,934
Recyclable Solid Waste Collection Project	4,072,749	3,210,745
National Environmental Assessment Task Force	35,735	854,375
	<b>10,020,139</b>	<b>12,141,770</b>

## Environmental Management Authority Environmental Trust Fund

### Notes to the financial statements for the year ended 30 September 2016 (Expressed in Trinidad and Tobago dollars)

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#### 14. Commitments and contingencies

##### *Leasing arrangements*

Operating leases relate to leases of offices and other equipment with lease terms of between 6 months and 5 years. The Authority does not have an option to purchase the leased offices at the expiry of the lease periods.

	2016	2015
	\$	\$
No later than 1 year	3,620,550	3,687,750
Later than 1 year and no later than 5 years	1,728,338	5,752,763
	<u>5,348,888</u>	<u>9,440,513</u>

At the end of its financial year the Authority was engaged in several legal proceedings arising from the normal course of business. As a matter of disclosure, the following legal matters are reported:

##### 1. Claim No. CV2014-00813

The matter relates to a certiorari removal to quash the decision of the Environmental Management Authority dated the 11 December 2013 to grant a Certificate of Environmental Clearance to a company. On March 4, 2016 the Honourable Madam Justice Kangaloo found that the Claimant's case must be dismissed with costs payable to the EMA and the Ministry of Energy.

##### 2. Civil Appeal No. 103 of 2016/Claim No. CV2014-00813

A Notice of Appeal was entered by the Appellants on the 15<sup>th</sup> April 2016 wherein appealing the decision of the Honourable Madam Justice Nadia Kangaloo made on the 4<sup>th</sup> March, 2016. The EMA is defending the appeal. There is a 50/50 chance of success in favour of the EMA.

##### 3. Claim No. CV2014-01218

An application for Judicial Review in relation to the Application filed by the Claimant on the 11<sup>th</sup> December, 2014. The EMA is defending the claim. There is a 60/40 chance of success in favour of the EMA.

#### 15. Events after the reporting date

There are no significant events which occurred after the reporting date affecting the financial performance, position or change therein for the reporting period presented in these financial statements.