



Trelawny Local Sustainable Development Plan



“Fostering
Sustainable
Development for –
Our Communities
and Our Parish!”



TRELAWNY

LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond



Trelawny Parish Council
2016



ACKNOWLEDGEMENTS

The Trelawny Local Sustainable Development Plan is a result of the partnership between the Trelawny Parish Council, Ministry of Local Government and Community Development, Sugar Transformation Unit (STU) of the Ministry of Industry, Commerce, Agriculture and Fisheries (MICAFA), National Housing Trust (NHT), the Social Development Commission (SDC), National Environment and Planning Agency (NEPA), the Urban Development Corporation (UDC), National Land Agency (NLA), Planning Institute of Jamaica (PIOJ), Jamaica National Heritage Trust (JNHT), Falmouth Heritage Renewal, Office of Disaster Preparedness and Emergency Management (ODPEM), National Spatial Data Management Division/LICJ, Forestry Department, National Association of Parish Development Committees (NAPDEC) - Trelawny Parish Development Committee (TPDC), Windsor Research Centre, National Works Agency, Tourism Product Development Company along with the input of other organisations and individuals.

Funding Agencies



Partnering Agencies



BECOMING INVOLVED – WHAT CAN I DO?

The Trelawny Local Sustainable Development Plan (TLSDP) is for guiding the orderly growth and development of the Parish while identifying and bringing together projects and activities that will facilitate the long-term growth of Trelawny.

The Trelawny Parish Council and by extension the Project Management Unit of the TLSDP, encourage the active participation and involvement of all stakeholders during and after the formulation of this Plan. We are located at:

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Public Cleansing Inspector, NSWMA/WPM **Mr. Charles McKenzie**

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Local Development Planning Area Sensitisation Meetings and Visioning Workshops

1. Albert Town Local Development Planning Area – February 23, 2015

Communities: Albert Town, Stettin, St. Vincent, Spring Gardens, Freemans Hall

Lloyd Gillings - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Philip Spence - SDC
Paula Barrett - SDC
Devon Brown - SDC
Sunnae Brady - Rapporteur
Oshin Brooks - Rapporteur
Odane Johnson - Rapporteur
Total Number of Attendees: 56

2. Clark's Town Local Development Planning Area – February 26, 2015

Communities: Clark's Town, Kinloss

Telka Holt - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Devon Brown - SDC
Carla Bingham-Ledgister - PDC
Danesia Scott - Facilitator
Patrick Tucker - Facilitator
Rebecca Feurtardo - Rapporteur
Hyacinth Nugent - Rapporteur
Jermaine Rosedam - Rapporteur
Dianne Thomas - Rapporteur
Total Number of Attendees: 32

3. Wakefield Local Development Planning Area – March 19, 2015

Communities: Wakefield, Deeside, Bunkers Hill, Hampden, Bounty Hall

Jonathan Bartley - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Desmond Lawrence - Facilitator
Jason Fray - Rapporteur
Joy P. Forbes - Rapporteur
Lorraine Brissett - Rapporteur
Carmen Saint – Rapporteur
Total Number of Attendees: 55

4. Ulster Spring Local Development Planning Area – March 23, 2015

Communities: Ulster Spring, Sawyers, Alps

Pauline Foster-Grant - Councillor
Lloyd Gillings - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Sheana Reid - Rapporteur
Nazarine Smith - Rapporteur
Donna Miller - Rapporteur
Shannae Smith - Rapporteur
Melissa Barnett - Gentles - Rapporteur
Total Number of Attendees: 36

5. Falmouth Local Development Planning Area – March 26, 2015

Communities: Falmouth, Martha Brae, Granville, Daniel Town, Salt Marsh

Garth Wilkinson - Councillor
Philip Service - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Errol Malcolm - TPC
Natasha Billings - TPC
Durand Pingue - TPC
Matthew McGill - TPC
Tamicka Malcolm - Rapporteur
Shanice Hyatt - Rapporteur
Gawhawne Thompson - Rapporteur
Tamika Shields - Rapporteur
Total Number of Attendees: 33

Salt Marsh Extension – April 30, 2015

Philip Service - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Michael Schwartz - WRC
Leonie Earle - Rapporteur
Aretha Smith - Rapporteur
Tamicka Malcolm - Rapporteur
Sharon Smith - Rapporteur
Esther Julius – Rapporteur
Total Number of Attendees: 36

Granville Extension – May 11, 2015

Philip Service - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Michael Schwartz - WRC
Emma Malcolm - Rapporteur
Faith Burchell - Rapporteur
Tamicka Malcolm - Rapporteur
Jennifer Robinson - Rapporteur
Total Number of Attendees: 31

6. Wait-A-Bit Local Development Planning Area – March 30, 2015

Communities: Wait-A-Bit, Wirefence, Joe Hut, Lorrimers

Paul Patmore - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Michael Schwartz - WRC
Odane Johnson - Rapporteur
Evelyn J. Bailey - Rapporteur
Aneita Smith - Rapporteur
Arnella Smith - Rapporteur
Total Number of Attendees: 39

7. Jackson Town Local Development Planning Area – April 14, 2015

Communities: Jackson Town, Stewart Town, Brampton

Donovan White - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Michael Schwartz - WRC
Tamicka Malcolm - Rapporteur
Tamecia Brown - Rapporteur
Venessa Headlam - Rapporteur
Total Number of Attendees: 34

8. Duncans Local Development Planning Area – April 16, 2015

Communities: Duncans, Refuge, Spicy Hill, Samuel Prospect, Rio Bueno

Councillor Donovan White
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Michael Schwartz - WRC
Matthew McGill - TPC

Yvonne Murdock - Rapporteur
Rose Marie Robb - Rapporteur
Janice Kerr - Rapporteur
Stacey Mason – Rapporteur
Total Number of Attendees: 50

9. Troy Local Development Planning Area – April 20, 2015

Communities: Troy, Warsop, Wilson's Run

Colin Gager - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Michael Schwartz - WRC
Tamicka Malcolm - Rapporteur
Joyce Swaby - Rapporteur
Oshin Brooks - Rapporteur
Tomoya Wiggan-White – Rapporteur
Total Number of Attendees: 54

10. Duanvale Local Development Planning Area - April 23, 2015

Communities: Duanvale, Perth Town, Sherwood Content

Telka Holt - Councillor
Winston Palmer - Secretary/Manager
Marlet Wellington - Director of Planning
Michael Schwartz - WRC
Garcia McLean - TPC
Lorna Christie - Rapporteur
Velma Marrett - Rapporteur
Kerran Ricketts - Rapporteur
Tamicka Malcolm - Rapporteur
Total Number of Attendees: 39

Stakeholders' Workshops

Trelawny Southern – June 22, 2015

Trelawny Parish Council

Rural Agricultural Development Authority – **Mr. Raymond Reid, Mr. Devon Dixon and Ms. Dainette Robe**

Ministry of Education, Youth and Information – **Mr. Nicholas Mayne**

Southern Trelawny Environmental Agency – **Mr. Hugh Dixon and Ms. Tamar Case**

Ulster Spring Women's Group – **Ms. Elizabeth Chambers, Ms. Kara Welch and Ms. Majorie McLean**

Community Development Committee – Albert Town – **Ms. Gladys Codner**

Touch of Hope, Jamaica – **Mr. John Foster**

Albert Town Branch Library – **Ms. Casandra Campbell**

Continental Delight – **Mr. Nicholas Elliott**

Farmers' Group – **Mr. Victor Wright and Ms. Sheril Gibson Brown**

South Trelawny Enterprise – **Mr. Errol Gowdie**

Trelawny Northern – July 30, 2015

Trelawny Parish Council

Sugar Transformation Unit – MICA – **Mr. Paul Reece**

Ministry of Education, Youth and Information – **Mrs. Rhonda Walker-Walters**

Ministry of Labour and Social Security – **Mr. Devon Malcolm**

Social Development Commission – **Ms. Paula Barrett, Mr. Devon Brown, Mr. Phillip Spence,
Ms. Shahani Emmanuel, Ms. Norian Reid, Ms. Tamicka Silvera**

Trelawny Chamber of Commerce – **Mr. Delroy Christie**

Member of Parliament – Trelawny Northern – **Mr. Patrick Atkinson, QC**

Falmouth Heritage Renewal – **Mr. KeVaughn Harding**

National Youth Service – **Ms. Jasinth Wiltshire**

Jamaica Constabulary Force – **Mr. Wayne Wallace**

Jamaica Fire Brigade – **Mr. Roland Walters**

Surf & Turf Vacations Ltd. – **Ms. Jacqueline Bennett**

AMR Farms – **Mr. Adrian Robinson**

Retreat Guest House – **Ms. Joyce Grant**

Coastal Taxi Association – **Mr. Hopeton Gordon**

Blue Horizon – **Ms. Judy Campbell**

Trelawny Neighbourhood Watch – **Ms. Desiree Vernon**

Bunker's Hill Health Centre – **Mrs. Opal Hamilton**

Reynold's Funeral Home – **Mr. Rennie Reynolds**

A & G Enterprise – **Mr. Akeno Gordon**

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EXECUTIVE SUMMARY

The overall development goals of the Jamaican Government were reflected in Vision 2030 - the National Development Plan for the Island. Local Sustainable Development Planning fosters sustainable development at the local level, as it is at this level that resources and capital can be released, a shared vision is created and the benefits of sustainable development is achieved. The Trelawny Parish Council in keeping with the proposed decentralisation of the planning framework took the role and has prepared the Trelawny Local Sustainable Development Plan (TLSDP).

The Trelawny Local Sustainable Development Plan is based on a long term vision of change in Trelawny, which focuses on the following interlocking headings: Natural Environment, Socio-Cultural Environment, Economic Development and Wealth Creation, Built Environment and Governance, Civic Participation and Empowerment. The Plan was developed on a consultative building process, which outlined the vision of the residents, the agreed core values and the policies which will be followed in pursuit of the shared vision. The Development Plan will also guide the Local Planning Authority and manage the orderly growth and development of the Parish as well as identify areas of improvements and opportunities to provide sustainable strategies to achieve the vision, goals and objectives of the Parish.

Natural Environment

Strategic actions focus on prioritising the twin goals of achieving economic development while pursuing environmental sustainability. Both are important to attract investors and improve the quality of live. Therefore, in the pursuit of a vision of being a clean, green Parish, huge emphasis was placed on policies and actions that will encourage awareness and education about the importance and value of our natural resources as well as the integration of strong spatial planning. Upon implementation, the policies and actions will together achieve the objectives of creating healthier and cleaner living environments, developing stronger and more united communities, protecting important natural resources and assets while generating economic gains.

Socio-Cultural Environment

Critical analysis of population trends with respect to migration, age, sex, distribution and future growth was critical in formulating the TLSDP. The Plan took into consideration the above variables which will guide the

process of creating sustainable urban and rural communities. Strategic policies and actions were also proposed to improve the affordability, number and diversity of housing stock while simultaneously reducing the growth of existing and future informal settlements. Also, the Plan outlined strategies that are aimed at improving access, affordability and promote lifelong learning opportunities at all levels of the education system while promoting the need for healthy active communities through research, technology and partnerships.

Trelawny possesses a rich tangible and intangible cultural heritage and the strategic policies and actions sought to promote and preserve the historical architecture, sites, monuments and artefacts. The preservation of this aspect of the Parish is important as it forms a major part of the tourism and entertainment product for both locals and tourists alike.

Economic Environment

The long term vision for the economy of Trelawny is based on strengthening a diverse economy, where the Parish will be known for its tourism, agriculture and manufacturing, and where the economic sectors are contributing to the prosperity of the Parish, through employment, foreign exchange and wealth creation. Emphasis was placed on the importance of production and manufacturing of goods and services to increase profitability through exports and by taking measures to create a more businesses friendly environment. The policies and strategic actions focused on the need for infrastructural development both in Northern and Southern Trelawny to create improved linkage between both areas and is expected to serve as a stimulus for economic growth.

Built Environment

This chapter focused on the physical elements in the surroundings that provide comfort and well-being. The Plan outlined that there is a need for the implementation of critical infrastructure such as a central sewage system, transportation centres and improved access to potable water supply. These kinds of development are needed to support the existing and future population and as such both perspective were taken into account in the creation of the policies and actions. Without proper transportation infrastructure, the circulation of people and goods will be impacted and this can create a negative environment for economic

growth. Also, there are policies to address water management and supply, energy and disaster management among others.

Governance, Civic Participation and Empowerment

Sustainability also requires innovation in local governance. Residents want and need to have a greater input in the decision-making process as residents are more likely to have confidence in their local government and other agencies when decisions are made in a transparent and accountable way. This helps residents feel that those in authority will act in the community's overall interest, regardless of differing opinions. Thus, the policies and actions outlined and addressed key governance issues such as participation, effectiveness, accountability, effectiveness and efficiency.

Other important aspects of this Plan included implementation, monitoring and evaluation as well as the Local Development Planning Area Specific Plans.

ABBREVIATIONS AND ACRONYMS

CBO	Community-Based Organisation
CDC	Community Development Committee
CIDA	Canadian International Development Agency
DA	Development Area
DAC	Development Area Committee
EAT	Early Action Team
GIS	Geographic Information System
GOJ	Government of Jamaica
ICC	International Cricket Council
IPCC	Intergovernmental Panel on Climate Change
JaNEAP	Jamaica National Environment Action Plan
JIS	Jamaica Information Service
JNHT	Jamaica National Heritage Trust
LDPA	Local Development Planning Area
MDEG&JC	Minister of Defence, Economic Growth and Job Creation
MOEYI	Ministry of Education, Youth and Information
MEST	Ministry of Energy, Science and Technology
MOH	Ministry of Health
MICAF	Ministry of Industry, Commerce, Agriculture and Fisheries
MLGCD	Ministry of Local Government and Community Development
MTM	Ministry of Transport and Mining
NEPA	National Environmental Planning Agency
NIC	National Irrigation Commission
NIP	National Industrial Policy
NLA	National Land Agency
NHT	National Housing Trust
NSWMA	National Solid Waste Management Authority
NWA	National Works Agency
NWC	National Water Commission

NRCA	Natural Resources Conservation Authority
NGOs	Non – Governmental Organisations
OAS	Organisation of American States
ODPEM	Office of Disaster Preparedness and Emergency Management
OPM	Office of the Prime Minister
PIOJ	Planning Institute of Jamaica
PMU	Project Management Unit
SDC	Social Development Commission
SIDS	Small Island Developing States
STATIN	Statistical Institute of Jamaica
STU	Sugar Transformation Unit
TCC	Trelawny Chamber of Commerce
TCPA	Town and Country Planning Act
TEF	Tourism Enhancement Fund
TPD	Town Planning Department
TLSDP	Trelawny Local Sustainable Development Plan
TPC	Trelawny Parish Council
TPDCo.	Tourism Product Development Company
UDC	Urban Development Corporation
UNDP	United Nations Development Programme
WRA	Water Resources Authority

UNITS OF MEASUREMENT

m	metre
km	kilometre

FOREWORD

Message of Endorsement from the Chairman, Trelawny Parish Council.

Residents and friends at home and abroad, no great change can occur without strategic planning to guide the development process, and such process cannot succeed without the full and uncompromising support of all of us. The Parish of Trelawny has been experiencing significant growth over the years. Thousands of new housing solutions have been added over the last five (5) years and continues and the sector continues to increase. Investments in hundreds of new hotel rooms have also materialised during this period. Falmouth, the capital of Trelawny is now recognised as the largest cruise ship port in the Caribbean, bringing in over 1.5 million tourists annually to Jamaica's shores.



Amidst all this growth and activities happening in Trelawny, there is the need to ensure orderly and sustainable development over the long term. As such the Trelawny Local Sustainable Development Plan (TLSDP) was created to guide us in this regard. The political leadership of the Council and the Parish will have this tool to guide its decision making and policy prescription. The timing is indeed opportune as our stakeholders are all aware of the issues and challenges currently facing our locale. The participation and contribution to this Development Plan via the numerous sensitisation meeting and visioning workshops that were held in the ten (10) Local Development Planning Areas as well as the stakeholders' meeting and fora have without doubt led to ownership and buy-in of the Plan, which in turn will assist in ensuring its successful implementation.

The work of the political leadership of the Council and Parish has been made far easier by our Trelawny Local sustainable Development Plan. This will result in the prescription of policies and actions that are directly related to the issues and challenges and the desired workable solutions and opportunities needed to ensure effectiveness and relevance.

**His Worship the Mayor of Falmouth, Councillor Garth Wilkinson
Trelawny Parish Council**

Message of Endorsement from the Secretary/Manager, Trelawny Parish Council

Local Sustainable Development Planning (LSDP) is essential in our contemporary society. Failing to plan would result in us not being able to effectively deal with environmental, economic and social challenges which form an integral part our daily existence. We must therefore plan in keeping with our Vision 2030 in a manner that allows the present generation to sustain itself while at the same time ensuring that future generations can also survive within a sustainable environment.



The Development Plan is useful in various spheres. First and foremost it is a guide to overall sustainable development within the geographical region that it covers. This will become a useful tool to residents in Trelawny and Jamaicans as a whole, investors, government agencies, researchers and others within academia. It will therefore assist in guiding investment decisions and has the potential to assist in stimulating economic growth while ensuring orderly development.

Its direct impact on the Trelawny Parish Council will be to guide policy decisions and the manner in which these policies are implemented. For example the Plan would impact building and subdivision approvals to address issues such as:

- Climate change;
- Solid waste management;
- Construction and repairs of road infrastructure;
- Disaster preparedness planning/Disaster mitigation;
- The management of social welfare benefits;
- Change management within the organisation; and
- Communication and interactions with the various publics with whom the local authority relates.

The Trelawny Local Sustainable Development Plan is therefore welcomed and timely at this juncture in our history when failing to plan is actually planning to fail. Accordingly, we endorse this Plan and commit to work to ensure its successful implementation.

**Winston Palmer, Secretary/Manager
Trelawny Parish Council**

Message of Endorsement from the Minority Leader, Trelawny Parish Council

The concept of sustainable development is at times interpreted in many different ways; however the focus is on meeting the needs of the present generations without jeopardising the ability of future generations to meet their own needs. In other words, a better quality of life for everyone; at present and for future generations to come.



Trelawny Parish Council embarked on the preparation of the Trelawny Local Sustainable Development Plan and similar to Vision 2030, the goals, objectives, policies and actions of the Trelawny Local Sustainable Development Plan (TLSDP) are comprehensive. It gives priority to the issues and challenges that residents have endured through the past decades. And it also reflects the evolving understanding of the social, economic and environmental linkages that define our lives.

Fundamentals of the Plan included integrating environmental sustainability with economic concerns and social considerations. A collaborated approach is the first step in developing the policy framework and this will set in motion a process that will improve the way in which the key elements of sustainability are considered as a whole when making decisions.

As such, it is with great honour that I sanction this Development Plan and congratulate the Project Management Unit, as this Plan will provide an opportunity to introduce important improvements and opportunities while incorporating the key elements of sustainable development in the Parish of Trelawny.

**Councillor C. Junior Gager, Deputy Mayor
Trelawny Parish Council**

Message of Endorsement from the Sugar Transformation Unit, Ministry of Industry, Commerce, Agriculture and Fisheries

Following changes made from a World Trade Organisation (WTO) ruling and the consequent impact on the European Union Sugar Regime, the European Commission and the Government of Jamaica (GOJ) agreed to a Multi-Annual Assistance Strategy: 2006-2013 (MAS), which provides support to the Government of Jamaica for implementation of the Jamaica Country Strategy, a major element of which is the Sugar Area Development Programme (SADP). The SADP was intended to mitigate the anticipated economic, social and environmental fallout from changes to the EU Sugar Regime, inclusive of reductions in the price of Jamaican sugar exported to the EU and the privatisation of public sector sugar assets. The SADP has been revised on the basis of the changed environment as reflected in the Revised Jamaica Country Strategy for the Adaptation of the Sugar Industry: 2006 – 2020.



Consequently, the Sugar Transformation Unit, established as a project within the Ministry of Agriculture and Fisheries, has been mandated to implement the components under the Sugar Area Development Programme. The components are:

- Strengthening Commercial Competitiveness (Sugar Cane Sector);
- Socio – Economic Development of Sugar Dependent Areas; and
- Supporting the National Policy Environment.

The Sugar Transformation Unit is currently implementing Component 2 of the SADP which includes providing support to the Parish Councils within Sugar Dependent Areas that seek to develop Local Sustainable Development Plans (LSDPs). Sustainable development is important because it not only provides opportunities for the current generation, but it also preserves the environment and natural resources for future generations.

Therefore, the Trelawny Parish Council must be commended for the initiative taken to embark on this critical activity, which seeks to provide an action plan to guide growth and development within the Parish of Trelawny. The aim of this Plan is to achieve participation and involvement in the planning process by

promoting integration between the local and national planning authorities, environment and economic stakeholders and ordinary citizens.

The Sugar Transformation Unit is pleased to play a key role in providing financial assistance through grant funding from the European Union of Twenty Million Dollars (\$20 million) to contribute to the completion of the Trelawny Local Sustainable Development Plan (TLSDP). We are confident that the Parish will be better able to plan sustainably as the current Plan takes into account all the needs of the relevant stakeholders.

Keleen Young-Grandison
Project Manager, Sugar Transformation Unit
Ministry of Industry, Commerce, Agriculture and Fisheries

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Message of Endorsement from the National Housing Trust

The National Housing Trust (NHT) congratulates the Trelawny Parish Council and the Trelawny Local Sustainable Development Plan (TLSDP) Project Management Unit on their creation of such an important document to guide development in the Parish. The Plan is of importance, not only to Trelawny itself, but to all Jamaica as the nation seeks to attain its Vision 2030 goal of making Jamaica the place of choice to live, work, raise families and do business.



The NHT is committed to and is a major stakeholder in not just housing but community development, and is pleased to have been part sponsors of your project. Creating harmony among the economy, the environment and its people, is key to the progress of any country. This Development Plan will go a far way in creating this harmony and guiding the interactions among these critical variables.

Trelawny is poised for growth. The development of the North Coast Highway in recent years, together with increased economic activity associated with the ongoing expansion of the hotel room stock as well as other infrastructural and housing projects will in short order revitalize the Parish. We at the NHT believe this Development Plan is a key tool that will guide the growth and development of Trelawny in a responsible, sustainable and socially conscious manner.

We laud the TLSDP on this noteworthy achievement and are confident that the Plan will assist the Parish in achieving its sustainable development goals.

**Martin Miller, Actg. Managing Director
National Housing Trust**

Message of Endorsement from the National Environment Planning Agency

The National Environment & Planning Agency (NEPA) wishes to endorse and congratulate the Trelawny Parish Council and its stakeholders for embarking on this initiative to prepare the Trelawny Local Sustainable Development Plan. This Plan has benefitted from the contribution of various stakeholders and the citizens of Trelawny and will create a sustainable planning model for the many communities within the parish, as well as for sustainable development planning in neighbouring Parishes.



The Local Sustainable Development Plan framework is consistent with other regional, national and international sustainable development planning instruments inclusive of the Trelawny Parish Confirmed Development Order 2015, Vision 2030, Jamaica National Development Plan, the Millennium and Sustainable Development Goals (MGDs). The preparation of the Plan will adopt the participatory approach in the pursuit of sustainable development and therefore will be a critical tool in the parish's effort to improve its management of the environment and to achieve orderly development.

Additionally, the preparation of the Plan signals a milestone in the journey to achieving the desired holistic development of the area craved by the partners and stakeholders. It is commendable that all government agencies, business interests, NGOs, community groups and other stakeholders collaborated to craft the vision and to establish the goals for the area so that these can be implemented in an orderly and sustainable manner within the various communities.

The development of this Plan represents a major step in making the Parish of Trelawny the place of choice to live, work, raise families and do business" in keeping with the national vision for Jamaica outlined in Vision 2030 Jamaica National Development Plan.

Once again, congratulations on the timely completion of the Plan. We look forward to the implementation of the projects and programmes towards the success of the Trelawny Local Sustainable Development Plan.

**Peter Knight, JP, Chief Executive Officer/Government Town Planner
National Environment & Planning Agency**

ABOUT THE PLAN

It was the eminent Professor Ralston “Rex” Milton Nettleford a son of Trelawny and the then Chairman of a special Government-appointed Committee of Advisors on Government Structure who recommended to the Prime Minister that each Parish needs to develop a twenty (20) year sustainable development plan. As such, the Trelawny Parish Council (TPC)

in keeping with the proposed decentralisation of the planning framework in Jamaica has taken the lead role in the preparation of the Trelawny Local Sustainable Development Plan, to guide the Parish towards sustainability.

The current constraints to development expressed by residents include the need for land titles to be used as an instrument for credit in the creation of wealth and removal of poverty from the residents of the Parish. Such a problem has been hampering farmers in southern Trelawny and the owners of Georgian properties in Falmouth. The lack of water to facilitate the development of agriculture and value added business ventures is also a major issue. Some of the potential areas for development were seen as a diverse tourism product through the development of the cruise ship pier and the use of the human and natural resources of the Parish like the human skills and Cockpit Country resources as attractions.

Issues like unemployment and under employment and the changes in the sugar protocol and the impacts in the sugar growing areas have been looked at. These issues are playing out today with the tariff removals and lower sugar prices. It was also highlighted that the need for a better understanding of the role of the Parish Council and a strategy of participatory governance, as this will get the citizens involved in the budget process and help set the priorities for future development.

With best practices, oversight and monitoring, and the upholding of acceptable standards, these practices will be seen as ways to preserve the built infrastructure and to provide affordable housing while addressing the potential challenge of informal settlements.

“As a society, we will need to have a shared set of core values which will allow us to achieve Vision 2030 Jamaica.”

~Vision 2030, Jamaica

The Need for the TLSDP

Sustainable Development Planning was identified as one of the most suitable approaches to effect orderly and progressive development at the Stockholm Conference on the Human Environment in 1972. A commitment to this paradigm was issued in 1992 at Local Agenda 21, which also identified that the decentralization of the planning process to the Local Authorities was critical to realising the objectives of the Agenda. It is now the mandate of all Local Authorities to prepare Sustainable Development Plans for their jurisdictions.

In February 2010, the Department of Local Government, in conjunction with Local Authorities conducted a one day Visioning Symposium. This Symposium was done to provide a forum for forging a vision for the development of each community and the Parish of Trelawny as a whole, to visualise what each community and Parish would become or achieve in twenty (20) years' time; and to ensure that such a vision would be a collective product of all relevant stakeholder groups in the Parish.

The discussions in the workshop groups captured the full range of development issues associated with the thematic areas and pulled from the participants their vision, the challenges, strategies and recommendations to be employed for sustainable development. This will act as a tool to guide the Local Planning Authority and to be considered in their Local Government Reform Plan and Corporate Plan.

From the Visioning Symposium it is clear that this Parish is aware of the direction in which it needs to go. However, the vision of the Parish cannot be accomplished if it remains an ideological thought. The Trelawny Local Sustainable Development Plan will be that vision manifested into reality. The TLSDP will not only guide and manage the orderly growth and development of the Parish in a way that meets the needs and aspirations of the citizens, but also support the Town and Country Planning (Trelawny Parish) Provisional Development Order, 2013, Vision 2030 and other policies of national development.

Goals and Objectives of the TLSDP

Goal No. 1: Establish a shared vision for Trelawny by identifying development issues, challenges, resources and needs.

Objectives:

- Undertake community sensitisation meetings and visioning workshops, stakeholders meetings and workshops, researches and consultations with stakeholders.
- Identify and address the issues and challenges faced relating to the Natural Environment, Social Environment, Economic Environment and Built Environment.
- Formulate a shared vision statement for the communities and the overall Parish.

Goal No. 2: Organise and enhance an effective decision-making process and encourage active participation at the local level.

Objectives:

- Ensure participatory and representative decision-making at the local level.
- Promote transparency by developing accountable and effective systems at the local level.
- Ensure public access to information and protect the rights and freedoms of the residents.

Goal No. 3: Coordinate projects and activities for local implementation that promote sustainable use of resources.

Objectives:

- Liaise with Community-Based Organisations (CBOs), Non-Governmental Organisations (NGOs), Government Agencies and Private Sectors to identify and prioritise projects and activities with the input of a project team.
- Ensure projects and activities identified promote sustainable use of resources.

- State requirements to begin the implementation process.

Goal No. 4: Monitor and evaluate the progress of projects and activities to be implemented.

Objectives:

- Develop methods for monitoring and evaluating the implementation process.
- Ensure plans are in place for the implementation of the projects and activities.
- Identify clear and measureable milestones or outputs to be accomplished within a specified period.

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CHAPTER 1

INTRODUCTION TO THE PLAN

TRELAWNY LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond



This chapter includes a description of the background information on the Parish, the purpose and Authority of the Development Plan, an overview of the legislative framework, the approach and methodology employed and the organisation of the plan.

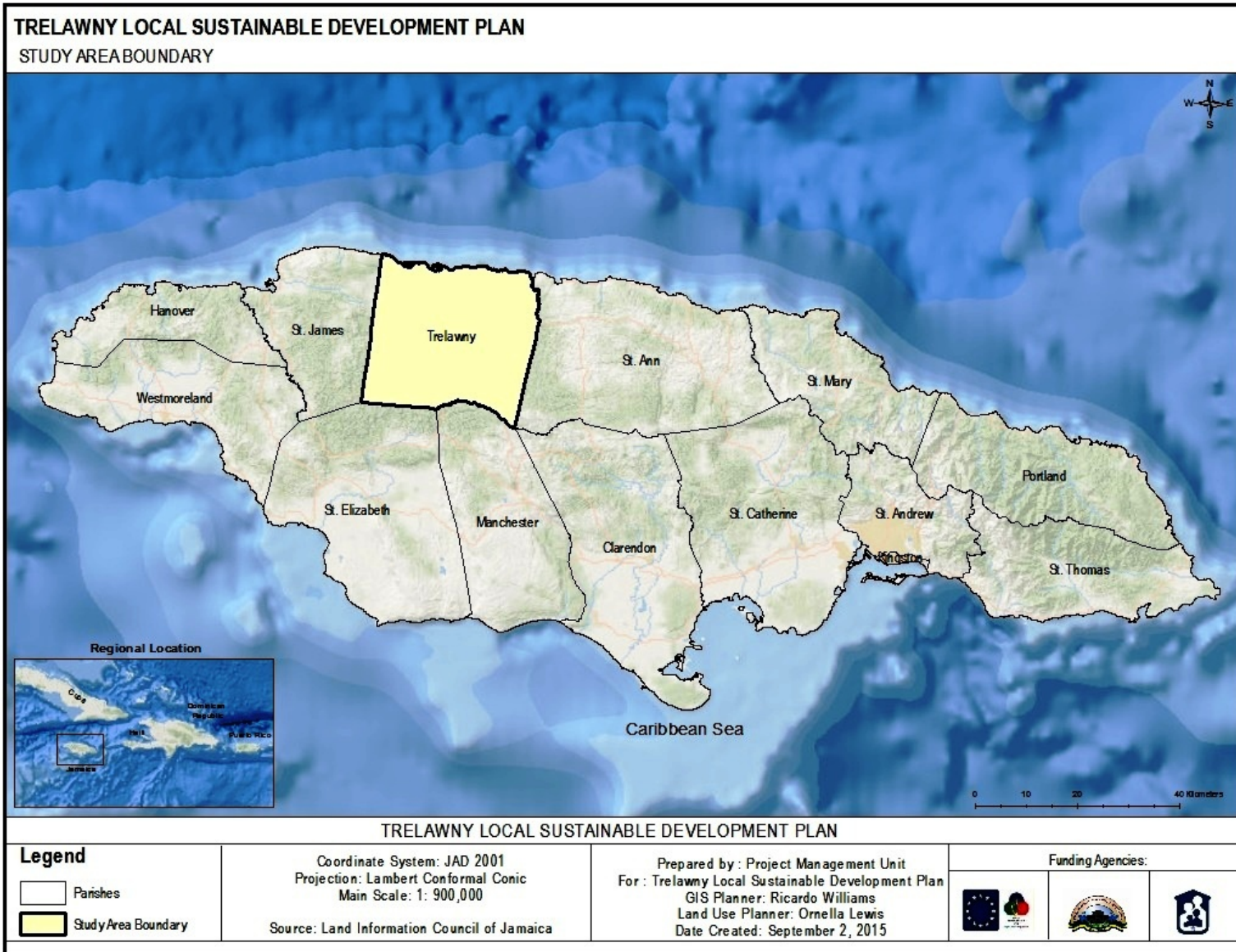
1 INTRODUCTION

The Trelawny Parish Council (TPC) in keeping with the proposed decentralisation of the planning framework in Jamaica is taking the lead role in the preparation of the Trelawny Local Sustainable Development Plan (TLSDP). This Development Plan will act as a guide for the Local Planning Authority to better manage the orderly growth and development of the Parish by identifying areas of improvement and opportunities and the strategies to achieve the goals and objectives of the Parish.

An active participatory approach to planning and development was undertaken for the preparation of the Plan, in order to develop a planning strategy that will promote integration between the local and national planning authorities. This was based on community involvement and active participation of the local agencies, private sector organisations, civil society and community groups, where the citizens determined a vision for the Parish and devised strategies to achieve this vision.

1.1 Location

Map 1 below shows the study area boundary, shaded in yellow, within the country of Jamaica. The study area boundary is the Parish of Trelawny and is located on the north-western region in the county of Cornwall of the island of Jamaica. The Parish is bordered on the north by the sea, on the south by the Parishes of St. Elizabeth and Manchester, the east by the Parish of St. Ann and on the west by the Parish of St. James. Its capital, Falmouth, located in the northern section, is the main town and is historically noted as one of the best-preserved Georgian towns in the Caribbean as well as for the famous Port of Falmouth. The southern section of the Parish is a part of the Cockpit Country, which boasts a high diversity of plants and animals.



Map 1 Study Area Boundary.

1.2 Boundary Description

Starting at Long Bay, at a point where the St. James and Trelawny Parish Boundaries meet the coastline, thence generally southerly along the said boundary line to a point where the St. James, Trelawny, and St. Elizabeth Parish Boundaries meet, thence generally easterly along the St. Elizabeth and Trelawny Parish Boundary line to a point where the Manchester, St. Elizabeth and Trelawny Parish Boundaries meet at the start of the Hectors River; thence generally north-easterly, then south-easterly along the course of the Hectors River, which is the Trelawny and Manchester Parish Boundary line, to Silent Hill at a point where the Clarendon, Manchester, Trelawny and St. Ann Parish Boundaries meet; thence north-easterly along the Cornwall and Middlesex County Boundary line, to a point approximately three hundred and four metres north of the main road from Stewart Town to Discovery Bay; thence generally northerly along the Rio Bueno River which is also the Parish boundary of Trelawny and St. Ann, to a point where the said boundary line meets the coastline, east of the old main road from Falmouth to Rio Bueno, in the Rio Bueno Harbour; thence in a straight line perpendicular to the sea coast at this point to a point on the off-shore territorial limits; thence generally along the territorial limits to a point directly opposite the starting point; thence in a straight line back to the starting point at Long Bay, including all off-shore islands, cays and man-made and natural accretions within the territorial waters (*Source: Trelawny Provisional Development Order, 2013*).

The Town and Country Planning (Trelawny Parish) Provisional Development Order, 2013 lists nine (9) Local Planning Areas that are concentrated on the growth centres of the Parish and are specified in Part II of the First Schedule. As indicated in the Order, *“The purpose of these centres is to achieve a rational pattern of land use and community development which will offer a guide to where is most appropriate for receiving priority in future public and private investments”*.

The Local Planning Areas are as follows:

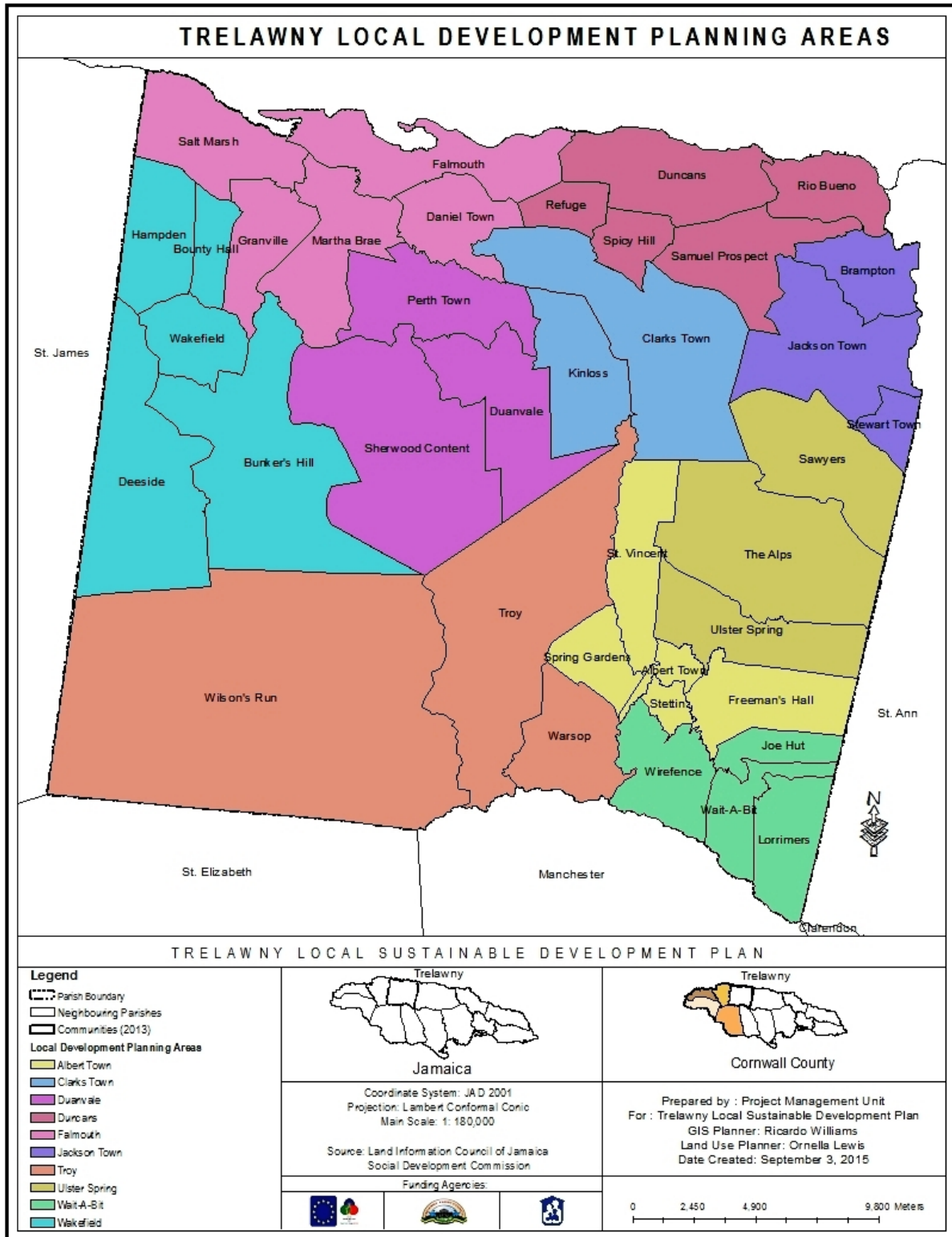
1. Falmouth Local Planning Area
2. Duncans Local Planning Area
3. Clark's Town Local Planning Area
4. Albert Town/Ulster Spring Local Planning Area
5. Duanvale Local Planning Area
6. Wait-A-Bit Local Planning Area
7. Jackson Town Local Planning Area
8. Wakefield Local Planning Area

9. Stewart Town Local Planning Area

For the formulation of the Trelawny Local Sustainable Development Plan (TLSDP), the term “Local Planning Areas” will not be used, as the focus is on all the communities within the Parish and not only on the growth centres, as such these groups will be termed as “Local Development Planning Areas” (LDPAs). A total of ten (10) LDPAs are listed below in Map 2.

The Local Development Planning Areas are as follows:

1. Albert Town Local Development Planning Area
2. Clark’s Town Local Development Planning Area
3. Wakefield Local Development Planning Area
4. Ulster Spring Local Development Planning Area
5. Falmouth Local Development Planning Area
6. Wait-A-Bit Local Development Planning Area
7. Jackson Town Local Development Planning Area
8. Duncans Local Development Planning Area
9. Troy Local Development Planning Area
10. Duanvale Local Development Planning Area



Map 2 LDPAs and Communities located within Trelawny.

According to the Social Development Commission (SDC) 2015, there are thirty-eight (38) communities and one hundred and eighty-nine (189) districts in the Parish. These communities and districts are divided into five (5) Development Areas (DA) as depicted in the table below in Table 1.

Table 1 Development Areas in Trelawny.

Development Areas	Communities	Districts
Albert Town	14	55
Clark's Town	6	32
Duncans	5	18
Falmouth	8	54
Wakefield	5	30
Total	38	189

Source: Social Development Commission, 2015

Trelawny's sources of employment are based on agriculture, manufacturing and tourism. The Tourism Sector is booming, with a number of visitors expressing interest in the historical, cultural and heritage sites, as such growth opportunities are expected for the region. Rum and sugar are Trelawny's principal products with other crops including bananas, yams, strawberries, vegetables, pimento, coffee, ginger, and coconut. Though the fishing industry is declining, the Parish still produces a large amount of fish and other seafood. There are twelve (12) beaches along the coast, twenty-seven (27) fish ponds, as well as rivers in the Parish (Appendix 2).

In the past, there were numerous factories that produced sugar, rum, and apparel, among other things. Two (2) of the eight (8) remaining sugar factories in Jamaica are in Trelawny - Hampden Sugar Factory, and Trelawny Sugar, formerly Long Pond Sugar Factory.

1.3 Historical Background

The Parish of Trelawny originated from the eastern section of St. James and the western section of St. Ann, as the wealthy property owners began to demand their own capital, and complained that the administrative centres were located too far for them to conduct business. Founded in 1770, the Parish was made up of the area from Long Bay running south up to the northern boundary of the Maroon or Accompong Settlement of St. Elizabeth and got its' name from the then Governor of Jamaica, Sir William

Trelawny who served from 1767-1772. Presently, Trelawny covers about 388 square miles (875 square kilometres), making it the fifth (5th) largest Parish on the island.

During this period, Trelawny had the most sugar estates and sugar factories in the country with sugar being the main contributor to the economy. There were as many as 100 estates and no less than 40 sugar factories. It also had the most slaves with 25,830 listed in 1825. By 1927 the number of estates had fallen to 16, nonetheless, the Parish still produced more sugar than any other Parish in the island.



View from the Church Tower – 1844 (Adolphe Duperly)



View from the Church Tower – 2012

The first capital of the Parish was Martha Brae, located two (2) miles (3.2km) from Rocky Bay. By 1790, Trelawny reputedly had more sugar estates than any other Parish, therefore the Parish Council purchased lands at Palmetto Point from Edward Moulton Barrett as there was a need for a sea port to accommodate larger exports of sugar. It was here at 'Barrett Town' that the council built and created the new capital, known as Falmouth, one of the best planned towns in Jamaica. The Parish capital also became a thriving sea port and social centre as the planters erected luxurious townhouses and other structures, creating Falmouth as a historical and architectural treasure. The town had two of its own newspapers; the Falmouth Post and the Falmouth Gazette.

The Falmouth town area was laid out with all modern amenities, including a water supply piped to the houses of the rate payers. Water was pumped from the Martha Brae river by a 6.096 metres water wheel, known as the Persian wheel, through this medium, water was raised up to a trough so that it could flow to

the tank in water square, Falmouth about two miles away. Interestingly Falmouth received piped water before the city of New York.

Trelawny was also home to the largest group of Maroons, who lived in the southern section in the Cockpit Country. In 1739 a treaty between the Maroons and the English gave the Maroons their freedom and land, which effectively put a stop to their raids on the plantations. However, a second uprising in 1795, led to over 600 Maroons being exiled to Nova Scotia in Canada and later to Sierra Leone in Africa in 1800.

In 2007, the opening ceremony for the International Cricket Council (ICC) Cricket World Cup was held at the Greenfield Stadium which also now hosts Jamaica's prestigious annual Jazz and Blues Festival and other events. The Parish has been benefiting from the opening of the Historic Falmouth Cruise Port in 2011 which is seen as a means to increase the tourism industry in Jamaica. The Port has become a major destination for local and overnight visitors.

Many famous people have been linked to the Parish of Trelawny. Some of these persons include Governor of Jamaica Nugent and Lady Nugent who served in April 1801, William Knibb, a Baptist Minister and Abolitionist, and Joseph Bartholomew Kidd, Scottish painter who is known for his sketches of the island. Trelawny is also the birthplace of the Most Honourable Dr. Usain Bolt, the Fastest Man in the World boasting records for the 100 metres (9.58) and 200 metres (19.19) and other track and field athletes.

1.4 Purpose and Authority

The Parish of Trelawny boasts an exceptional rich and diverse range of cultural, historical and natural resources. Local Sustainable Development Planning was identified as one of the most suitable approaches to effect orderly and progressive development at the Stockholm Conference on the Human Environment in 1972. A commitment to this paradigm was issued in 1992 at Local Agenda 21, which also identified that the decentralisation of the planning process to the Local Authorities was critical to realising the objectives of the Agenda.

The Plan was prepared by the Project Management Unit of the Trelawny Local Sustainable Development Plan and spearheaded by the Trelawny Parish Council in partnership with the Sugar Transformation Unit (STU) of the Ministry of Industry, Commerce, Agriculture and Fisheries, the National Housing Trust (NHT), the Social Development Commission (SDC), the Urban Development Corporation (UDC), the National

Environment and Planning Agency (NEPA), and the Jamaica National Heritage Trust (JNHT) along with other Agencies.

1.5 Legislative Framework

In Jamaica, there are numerous legislations and regulations that are pertinent to sustainable management and protection of the country's resources. The Ministry of Local Government and Community Development facilitates the development of communities in the Parish in collaboration with National Environment and Planning Agency (NEPA) under supervision of the of the Natural Resources Conservation Authority (NRCA) /Town and Country Planning Authority (TCPA) along with the Trelawny Parish Council (TPC) to ensure that orderly development takes place in Trelawny. For the TLSDP, the major governing legislations, policies and regulations to guide planning and development in Jamaica are incorporated in the Table 2 below.

Table 2 Legislations and Regulations governing Jamaica.

Legislation/Regulation	Date Operational	Agency with Responsibility
Beach Control Act	1956	National Environment and Planning Agency
Clean Air Act	1964	Ministry of Health
Country Fires Act	1942	Ministry of Industry, Commerce, Agriculture and Fisheries
Endangered Species (Protection, Conservation and Regulation of Trade) Act	2000	National Environment and Planning Agency
Fishing Industry Act	1975	Fisheries Division - Ministry of Industry, Commerce, Agriculture and Fisheries
Forest Act	1996	Forestry Department - Ministry of Industry, Commerce, Agriculture and Fisheries
Harbour Act	1874	Port Authority of Jamaica
Jamaica National Heritage Trust Act	1985	Jamaican National Heritage Trust
Land Acquisition Act	1947	Commissioner of Lands
Land Development and Utilisation Act	1977	National Environment and Planning Agency
Mining Act	1947	Mines and Geology Division
Natural Resources Conservation Authority Act	1991	National Environment and Planning Agency

Pesticides Control Act	1975	Ministry of Health
Parish Councils Building Act	1908	Ministry of Local Government and Community Development
Public Health Act (Air, Soil and Water Regulations)	1976	Ministry of Health
Public Health Nuisance Regulations	1995	Ministry of Health
Solid Waste Management Authority Act	2001	National Solid Waste Management Authority
Tourist Board Act	1985	Ministry of Tourism
Town and Country Planning Act	1958	National Environment and Planning Agency
Watershed Protection Act	1945	National Environment and Planning Agency
Wild Life Protection Act	1945	National Environment and Planning Agency

The **Town and Country Planning Act (TCPA) 1958**, is the main legislation which makes provision for the orderly and progressive development of land in Jamaica. This Act stipulates the need for the preparation and implementation of Development Orders (DOs) to regulate specific types of development within a defined area.

The **Natural Resources Conservation Authority (NRCA) Act 1991**, is the legislation that focuses on the conservation, protection and management of the environment in Jamaica. The Act establishes the National Resources Conservation Authority with responsibility for administering to the country's natural resources.

The **Parish Councils Building Act 1908**, facilitates development control with regards to the design, construction, maintenance, alteration and repair of buildings in order to ensure safety within the build environment.

The **Forest Act 1996**, addresses the sustainable management of forests on lands in the possession of the crown and vests management responsibility in the Conservator of Forests within the Forestry Department. The Act provides for the establishment of forests reserves, the establishment of protected areas, the promotion of forestry research areas, reforestation initiatives and the preparation of a Forestry Management Plan island wide.

The **Land Development and Utilisation Act 1977**, makes provision for the development and use of land designated as agricultural lands. The Land Development and Utilisation Commission was established to

ensure that occupiers of agricultural lands fulfil their responsibility under this Act to have such lands properly developed and utilised.

Through the **Jamaica National Heritage Trust (JNHT) Act 1985**, the Trust was established as a corporate body with functions of promoting the preservation of national monuments and anything designated as national heritage.

The **Watershed Protection Act 1945**, provides for the designation of watersheds for conservation purposes, to reduce soil erosion, ensure regular flow in rivers and streams, maintain optimum levels of groundwater, and encourage proper land use to protect watershed recharge. The Martha Brae Watershed in the Parishes of Trelawny and St. James is protected under this act.

1.5.1 National Plans and Policies

The Government of Jamaica has produced a series of plans and policies to address planning and the environment. The following are considered relevant to the preparation of this Development Plan.

Vision 2030 Jamaica is Jamaica's first long-term National Development Plan, geared towards sustainability which integrates and balances the economic, social, environmental, and governance components of national development whilst focusing on achieving a developed country status by 2030.

The **Jamaica National Environment Action Plan (JaNEAP)**, is a national document that provides new directions and plans for sustainable development by addressing the environmental issues facing Jamaica.

The **National Land Policy 1996**, entails stable and sustainable strategies, projects and programmes to enhance the efficient planning, management and use of land in Jamaica.

The **National Forest Policy 2001**, addresses the activities that are deemed crucial to the maintenance of a vibrant forestry sector. These include, but is not limited to the need for the development of forest management plans; mechanisms governing forest management data collection; the demarcation of jurisdictional boundaries; the regulation of (1) activities on Crown and privately owned lands, (2) the forest sector, and (3) forest-based industries.

The **National Industrial Policy (NIP) 1996**, is an integrated and structured economic policy targeting production sectors with the goal of export growth and diversification of tradable good and services by providing investments and sustainable economic growth for Jamaica.

1.5.2 Development Order and other Local Plans

The Town and Country Planning Authority after consultation with the Trelawny Parish Council collaborated and prepared a **Provisional Development Order, 2013** for the Parish. This document is used to guide development as it relates to land use and land use changes, as well as to foster economic, environmental, cultural, physical and social well-being.

The **Greater Falmouth Re-Development Plan, 2012** was prepared by the Urban Development Corporation (UDC) to guide development of the built and natural environment whilst preserving Falmouth's rich historic and cultural heritage.

Greater Falmouth Development Plan, 1998. The Town Planning Department along with the Trelawny Parish Council took the initiative and prepared this plan to guide development in an orderly and planned manner, especially with regards to the wetlands and the preservation of the architectural integrity of Falmouth.

Pre-Feasibility Study for the Restoration of Greater Falmouth, 1998. This study was initiated by the Organisation of American States (OAS) to improve the historical and cultural influences in Falmouth while promoting sustainable development of the tourism sector.

Master Plan for Sustainable Tourism Development in Jamaica, 2002. The main objective is to promote sustainability within the Tourism Industry, while developing a strategic vision to foster growth and development as well as to establish an enabling environment for the realisation of that vision.

1.5.3 International Conventions and Treaties

The Government of Jamaica and by extension the Trelawny Parish Council is committed to addressing environmental issues, as they are aware of the many environmental challenges faced as a Small Island Developing State (SIDS).

The **Convention on Wetlands/Ramsar Convention** was signed in 1971 and came into force in 1975. This international treaty is one which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. In 1997, Jamaica became party to this convention.

Convention concerning the Protection of the World Cultural and Natural Heritage, Paris, 1972 (WCNH). The most significant feature of the 1972 World Heritage Convention is that it links together in a single document the concepts of nature conservation and the preservation of cultural properties. The Convention recognises the way in which people interact with nature, and the fundamental need to preserve the balance between the two.

Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). The MARPOL Convention is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. It is a combination of two treaties adopted in 1973 and 1978 respectively and updated by amendments through the years.

The **Convention on International Trade of Endangered Species (CITES), 1975** is an international agreement between governments that aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Jamaica became party to this Convention in 1997.

The **Kyoto Protocol (1994)** is an international agreement linked to the United Nations Framework Convention on Climate Change (UNFCCC). The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialised countries and the European community for reducing Greenhouse Gas (GHG) emissions.

The **Convention on Biological Diversity (CBD)** was negotiated under the auspices of the United Nations Environment Programme and entered into force in 1993. The three goals of the CBD are to (CBD, 2006):

- Promote the conservation of biodiversity;
- Sustainable use of its components;
- The fair and equitable sharing of benefits arising out of the utilisation of genetic resources.

1.6 Guiding Principles

Implicit within the Local Sustainable Development Planning Framework is a holistic approach that integrates economic development, ecological development and social development within a framework of governance. The following principles as listed in Figure 1 served as a guide for the TLSDP:

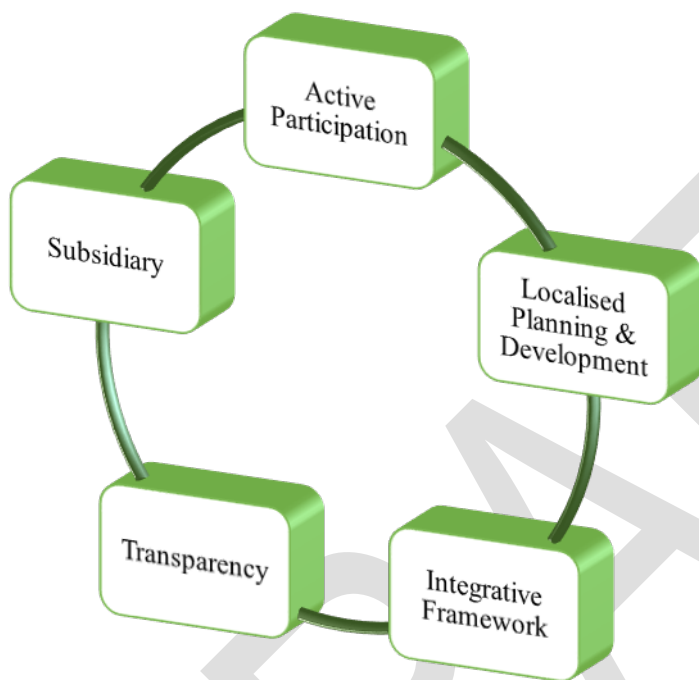


Figure 1 Guiding principles for the TLSDP.

Principle 1: Active Participation

Local leadership participation and local ownership of the ideas and the process to ensure governance that is participatory, equitable and sustainable. The methodology engaged to prepare the TLSDP involved a process that is highly participatory to ensure the commitment of residents, communities and stakeholders from within the Parish. It also involved the active participation of neighbouring Parishes to ensure the cohesiveness of the Development Plan. The community members and the stakeholders played a vital role in the TLSDP as they were knowledgeable about the communities and its resources, which the Project Management Unit (PMU) greatly relied upon for the preparation of the plan. Emphasis was placed on engaging the members in the planning process through community meetings and mobilisation, leadership strategies and visioning workshops.

The preparation of the Plan involved the collaboration and coordination of the following agencies, but not limited to: Ministry of Local Government and Community Development (MLGCD), National Environment and Planning Agency (NEPA), Urban Development Corporation (UDC), National Works Agency (NWA), Social Development Commission (SDC), Planning Institute of Jamaica (PIOJ), other Public Sector agencies within Trelawny, Civil Society including Citizens Groups, Non – Governmental Organisations (NGOs), the Trelawny Chamber of Commerce, Private Sector etc. The LSDP will be developed using strategies and initiatives to meet the needs and aspirations of the people in Trelawny.

Principle 2: Localised Planning and Development

Local Authorities being the level of Government closest to the people, play a crucial role in promoting sustainable development by educating, mobilising, and responding to the public. It was a requirement that participation from the TPC and supporting Government Agencies as well as the civil society partners contribute their technical expertise and knowledge in order to influence the outcome of the plan.

Principle 3: Integrative Framework

There is no single Agency with the mandate to achieve all aspects of sustainable development; therefore, objectives and strategies for the Plan were designed to maximise collaboration, and integration of all sustainable development planning and management efforts between international, national and local levels.

Principle 4: Transparency

The importance of governance cannot be overstated, as it is vital in building sustainable communities. It was guaranteed that community members have open access to crucial information and citizen participation in decision making at all levels. This showcased how and why decisions were made and the measures which were offered to determine the outcome of this process.

Principle 5: Subsidiary

The responsibility and authority for any task or function was assigned to the lowest level at which it was effectively performed or to the level nearest to which people were directly affected by it.

1.7 Trelawny's Approach and Methodology

For the successful preparation and implementation of the Trelawny Local Sustainable Development Plan, a strategic and integrated approach was used to guide the sustainable planning process. The aim was to bring together the aspirations and capacities of the National and Local Government, private sector, civil society and community groups to create a shared vision for the future and to work diligently and progressively towards it. The elements of the Trelawny Local Sustainable Development Planning Process, as outlined in Figure 2 are divided into three (3) stages as follows:

1. Preparatory Phase

The Trelawny Local Sustainable Development Planning Process started with the identification of partners and stakeholders that participated, ideally consisted of the administrative, political, business representative, civil society and community members. This partnership enabled active participation in the decision-making process as it relates to the development of the Parish and the preparation of the Development Plan. Political will was also sought from the relevant personnel in this stage where strategies were developed for the preparation of the plan.

2. Planning Phase

To guide the planning and development of the Plan, the gathering of data and community information from available development plans, (research papers) studies and community profiles was necessary as they were used as a benchmark to develop indicators for the sustainable development of Trelawny. To ensure continued community involvement in the planning process, a total of twelve (12) Parish-wide community sensitisation meetings and visioning workshops were held based on Local Development Planning Areas (LDPA). From these visioning workshops, a clear vision, the goals, objectives and strategies for achieving these objectives were formulated with the stakeholders.

3. Implementation, Monitoring and Evaluation Phase

The actions for implementation were identified and discussed through the participatory and consultative meetings, and were developed for the short, medium and long term. The monitoring and evaluation process will, however require continued involvement of the Local Planning Authority and other Agencies as there will be on-going changes that will need updating.

The Trelawny Local Sustainable Development Planning Process

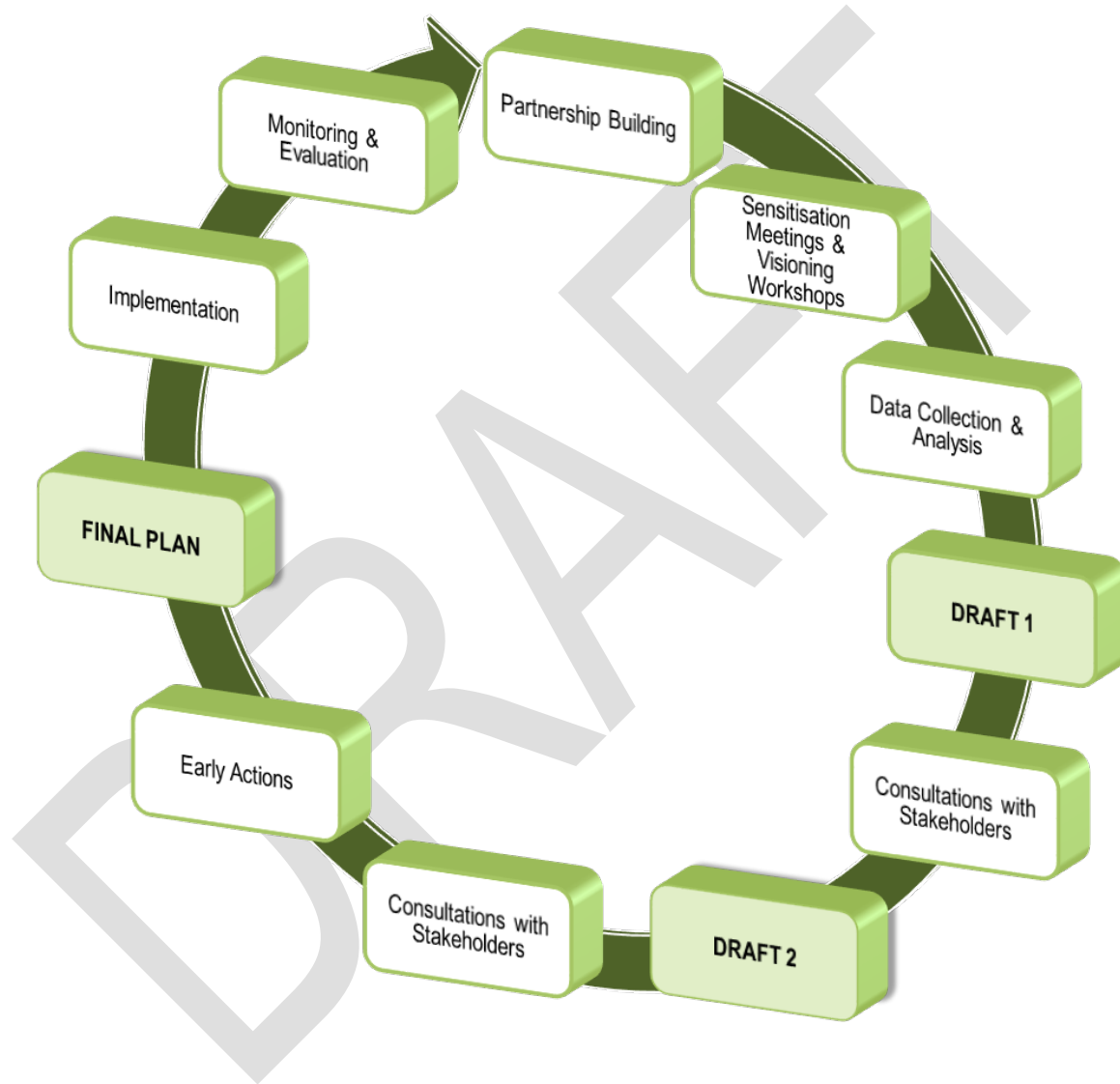


Figure 2 Trelawny Local Sustainable Development Planning Process.

The stages for the Development Plan preparation as outlined above involved a detailed, systematic and cyclical process that outlined the twelve (12) strategic planning elements to guide the development and management of the Parish over the next twenty (20) years. These elements are listed in the figure below and each stage has been described in the text.

- *Partnership Building* – the key partners and stakeholders were identified and new partnerships were outlined as well as the strengthening of partnerships that were already formed. The TPC included the following entities in the planning process of the TLSDP: Ministry of Local Government and Community Development, Social Development Commission, Sugar Transformation Unit, Urban Development Corporation, Jamaica National Heritage Trust, Falmouth Heritage Renewal, National Environment and Planning Agency, National Land Agency, Planning Institute of Jamaica, Statistical Institute of Jamaica, National Spatial Data Management Division, Trelawny Chamber of Commerce and the Parish Development Committee.
- *Community Sensitisation Meetings and Visioning Workshops (SM&VW)* – Community Sensitisation Meetings and Visioning Workshops were held in collaboration with supporting Agencies to inform the citizens about the preparation of the TLSDP and to discuss the major issues and challenges affecting them as well as solutions.



Community Sensitisation Meeting – Falmouth LDPA.



Visioning Workshop – Albert Town LDPA

The purpose of the Visioning Workshops was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able

achieve in twenty (20) years' time.

- *Data Collection and Analysis* – the collection of data and information on the Parish from the relevant agencies and community members. Relevant information on all aspects of the sustainable development of Trelawny and surrounding communities were identified, collected and synthesised. The database included both primary and secondary information on the following elements, which are categorised under the following headings: Natural Environment, Socio-Cultural Environment, Economic Development and Wealth Creation, Built Environment and Governance, Civic Participation and Empowerment.

Land Use Survey

This component served as a basis for the designation of future land uses in accordance with community goals and objectives as well as to provide a basis for promoting and protecting land uses and values in Trelawny.

The specific objectives of this component were to produce thematic colour-coded maps of the designated area showing, among other things:

- Existing land uses;
- Areas of present or potential land use conflicts; non-conforming use; threshold levels and land reservation;
- Areas under stress and fragile ecological zones and
- Natural resource locations if any and areas of historical and cultural value.

Qualitative data on building condition, site condition and street maintenance data were also collected. To complete this component the following activities were accomplished:

- Training of Staff and Survey Data Technicians
- Survey and inventory of communities
- Collation and analysis of survey instrument

- Analysis of land tenure data
 - Map preparation and production
- *DRAFT 1* – the first draft of the plan, included information gathered from the community Sensitisation Meetings and Visioning Workshops as well as from other relevant documents that were analysed.
 - *Consultations with Stakeholders* – discussions with the stakeholders from Northern and Southern Constituencies were conducted about the progress of the Plan after initial review of the Draft 1.
 - *DRAFT 2* – this draft entailed a more detailed explanation of the shared vision and objectives of the Plan by outlining the local challenges and development opportunities as well as the existing and proposed Land Uses for the Parish.
 - *Consultations with Stakeholders* – discussions with the stakeholders about the progress of the Plan after initial review of Draft 2.
 - *Early Actions* – realising the early implementation of proposed projects and activities that have been given priority following discussions/consultations with the Stakeholders. Areas for specific attention were identified along with the input of Community Members through active participatory and consultative community meetings. Serious considerations were given to these projects and activities for early implementation.
 - *FINAL PLAN* – the completion of the Final Plan, outlined the shared vision, sustainable goals, objectives and strategies that would be used to guide the development of the Parish. The Trelawny Local Sustainable Development Plan includes goals and objectives for the Natural, Social and Cultural, Economic Development and Wealth Creation, Built and Governance, Community Empowerment and Civic Order Environment thematic areas. An implementation plan including the areas of priority and timelines also forms part of this comprehensive document as well as the process of monitoring and evaluation of the Development Plan.
 - *Implementation: Putting the Plan into Effect* – the Local Planning Authority will be responsible for the successful execution of projects and activities indicated in the Development Plan.

- *Monitoring and Evaluation* – assessment of the plan to judge the progress reached in the execution of the goals, objectives and strategies and to make suitable changes as required. It is expected that the Plan will be implemented via the TPC with the aid of the Partnering Agencies. Review of the Plan is expected to take place every five (5) years.

1.8 Global and Local Challenges

The citizens of Trelawny have identified through discussions at sensitisation meetings and workshops the scope of the natural, social and economic developmental trends that contribute to the changes experienced in the Parish. The local and global challenges include:

- The potential of **global climate change** to intensify the effects of these national, regional and local trends;
- The **anticipated high growth rate** of Trelawny's population due to the Falmouth Historic Cruise Pier and other developments as well as the boost in both tourism and heritage preservation efforts;
- The contribution of **internal migration** to the Parish's increasing rate of population and housing stock (Florence Hall Village, Stonebrook Vista, Stonebrook Estate, Outram Estate, Holland Estate, Coral Spring Village and Tamarind Ridge Development);
- The influence of major infrastructure decisions (North Coast Highway) and the **migration** of people between the Parishes of St. James and St. Ann;
- The **conservation and preservation of the area's natural resources** to enable environmental sustainability;
- The lack of **active participatory governance, transparency** and involvement of civic organisations and
- The **shortage of jobs and economic opportunities** threatening medium and long-term economic sustainability.

The challenges listed should be appropriately addressed to ensure Trelawny's future through effective and integrated plans for land use and zoning, water, agriculture, mining, infrastructure and other social services that empower and guide the Local Planning Authority, National Agencies and Civil Society.

1.8.1 Climate Change

One of the greatest environmental issues or challenges of our time is climate change. Climate change is a change in the average weather conditions caused by various factors such as natural variations, volcanic eruptions, while also including certain human activities. The Intergovernmental Panel on Climate Change (IPCC) refers to Climate Change “as a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the means and/or the variability of its properties, and that persist for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability as a result of human activity”.

These factors have significantly increased the amounts of carbon dioxide and monoxide and other greenhouse gases emitted into the atmosphere. As such, Jamaica and the other thirty-eight (38) Small Island Developing States (SIDS) are highly vulnerable to climate change and its effects. Consequently, Jamaica is now experiencing the continuing increases in temperatures, thus more frequent and severe droughts and storms, warmer and more acidic seas, destruction of protective and productive coral ecosystems, loss of beaches and, ultimately and most significantly to rising sea level all due to the expansion of ocean water.

1.8.2 Growth and Growth Management

Currently, Jamaica's population stands at 2,711,476 persons (STATIN 2012) with the Parish of Trelawny having a population of 75,164 persons. This depicts Trelawny accounts for 2.8 percent of the national population. This figure represented a growth rate of 0.2 per cent per annum between 1991 and 2012.

Despite the slow rate of growth, Trelawny also has a relatively young population, with persons under 15 years accounting for 31 per cent of the population in 2001. Thus, while the fertility rate is ascending, the region must anticipate a higher rate of natural increase over the next twenty (20) years.

1.9 Structure of the Plan

The TLSDP was prepared to facilitate the growth and development of the communities within Trelawny through an integrated and holistic approach. It will provide guidance for the proposed projects and activities anticipated over the next twenty (20) years and to also facilitate the short-term activities for implementation.

In order to achieve sustainability an integrated, holistic approach to the planning process is encouraged with the involvement of all stakeholders from the onset to evaluate the different aspects of economic development, environmental use and conservation and social involvement. The completed TLSDP will:

- Guide the development of future projects and proposals and act as a policy guide on good sustainable practice in developing and implementing strategies to policy makers, planners and development practitioners at the local and national levels;
- Develop a long-term shared vision and its alignment with regional and national policies;
- Develop dynamic partnerships between Government, private sector and civil society;
- Promote good governance and decentralisation;
- Create an Organised Body that will promote and supervise the Implementation of the Plan;
- Identify and utilise of available resources to improve economic the base of the Parish; and
- Identify strategies to protect and preserve the natural resources in the Parish.

1.10 How to use the Plan

The TLSDP represents an open and dynamic document, which should be updated on a regular basis to reflect the changes at the local, national and global levels, also including any other factors of strategic importance. Listed below are the elements of the TLSDP and a brief description of each chapter.

Focus for the TLSDP is towards the key dimensions of sustainable development:

The Natural Environment



This chapter includes a description of the approaches for effective environmental management, the main challenges faced as well as recommendations for the preservation and conservation of the natural environment.

The Social and Cultural Environment



This chapter includes a description of the approaches to enhance social and cultural well-being, population growths trends and projections, housing, education, health and heritage resources.



Economic Development and Wealth Creation

This chapter includes a description of the ways to strengthen relationships among the sectors that will boost the economic development of the Parish. These include tourism, agriculture, manufacturing as well as the advancement of existing industries and the establishment of new ones that will work harmoniously with the environment.



The Built Environment

This chapter includes a description of the physical elements in our surroundings that provide comfort and well-being, while focusing on land use and proposed land use, circulation and transportation and development control.



Governance, Civic Participation and Empowerment

This chapter includes a description of the approaches to enhance the need for active participatory governance as well as to develop ways to better set the priorities for development within the Parish.

The other chapters included in the TLSDP are:

Introduction to the Plan

This chapter includes a description of the background information on the Parish, the purpose and authority of the Development Plan, an overview of the legislative framework, the approach and methodology employed and the organisation of the plan.

Implementation: Putting the Plan into Effect

This chapter outlines the scope of work which needs to be taken and includes a description of the recommendations, projects and activities that would be implemented after the Trelawny Local Sustainable Development Plan has been adopted.

Monitoring and Evaluation

This chapter deals with monitoring and evaluation and consists of the methods used to compare the projects and activities for implementation with what has been outlined in the original Development Plan as well as to judge the execution of the goals and objectives.

Local Development Planning Area Specific Plans

This chapter focuses on the development issues and challenges faced by the specific Local Development Planning Area as well as the community aspirations as discussed in the visioning workshops that were held.



CHAPTER 2

THE NATURAL ENVIRONMENT

TRELAWNY LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond

This chapter includes a description of the approaches for effective environmental management, the main challenges faced as well as recommendations for the preservation and conservation of the natural environment.

2 THE NATURAL ENVIRONMENT

2.1 The Vision

The natural environment of Trelawny boasts unique and dramatic tropical karst topography, high-degree of bio-diversity of flora and fauna, wetlands, rivers and streams as well as a dense and revived forest system. The uniqueness of the Parish has generated development efforts for the preservation and conservation in order for present and future Jamaicans and the local community to enjoy its diversity, natural and cultural history.

The natural resources within the Parish are not only valuable, but are crucial as they will influence the social and economic well-being of the area, and the efforts that are being made to protect the natural environment will be greatly appreciated.

"Let us be good stewards of the Earth we inherited. All of us have to share the Earth's fragile ecosystems and precious resources, and each of us has a role to play in preserving them. If we are to go on living together on this earth, we must all be responsible for it."

*~Kofi Annan
Former United Nations Secretary-General*

2.2 Goal and Objectives

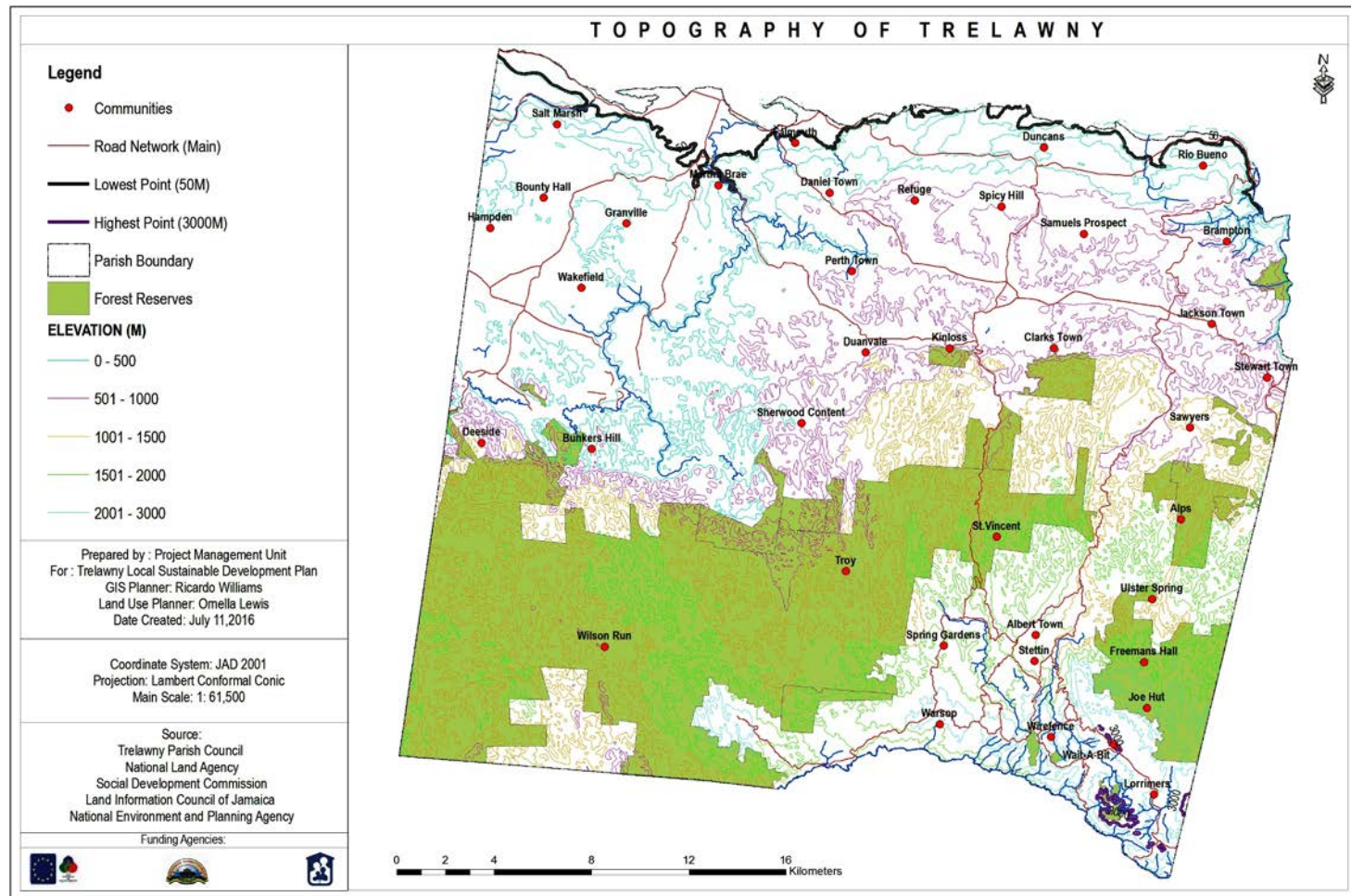
Goal: Preserve the quality and quantity of the natural environment and protect the environmentally sensitive ecosystems and protected species.

Objectives:

1. Minimise adverse impacts on the natural environment through leadership, policy, and regulation.
2. Address the issues pertaining to climate change and air quality through reduction of greenhouse gas emissions, and promote efficient and effective solutions.
3. Promote the protection of the natural environment by preserving environmentally critical areas, minimising pollution, and reducing waste of energy and materials.
4. Adopt the best environmental practices to effectively manage the forests reserves, protected areas, shorelines and wetlands.

2.3 Environmental Character

2.3.1 Topography



Map 3 Topography of Trelawny.

The Parish is sometimes referred to as 'Cockpit Country' and is recognised by its steep-sided hollows, as much as 120 metres deep in places, which are separated by conical hills and ridges. Majority of the southern section of the Parish lies in the Cockpit Country which is formed from white limestone with little sinkholes at the apex of the cone like rocks as depicted in Map 3. The dangerous rigged terrain makes approximately one half of the Parish uninhabitable.

The northern section of the Parish is relatively flat, with wide plains, among which are the Queen of Spain Valley in the West rising up to 230 metres above sea level, Spring Vale at 230 metres, Windsor at 180 meters, Jackson Town and Stewart Town at 230 metres with most of the lower Trelawny at 230 metres above sea level. The highest point in the Parish is Mount Ayr which is 910 metres above sea level.

2.3.2 Climate

Trelawny is ideally situated on the north coast, with tropical climate of warm trade winds and northerly winds that are typical of the northern half of the island. The climate of Trelawny, like the rest of Jamaica, has a tropical maritime climate, which is influenced by its topography, Northeast Trade Winds, the central mountain ranges, the warm waters of the Caribbean Sea and the weather systems; troughs, cold fronts, depressions, hurricanes and storms.

Rainfall. Rainfall is the main factor that causes variation in temperature, humidity and evaporation. The annual rainfall for Jamaica ranged from a maximum of 2593mm in 1963 and a minimum of 132mm in 1976, from the period of 1951 to 1980 (Meteorological Service Jamaica, 2015). The hundred-year (1881-1990) mean annual rainfall was 1895mm. The highest rainfall over a year on record was in 1933 with an annual rainfall of 2690mm, while the driest year was 1920 with an annual rainfall of 1299mm. There are also two (2) distinct wet seasons through the year occurring as regular yearly cycles in May to June and September to November. Rainfall during the September to November periods is associated with tropical waves and depressions produced by upper and lower level troughs.

September 2015 saw the island rainfall averaging 70mm which corresponds to 35 per cent of the 30-year (1971-2000) mean, which was 113mm less than that of September 2014 (Meteorological Service, Jamaica, 2015). For Trelawny, the mean rainfall for September 2015 was 33mm compared to the September 2014 recorded figures of 163mm. This is 28 per cent of the 30-year (1971-2000) mean or 72 per cent below what is normal for this time of the year (Meteorological Service Jamaica, 2015).

Temperature. The island's temperature is under the influence of the warm Caribbean Sea and is fairly constant throughout the year. The island's northeasterly prevailing winds and average daily temperatures vary from 26°C in January to a high of 30°C in August. Being that the northern section of Trelawny is located on a coastal area, overall the Parish experiences temperatures averaging 26 degrees Celsius (°C) with nighttime temperatures ranging from 19 °C to 26 °C.

Relative Humidity. In Jamaica, the relative humidity varies throughout the day. The major cause for the daily variations in relative humidity is afternoon showers. The highest values were recorded during the cooler morning hours, followed by a decrease until the early afternoon, when temperatures are highest. Relative humidity ranges from 66 per cent and 87 percent with a significant daytime variation resulting in high morning humidity dropping off significantly in the afternoon.

Wind. Throughout the year, the Northeast Trades dominates the daily wind pattern for the island. During the day, the North Coast experiences sea breeze combines, with the Trades to give an east-north easterly wind at an average speed of 15 knots (27 km/h). The night wind patterns include the trade winds combine with land breezes, which blow offshore down the hills close to the coast. This result in night time winds on the North Coast having a southerly component, with a mean speed of 5 knots (10 km/h). By day, from June to July, mean onshore winds often reach a maximum of up to 23 knots (42 km/h) along the North Coast (Meteorological Service, Jamaica, 2015).

Sunshine. The maximum day-length of sunshine in Jamaica is 13.2 hours in the month of June and the minimum day-length, which occurs in the month of December, is 11.0 hours. The mountains receive less sunshine, with a mean of less than 6 hours per day, than the coastal area at an estimate of 8 hours (Meteorological Service, Jamaica, 2011).

2.3.3 Geology

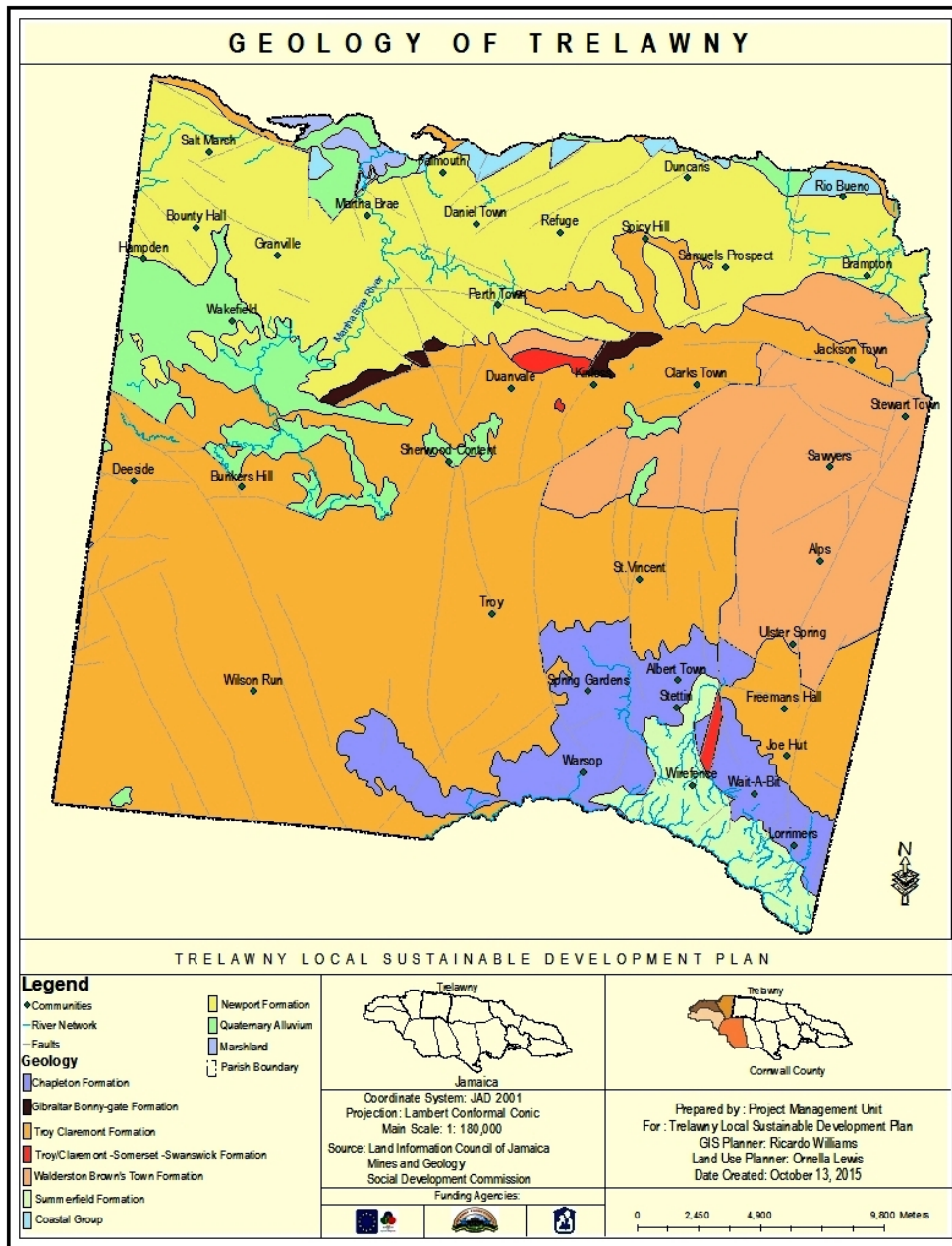
Within the Parish of Trelawny there is only one (1) Watershed Management Unit (WMU); the Martha Brae Watershed Management Unit. Trelawny is comprised of different geological formations, which is depicted in Map 4. To the centre of the Parish and extending to the south are mainly the Troy/Claremont, Somerset and Swanwick Formations of the White Limestone Group. Further south and specifically south - south east, the geology comprises of the Chapelton Formation which is a member of the Yellow Limestone Group and of the Cretaceous Rocks which

are volcanic in nature, both formations are part of the Central inlier. The north of the Parish comprises mainly of the Montpelier Formation, another member of the White Limestone Group. The Montpelier Formation is typified by chalky limestones. There are also Alluvium and other Superficial Deposits. The limestone formation is highly fractured with faults traversing the entire Parish (Table 3).

Table 3 Chart Summary of Aquifer Properties.

Unit	Geology	Aquifer Properties	Resource Type	Pollution Risk
Alluvium Aquiclude	Limestone valley fills and sediments	Low permeability	Surface water	Low
Limestone Aquifer	White Limestone Group except Montpelier Formation	Permeable	Groundwater	High
Limestone Aquiclude	Montpelier Formation	Semi-permeable	Surface and groundwater	Medium
Basal Aquiclude	Cretaceous rocks and Yellow Limestone	Impermeable	Surface water	Low

Geological Features. One of the major features of Trelawny is the karstic nature of the topography with a huge karst depression that forms part of the Cockpit Country. This area has been formed from the erosion of limestone plateau and is characterised by steep conical hills which are separated by depressions. The area is rich in bauxite clay and there is a general absence of surface stream. The Cockpit Country is a major recharge area for several hydrologic basins; this is attributed to the high concentration of rain which falls over this highly karstified area. The area is also characterised by sinkholes and this allow for rapid infiltration of rainwater into the aquifer. The hilltops and slopes are marked by a distinctively minimal clay soil and organic humus while the talus has retained soil coverage. Cockpits average in depth from 100m - 120m and walls generally slope from 30 - 40degrees. Drainage of the cockpit bottoms occurs via percolation or by sinkhole. Drainage by the latter creates a complex, subterranean cellular network. The periphery of Cockpit Country is marked by 'degraded' cockpits, glades and valleys (poljes), such as seen in the Windsor, Pantrepant, and Fontabelle areas, terminating to the west in the Queen of Spain's Valley, the best known and largest polje in Jamaica.



Map 4 Geology of Trelawny.

Faults and Caves. Faults and caves are other major features of limestone formations. The White Limestone formations are highly karstified and display several surface expression of faults. The most probable westernmost continuation for the major fault system between Jamaica and Haiti is the Duanvale Fault located along the north coast of the island and runs East to West across the parish. North of the fault, lies an undulating doline karst

landscape within the Montpelier Limestone Formation - a deep water, chert-bearing limestone with marl layers often present, which is normally softer in texture than other White Limestones, but may be locally case-hardened.

Depressions which are formed as a result of the weathering (mechanical and chemical weathering) of the limestone are also prominent in the Parish. There is a high proliferation of caves especially in the central and southern parts of the Parish and are typical of mature karst settings. According to the Jamaican Caves Organisation's (JCO) listing, there are about 180 caves in the Parish, most with phosphate gatherings (Appendix 3). Caves are formed usually within a karst environment and represents cultural resources of Trelawny's biological heritage and geological history. Further, the organisms that live in caves are unusual, uniquely adapted, and of limited numbers, many of them rare and endangered species. Caves are also a natural conduit for groundwater flow. Among them are the Windsor Cave and Carambi Cave, which are known for their beauty and phosphate deposits. Within some of these caves are Taino carvings on the walls. The occurrence of such cave systems suggests a close relationship between their formation and the circulation of relatively large bodies of groundwater in fairly confined flow over large distances.

Hydrogeology and Hydrostratigraphy. The geology of Jamaica, inclusive of the various rock formations and their interrelationships, play an important role in determining the occurrence, type and subsequent availability of water resources. In Trelawny as in all other areas, each rock formation, based on its prevailing hydrologic character, is grouped into one of two hydrostratigraphic types: aquifer or aquiclude. The regional hydrostratigraphic units are defined based on criteria developed by the Water Resources Authority (WRA). The following hydrostratigraphic units have been identified: Basal Aquiclude, Limestone Aquifer, Limestone Aquiclude, and Alluvium Aquiclude (Table 4).

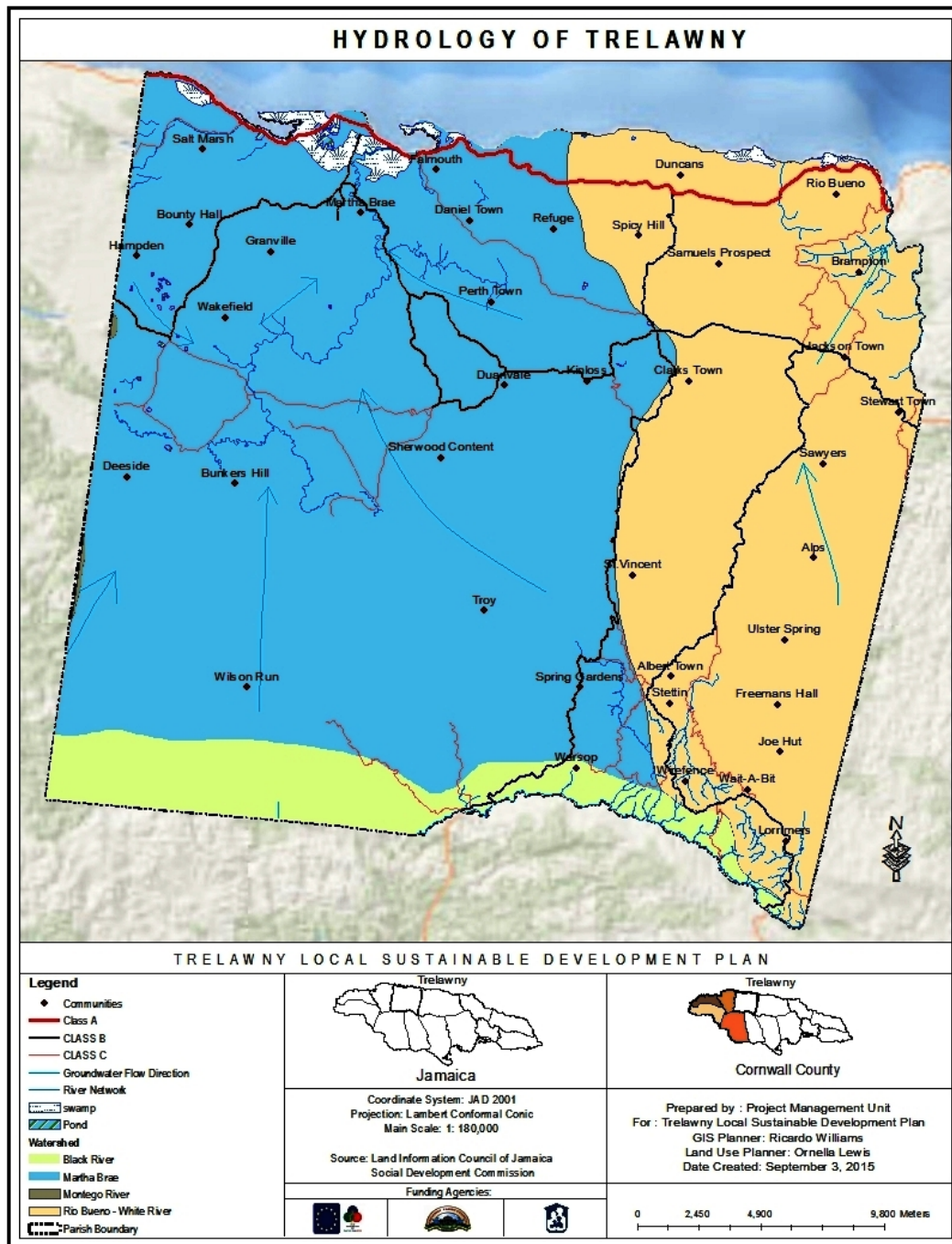
Table 4 Summary of area of each Hydrostratigraphic Unit within the Martha Brae WMU

Hydrostratigraphic Unit	Area km ² (Square Kilometres)	Percentage (%) of Cockpit Country
Alluvial Aquiclude	98.28	13
Basal Aquiclude	75.6	10
Limestone Aquiclude	241.92	32
Coastal Aquiclude	7.56	1
Limestone Aquifer	332.64	44
Total	756	100

2.3.4 Hydrology and Drainage

Trelawny is located within three (3) hydrologic basins namely Great River, Martha Brae River and Dry Harbour Mountains which comprise many surface and underground conduits (Map 5). National Water Commission (NWC)

produces approximately 3,891 million gallons (source NWC Parish Plan) (17,699 million cubic meters) of water per year in the Parish through seven (7) wells and nine (9) surface sources. However, there are inadequate facilities to transfer water to certain sections of the Parish, with communities within Trelawny Southern being poorly served.



Map 5 Hydrology of Trelawny.

Surface Water. About fifty percent (50%) of the water abstracted in the Parish is obtained from surface sources. The Martha Brae River is located in the North West section of the Parish and rises at an elevation of approximately 76 metres (m) and has a flow of 3 cubic metre per second (m³/sec). It is the major source of surface water in the Parish, and is utilised by the NWC as well as by persons who live alongside its banks. The Martha Brae/Dry Harbour Mountain basin has a yearly reliable surface yield of (32.96 billion) per year and provides the combined output from the nine (9) water production facilities that are supplied by surface sources, which totals to (6 million) gallons per day¹.

Springs. Several springs are located across the Parish, some of which are used as sources of domestic water supplies. Most of these springs are concentrated in the south-eastern part of the Parish, specifically in the section of the Cretaceous Central Inliers. Surface water accounts for approximately 54 percent of the total water allocation. The 2005 Draft Water Resources Master Plan indicated that there is a safe surface water yield of 50.6 million cubic metres/year (MCM/yr) for the Martha Brae River Basin.

Groundwater. The Parish of Trelawny is supplied with potable water from (7) wells, with a combined average output of 5.40mgd (24,464 cubic meter per day) and this groundwater accounts for approximately 46 percent of the total water allocation. Subsurface water is largely confined to the limestone aquifer which occupies approximately 332.64 square kilometres (km²) or 44 percent of the basin. The flow of underground rivers in the White Limestone within the basin is controlled predominantly by joints, fissures and faults. The crystalline, well-jointed formations of the White Limestone Group allow for freer circulation of groundwater than the denser, chalkier beds of the Montpelier Formation. In the Montpelier Chalky beds to the north of the Cockpit Country, water flow is impeded by the lack of well-developed fissures.

Underground drainage in the Cockpit Country is relatively simple in nature. Overall, subterranean channels though deep, flow north for considerable distances in the Martha Brae River basin and do not cross and re-cross underground. Therefore with proper management, more of the groundwater resources can be harnessed for domestic purposes. Groundwater flow direction is to the north.

¹ NWC Trelawny Water Sector Plan, 2011

2.3.5 Minerals

Due to the nature of the underlying geological formation of the Parish, which is basically limestone, bauxite is found in large quantities. Existing and potential mining activities in the Cockpit Country are centred on bauxite extraction and limestone quarrying. Deposits of interest to the mining industry have been identified within close proximity to the communities of Windsor, Sherwood Content and Sawyers along with smaller pockets along the St. James border. Most people living within the Cockpit Country would like it to be declared and designated as a protected area and a national park, an ecotourism site and a World Heritage Site. There is vehement opposition to bauxite mining and limestone quarrying within the Cockpit Country. Some stakeholders believed that geology and geomorphology are foundational factors in identifying the Cockpit Country². However, quarrying for limestone, marl and beach sand are done in various locations in the Parish, for example in Duncans Bay, Braco Estate, Wakefield, Southfield, Salt Marsh and other licensed quarry areas within the Parish. The limestone which is being quarried is generally used for road construction aggregate and for the manufacturing of cement.

2.3.6 Soils

Within the Parish of Trelawny there are about thirty (30) varieties of soils that can be described as very uniform, with most of the Parish being covered by red or brown bauxite bearing soils. The types of soils on the coastal plain and foothills are skeletal, and almost non-existent on the 'honeycomb' limestone of the raised beach platforms. Topography also exerts a strong influence on soils causing variations in depth and the degree of erosion. The main soil types found in the northern and southern sections of the Parish are mainly clay loam and clay within the land capability classes of II and VI. Soils in the northern section of the Parish drain poorly in most areas and facilitate the growing of sugar cane. In the south, the soils drain rapidly leading to underground channels resulting in land slippage due to deforestation for yam cultivation.

2.3.7 Vegetation

Within the core of the Cockpit Country can be found undisturbed primary forests which is home for a large variety of flora and fauna, many of which are endemic to Jamaica. However, the area has a long history of human settlement

² Cockpit Country Boundary Consultation Report 2013

and resource utilisation, particularly agriculture and forestry. Presently, these human activities are the main contributors to the diversity of flora and fauna in the area.

2.3.8 Inland Ecology and Ecosystems

Forestry. Forests are natural ecosystems which perform many important functions, including prevention of erosion, retention of water in the soil, reduction of flooding, improvement of air quality and absorption of greenhouse gases. The Cockpit Country is an important source of firewood and charcoal, timber for furniture and construction, and poles for scaffolding, fence posts and yam sticks for the residents. Significant reduction in forest cover will result in reduced humidity and a generally hotter climate, lower rainfall, less productive or run-dry wells, reduced flow and the drying up of rivers, as well as soil erosion as rainfall washes away topsoil. However, the functions of having forests can be environmentally sustainable if managed properly.

In Trelawny the main types of forests are outlined below.

Dry Limestone Forests. In Jamaica these forests remain only as isolated areas on high ground and are found in the Silver Sands area in Trelawny. Dry forests are highly sensitive to excessive burning and deforestation.

Wet Limestone Forests. The Cockpit Country has the largest contiguous block of wet limestone forest remaining on Jamaica and is surrounded by private lands of disturbed broadleaf forest and agriculture. Internally, a body of limestone is often full of caverns and passages, while the outside is a hill.

Intermediate Limestone Forests. Also a part of the Cockpit Country and surrounding areas of Trelawny. These forests contribute to water supply and quality, energy conservation, soil capacity and fertility, food security, noise attenuation and general amenity and aesthetic values.

2.3.9 Wetlands and Rivers

Wetlands play a critical role in regulating the movement of water within watersheds as they help to prevent flooding by holding water much like a sponge absorbing excess water. By doing so, wetlands help maintain river levels normal and filter and purify the surface water. The Salt Marsh Bay, Half Moon Bay and Hague Swamps are a part of the wetland which is drained in the south-eastern section by the Martha Brae River. The Salt Marsh Bay Swamp is a peninsula with one small stream originating from a blue hole passing through its south-western section.

Bush Cay (Florida Land Swamps) wetland is located on the north coast, to the east of Falmouth on the northern side of the main road. The wetland features a peninsula partially enclosing a lagoon famous for its phosphorescence (glistening waters).

2.3.10 Depressions and Sinkholes

Sinkholes are depressions or holes in the land surface that provide opportunities for the creation of wetlands to filter wastewater before discharge to the ground. The Cockpit country is formed from white limestone with elevations and depressions characterised by deep sinkholes and steep-sided circular arenas. These sinkholes grow and coalesce to form large closed depressions with multiple points of infiltrations (uvalas) and large bowl-shaped cockpit depressions. During periods of prolonged, heavy rains, the aquifer rises by as much as 20 meters, flooding the depression.

2.4 Principal Challenges

Trelawny's natural environment is constantly changing. Human activities have severely degraded the natural environment and continue to do so and this is noted by the continuous increases in natural disasters, changes in weather patterns and much more. These environmental challenges make the population vulnerable to disasters and tragedies, and have threatened the natural environment and the surroundings, presently and in the future.

2.4.1 Climate Change

Trelawny is dependent on climate-sensitive sectors, such as farming, fishing and tourism. Climate change occurs as a result of rise in global warming due to increase in temperature of atmosphere by burning of



fossil fuels and greenhouse gas emissions. Due to the location and geography of the Parish, the effects of climate change and the level of vulnerability have been observed. As a result of global warming, there are increases in the number and strength of hurricanes and tropical storms. Intense rains and flash floods have also been noted, and these contribute to the erosion of top soil and disrupt the water supply system. Conversely, the Parish of late has been experiencing longer dry seasons and shorter rainy seasons, which severely affects the supply of water for agricultural and domestic purposes.

The north of the Trelawny is located along the coast and the rising sea levels, coastal flooding, the possibility of storm surges for communities and the tourism industry are some of the effects of climate change. The water resources can also be affected by the rising sea levels, which cause pollution. The increase in temperatures has affected the level of physical comfort as the atmosphere has become hotter and more humid. As an example, the Bunker's Hill community in Trelawny was among the five (5) communities by UNDP and Global Environment Programme, which was informed and educated about the impacts of climate change and was equipped with the tools to help promote agricultural activity and bolster farming areas with infrastructure against the effects of climate change. This was accomplished by the collaborative efforts of the Southern Trelawny Environmental Agency and the Bunker's Hill Community Development Committee.

2.4.1.1 Potential Impacts of Climate Change

Sea level rise. The rise in sea levels is linked to climate change and is caused by two (2) factors related to global warming: the added water from melting land ice and the expansion of sea water as it warms. The Caribbean sea level rise appears to be near the global mean (Church et al 2004) with an average rate of 2mm/yr. Other factors that affect sea level change are local sea temperatures, atmospheric pressure, sediment supply and vertical landmass movements. These factors may have significant influences on local sea level response. Projections of sea-level changes into the future are particularly subject to a large number of uncertainties. While it is almost universally agreed that sea level will rise, the rate of rise as modeled for different scenarios varies widely. These sea level rises will affect the coastal communities within Trelawny, especially that of Falmouth, which is slightly above sea level.

Climatic Conditions. Natural disasters such as floods, cyclones and droughts are likely to become more frequent in the Parish. These disasters may cause an adverse effect on the low-lying areas, in the form of loss of properties, damage to infrastructure, coastal erosion and flooding. For example, the passage of Hurricane Sandy in October

2012 caused extensive flooding in the low land areas of Braco, Martha Brae, Holland and Falmouth. Several houses and schools experienced flooding, and roadways and crops were also damaged.

Biodiversity. According to the Millennium Ecosystem Assessment, climate change is likely to become one of the most significant drivers of biodiversity loss by the end of the century. Climate change is already forcing biodiversity to adapt either through shifting habitat, changing life cycles, or the development of new physical traits. Although ecosystems have adapted to changing conditions in the past, current changes are occurring at rates not seen historically. The coral reefs and mangrove ecosystems in Trelawny may be affected significantly. The loss of corals from the ecosystem can potentially have an impact on the balance of the ecosystem and result in significant biodiversity loss. In general, the faster the climate changes, the greater the impact on people and ecosystems. Reductions in greenhouse gas emissions can lessen these pressures, giving these systems more time to adapt.

Potable Water Quality & Availability. The Martha Brae River is the main source for potable water within the Parish. The water quality and water availability has potential of becoming a major concern due to climate change. Areas that normally experience high levels of rainfall may receive low rainfall, which could decrease the volume of water entering the river resulting in longer periods of water shortages and drought.

Human Health. Changes in the climate affect the health and well-being of the residents. Climate Change could be a critical health problem for the Parish as the impacts cause existing diseases and conditions to worsen, and it may also help to introduce new pests and pathogens into the communities. The most vulnerable people—children, the elderly, the poor, and those with underlying health conditions—are at increased risk for health effects from climate change. Climate change also adds pressure to the health care infrastructure and delivery systems.

Vulnerability to Natural Hazards. Jamaica lies in the path of tropical weather systems that develops in the Atlantic and Caribbean basin. These systems occur between June and November annually and the most active months are between September and November. Tropical weather systems range in intensity from tropical waves to full blown hurricanes of varying strengths and will generate intense sustained rainfall and elevated wind speeds, which may cause severe flooding and damage to person and property.

The low-lying coastal plain in Trelawny is vulnerable to flooding, earthquakes, hurricanes, coastal storms, storm surges and tsunamis. Communities in Southern Trelawny are prone to landslides due to the topography of the land,

with communities located in close proximity to rivers and tributaries are prone to flooding. Nonetheless, the entire population of Trelawny is susceptible to other hazards such as earthquakes, droughts, erosion and fires as well as technological and transport accidents.

Deforestation. Much of the deforestation in Trelawny is due to the fast growing tourism industry and agriculture expansion, mainly yam farming, which adds pressure to the Cockpit Country. The major contributing factors to the depletion of the forests include; clearing of forests for yam sticks, lumber, charcoal, farming on the hillside and the prospects of limestone and bauxite mining in the Cockpit Country. The beaches and forests are being replaced with newly built hotels, roads and highways, and inappropriate agricultural practices have increased soil erosion causing flooding. These practices have severely degraded the reefs and beaches that surround the coastline.

There are numerous effects of deforestation on the environment. The most notably impact is the loss of species, as the forests are the habitat for many plants and animals. Loss of habitats can possibly lead to the extinction of many indigenous species.

The removal of trees deprives the forests of portions of its canopy that blocks the sun's rays during the days and holds in heat at nights. This disturbance leads to more extreme temperature changes, which may be harmful to plants and animals.

Deforestation is considered one of the contributing factors to climate change as the cutting down of forests not only lessens the amount of carbon stored, it also releases carbon dioxide into the air. With the presence of lesser forests, larger amounts of greenhouse gases enter the atmosphere, which fuels global warming.

The water cycle becomes affected by deforestation as forests absorb rainfall and produce water vapour that is released into the atmosphere. This also reduces the effectiveness of the watershed, leading to pollution and reduced amount of rainfall.

Loss of Biodiversity. Biodiversity has continued to decline in the Parish, as the critical ecosystem services are under threat. This is due to inappropriate human activities, habitat loss and overharvesting, which have reduced nature's ability to provide goods and services. Balance of natural resources, for example pollination is crucial of the eco-system and as noted in the Cockpit Country, human activities have been threatening the same. Also, the

destruction of the coral and seagrass cover in the north of Trelawny has contributed to loss of the shoreline protection.

Environmental Pollution. Air, water and soil pollution causes degradation in the natural quality of the environment and negatively affects living things. The toxins used in agriculture and manufacturing are responsible for pollution. Air pollution is caused by various gases and toxins released by industries and factories and will likely cause serious respiratory diseases, skin diseases and other diseases that affect the eyes and ear. While water pollution occurs when harmful substances or contaminants are added to a body of water, for example oil spills or sewage spill. On the other hand, oil pollution is caused by chemicals, salts, radioactive materials or disease causing agents that builds-up in the soil and have adverse effects on plant growth and animal health. In Trelawny, the major water quality issue has to do with pollution of the groundwater specifically in the Queen of Spain Valley. Residents have complained that the dunder from the sugar cane factories contaminate the water sources especially that of the Martha Brae River Basin and causes discoloration, odour, high turbidity, and high coliform bacteria counts. There are also areas that are affected by untreated sewage effluent being discharged in the highly permeable limestone.

Inappropriate Agricultural Practices. In Trelawny many persons are engaged in farming and as such some of the methods and practices employed are considered inappropriate especially for tropical conditions, which cause long-term damages and losses to the environment. The poor practices leave the land bare as well as subject the areas to land slippage that impacts the rivers and ground water. Some of the inappropriate practices include; over removal of tree cover; over production of single crop type, for example yam, which leads to nutrient depletion; excess tillage of fragile soils in anticipation of planting conditions that fail to transpire, as such the ground remains loose and is left without plant cover for extended periods; and unbalanced fertilisation and improper use of pesticides.

Overuse of Natural Resources. The exploitation of the natural resources in the Parish occurs due to the fact that persons use and consume basically everything for their survival that are obtained from these said resources. Some resources are renewable, and by using them at a rate greater than they can be renewed we deplete them. In the case of fish, some of the species found along the north coast are driven to extinction due to overfishing, which cause major changes to the ecosystem. Some animals are also affected, where by the consumption of old-growth forests, wetlands, and natural habitats and by flooding land for hydroelectric projects; some of the species are threatened by

extension that rely upon these habitats. Some of the other side effects can include long term climate changes or irreversible erosion of topsoil.

On the other hand, some resources are not renewable - such as mineral deposits, as whether these resources are used quickly or whether slowly, they are not reinstated. For this very reason, for experts it is hard to define 'overuse', since any use at all will have the same effect - depletion of the resource. While these natural resources are constantly being exploited, the amount of damages caused to the environment is staggering. Therefore, the need to better manage the natural resources, conserve the environment and implement proper waste disposal methods in a more scientific and sustainable manner is priority, with a long-term perspective rather than for short term gains.

2.5 Ecologically Sensitive Areas

Protected areas provide wide range social, environmental and economic benefits to people and communities and are governed by legislations, policies, management authorities and management actors. They support many natural cycles and ecological processes that are essential for life on earth as well as they provide habitats for wildlife, including threatened and endangered species. As such, measures need to be put in place to protect and enhance Trelawny's natural resources and biodiversity.

2.5.1 Cockpit Country Forest Reserve



View of Cockpit Country.

The Cockpit Country is a very pristine area in Jamaica, which has been recognised nationally and internationally as a sanctuary for many endemic species of plants and animals (Eyre, 1995). Cockpit Country is recognised as one of Jamaica's last remaining areas of undisturbed wet limestone forest, containing critical watersheds and many species of plants and animals found nowhere else in the world. Researchers continue to find new species, highlighting the importance of protecting this region by developing among its communities and beneficiaries an appreciation of the area's biodiversity.

Cockpit Country provides essential ecosystem services including water filtration, carbon storage, wildlife habitat, recreational opportunities and scenic beauty. The Cockpit Country replenishes the aquifers of five (5) major rivers in western Jamaica: Martha Brae, Trelawny; Black

River, St. Elizabeth; Great River, through St. James and Hanover; Montego River, St. James and Hectors River, Trelawny. These rivers supply water to St. Elizabeth, Trelawny and St. James (Pryce et al., 2008). A 2011 ecosystem service valuation of the Cockpit Country put the annual value of the area's carbon sequestration services at J\$896 million (Edwards, 2011).

Cockpit Country is also central to Jamaica's cultural heritage, as it is in these forests a population of Maroons was able to force the British into signing a peace treaty in 1738. Accompong, located in southwest Cockpit Country, is one of the last remaining Maroon communities. Given the Cockpit Country's rich biological and cultural resources, there has been for several decades, widespread consensus in support of its sustainable management. Groups actively involved in Cockpit Country conservation currently include local communities; community based organisations (CBOs), several non-governmental organisations (NGOs), government agencies, and business interests.

Government agencies such as the National Environment and Planning Agency (NEPA) and the Forestry Department recognised the importance of Cockpit Country and it was declared a Forest Reserve in 1950. The Nature Conservancy, through its international program, has declared Cockpit Country as one of its Park-in-Peril sites. A collaborative team from Southern Trelawny Environmental Agency (STEA), Forestry Department, Windsor Research Centre and The Nature Conservancy developed a work plan for the conservation of the forest, which was approved in November 2001 for funding by the U.S. Agency for International Development. This funding helped develop a Site Conservation Plan over a one-year period, which identified the key conservation targets within Cockpit Country, strategies to protect them and the people, communities and agencies who are critical to carrying out these strategies to achieve effective long-term conservation of the Cockpit Country.

2.5.2 Coral Spring-Mountain Spring Protected Area

The Coral Spring-Mountain Spring Protected Area contains the largest remaining contiguous dry limestone forest along the north coast, being approximately 165 ha (1.65 km) in size and is located approximately 7.0 km east of the town of Falmouth and 9.0 km west of Duncans (NEPA 2013). It was designated a protected area



on September 18, 1998 under section 5 (1) (b) of the Natural Resources Conservation Authority Act, 1991. As noted in the Draft Coral Spring-Mountain Spring Protected Area Zoning Plan (2014 – 2019), the services or values offered are ecological, hydrological/geological, recreational, scientific research and socio-economic. The forest is composed of biological communities, whose species composition; both flora and fauna are strongly associated with the underlying geology and hydrology. The protected area includes historic sites/features such as Taino site; historic foundations and remnant of wharf; assemblage of historic artefacts; historic foundations; historic stone foundations and Taíno site; historic salt works and historic stone wall.

Within the last few years, the area has come under intense pressure from land owners and prospective developers who desire land for development activities, particularly, hotel/resort facilities. There is also the threat from charcoal burning activities, which if left unregulated, could cumulatively lead to the degradation of the forest resources. The dumping of garbage by users of the adjacent Burwood Bathing Beach particularly in the coastal mangrove habitat area is also a serious issue of concern. The eastern section of the protected area has deposits of limestone which has some economic potential for mining and production of dolomite and construction aggregate.

2.5.3 Glistening Waters Game Sanctuary



Luminous Lagoon at Glistening Waters.

Glistening Waters Game Sanctuary was declared by the Wild Life Protection Act as a protected area on August 22, 1997. Located at the eminent point where the Martha Brae River meets the Caribbean Sea, the Luminous Lagoon is home to millions of microorganisms called dinoflagellates, which thrive in the layers where salt and fresh water combine and glow the brightest in shallow, warm water. At night, the lagoon sparkles and glistens when disturbed, as these microscopic organisms produce an eerie glow, reflecting the outlines of fish and other objects in the water.

2.5.4 Martha Brae River Estuary

Martha Brae River is the largest river in the Parish, with its source within the Cockpit Country and meanders through a large basin of agricultural lands and secondary forest land on its approximately thirty (30) kilometres flow to its

estuary (Reeve, 1999). The Martha Brae River Estuary boasts natural and historic assets, with the mangrove forests and wetlands that support important fish nurseries and bird population.



Martha Brae River in Trelawny.

2.6 Coastal and Marine Eco-systems

2.6.1 Coastal Wetlands

In Trelawny, the wetlands are located along the North coast, in low-lying areas of swamps and ditches and along river banks. The Falmouth and Saltmarsh wetlands occupy 1,070ha mainly of Marine/Estuarine; Mangal and Marsh. These wetlands are herbaceous swamps in fresh and brackish waters and mangrove woodland in marine conditions. The wetlands support mangroves and other plant life, which thrive in water-logged soils and/or where there is low standing water as well as ducks (and other bird species), crocodiles, fishes, and crustaceans. Mangroves are very important as they provide many benefits to the environment by protecting the coral reefs, stabilising the shorelines, providing home and shelter for fish and other animals, aiding in flood protections and recycling of nutrients. Mangroves are also associated with Salinas/salt ponds. These areas provide a habitat for various species of crabs and wading birds (great blue heron, egrets, green herons), for example the salt pond located in Salt Marsh.

In recent times, the mangroves have been disappearing along the north coast and may result from a number of threats, which include the impacts of climate change and the clearing, draining and reclamation of these intertidal marine environments. The degradation and destruction of mangroves facilitate projects and activities such as farmland, port developments, residential subdivisions, sewage treatment ponds and roads among others. Nonetheless, sustainable measures and approaches are to be considered to reduce the systematic degradation of mangroves in the Parish.



Red mangrove trees in Falmouth.

Bush Cay - Florida Land Swamps

This wetland is located on the north coast, to the east of Falmouth on the northern side of the main road. It is presently in private ownership. The wetland features a peninsula partially enclosing a lagoon which is famous for its

phosphorescence (glistening waters). This phosphorescence was due to an uncommon combination of topography, climate, soils, ocean currents and nutrients that permit the proliferation of dinoflagellates. The phosphorescence was lost subsequent to indiscriminate clearing of mangroves around the lagoon. Currently, the fauna is dominated by birds.

The Swamps around Falmouth

The swamps are situated to the south and west of Falmouth and are divided into three (3) sections. To the extreme west is the Salt Marsh Swamp that is in the form of a peninsula bounded on the south and east by the main road, on the north by the sea and on the west by the bay. A second swamp, which exists on the Half Moon property between the main road on the west and north, the district of Maxfield on the south and the road from Martha Brae to Falmouth on the east. The Hague Swamp lies adjacent to the Half Moon property. The Hague swamp is Government owned while the Half Moon property is in private ownership. The ownership of the Salt Marsh Swamp needs to be established.

The Half Moon Bay and Hague Swamps are separated by the sea by the main road. The wetland is drained in the south-eastern section by the Martha Brae River. The swamp is also drained by a network of canals which includes two main canals that run parallel to the Martha Brae on either side. The Salt Marsh Bay Swamp is a peninsula with one small stream originating from a blue hole passing through its south-western section. The flora is dominated by mangroves in all three swamps and, all mangrove types occur in different areas. Large tracts of bull rush and crab thatch are present in the Hague and Half Moon Bay Swamps.

Constructed Wetland – Florence Hall

In 2010, a constructed wetland of 2.7 acres at Florence Hall, verified by NEPA, was developed to assist in wastewater treatment for the Florence Hall Village housing development by GORE Developments Limited. The bulrush (Typha) was the main specie of wetland plants used and at the time, plans were being made to incorporate other species, such as wild cane (Phragmites), sawgrass (Cladium), and the swamp fern (Acrostichum), which are common in Jamaica. According to Dr. Barry Wade of Environmental Solutions Limited, this constructed wetland system



Constructed Wetland, Florence Hall.

demonstrates that the best way to solve environmental pollution problems (real or potential) is by incorporating the environment itself into the solution.³

2.6.2 Corals and Coral Reefs

The tropical coral reefs found along Trelawny's north coast are among nature's most diverse ecosystems, composed of thousands of species of fish, plants, corals, invertebrates, and microorganisms. Coral reefs built up slowly over time by algae and corals which leave behind calcified deposits. Coral reefs are found in the warm, clear, shallow waters of tropical oceans. Reefs have functions ranging from providing food and shelter to fish and invertebrates to protecting the shore from erosion.

Coral reefs, with their diverse range of marine plants and animals, are critical to much more than just the beautiful underwater vistas for which Jamaica is famous. It is estimated that the depletion of coral reefs negatively impacts the productivity of fisheries, coastal protection, tourism and other related areas.

Due to human involvement, the extensive and almost continuous fringing coral reefs that lie offshore are deteriorating at an alarming rate, as they not been able to rebuild as easily. In fact, the coral reefs off the coast of Jamaica have been naturally destroyed and then slowly rebuilt over the decades. Studies have therefore shown the factors contributing to the deterioration of the coral reefs are mainly due to overuse of reef resources, farming that has increased erosion along the coast as well as with the influx of tourists and coastal developments.

Nevertheless, with public awareness, the residents in the Parish are caring more for the environment and with the promotion of ecotourism, vacationers are learning more about the environment, while providing a better understanding of how to protect the environment.

2.6.3 Beaches and Seagrass Beds

Beaches. Beaches are a common feature of a coastline, and are made up of eroded materials that have been transported from elsewhere and deposited by the sea. Most beach materials are the products of weathering and erosion and include materials such as sand, pebbles, rocks and seashell fragments. The processes of formation are

³ http://www.jamaicaobserver.com/magazines/career/A-wetland-wastewater-solution_10625368

usually dependent on the extent and health of coral reefs. However, beaches are constantly changing, where tides and weather alter the beaches bringing new materials and taking away others.

The twelve (12) beaches in the Parish are used for bathing and fishing and are generally of a high standard. There is a large number of hotel beaches in the Parish with only one beach – Burwood Beach that is available for public use on a fee basis to utilise the facilities.



Patrons at Burwood Beach.

With the threats facing our coastlines and beaches, focus should be geared towards the possible effects of coastal erosion and climate change, where a more holistic approach to better manage the coastal zones through sustainable approaches is employed.

Seagrass and Seagrass Beds. Found usually in the shallow salty and brackish waters along Trelawny's coastline, seagrasses are not only amongst the most productive areas in the marine nearshore environment, but are also amongst the most productive eco-systems in nature. These plants possess long green, grass-like leaves and due to their dependence on light for photosynthesis, the denser more productive seagrass beds are found in shallower waters close to shore where light attenuation is minimal.

Seagrasses provide shelter and food to an incredibly diverse community of animals, from tiny invertebrates to large fish, crabs, turtles, marine mammals and birds. Seagrasses provide many important services to people as well. Nonetheless, these seagrass areas are highly susceptible to human activities and are especially affected by increases in population growth or an area's overall carrying capacity, which cause a loss to these areas. Studies have shown that seagrass losses are projected to have severe impacts on marine biodiversity, the health of other marine ecosystems, and on human livelihoods.

Actions to manage and protect seagrasses and seagrass beds should focus on maintaining their biodiversity and the services these habitats provide for humans and eco-systems. However, simple steps can be taken to help seagrasses and other marine habitats, such as reducing littering and limiting the use of fertilisers and pesticides, while supporting local conservation efforts.

2.7 Policies and Actions for the Natural Environment

The development of the Parish will be guided by the policies and actions outlined and are intended to contribute, enhance and protect the natural environment, while at the same time improve the character and quality of life for the residents.

Policies	Actions
<p>Policy NE 1. The local planning authority will seek to facilitate an integrated approach to the conservation and preservation of the natural environment.</p>	<ul style="list-style-type: none"> a. Create forums to strengthen partnerships with local and international stakeholders. b. Establish an effective monitoring and evaluation system. c. Identify opportunities for cooperative projects with the private sector and NGO's locally and internationally to promote environmental sustainability. d. Seek to agitate the legislative framework to implement viable fees and sanctions against individuals and organisations that pollute the environment.
<p>Policy NE 2. The local planning authority will seek to promote effective environmental public awareness, education and training to prevent environmental degradation.</p>	<ul style="list-style-type: none"> a. Promote public environmental awareness about the importance and value of the natural resources and the residents' role in preventing environmental degradation in Trelawny. b. Enhance educational programmes and activities that are directed towards target groups, eg. CBOs, Schools etc. c. Increase and improve training regarding preservation and conservation of the natural environment.
<p>Policy NE 3. The relevant authorities will seek to facilitate eco-friendly businesses to conserve the natural environment.</p>	<ul style="list-style-type: none"> a. Identify the criteria that define eco-friendly businesses. b. Promote and support eco-friendly business environment while sustaining the space in which it operates.

	<ul style="list-style-type: none"> c. Promote green technologies that increase the Parish's capacity to adapt to climate change. d. Monitor and evaluate the operations of these businesses.
<p>Policy NE 4. The local planning authority to partner with relevant agencies to encourage a reforestation programme for the Parish.</p>	<ul style="list-style-type: none"> a. Identify the areas affected by deforestation. b. Seek to agitate the legislative framework and increase enforcement to limit deforestation. c. Encourage tree planting schemes in areas where appropriate. d. Promote diversification in reforestation programmes to sustain and expand the plant species. e. Adopt smart growth principles through the sustainable land use practices by balancing the economic needs while conserving the environment.
<p>Policy NE 5. The local planning authority to encourage and promote sustainable development planning to mitigate adverse effect on the natural environment.</p>	<ul style="list-style-type: none"> a. Planning applications for new developments located within or in close proximity to ecologically sensitive areas should outline details about proposals as well as measures for mitigation. b. Development and change of use likely to damage or have a detrimental effect to the natural environment should be properly assessed and monitored. c. Implement fees associated with the negative effects of development based on the scope of environmental damage. d. Planning permission will not be granted for any development that will result in destruction of ponded, wooded or forested areas.
<p>Policy NE 6. The local planning authority will seek to ensure that environmental groups monitor and report unlawful activities in the ecologically sensitive areas.</p>	<ul style="list-style-type: none"> a. Create partnerships and linkages between local planning authority, government agencies, private sector and other key

	<p>stakeholders.</p> <ul style="list-style-type: none"> b. Engage and train residents living in ecologically sensitive areas to become environment community officers. c. Promote community based environmental policing among youths and adults.
<p>Policy NE 7. The local planning authority will seek to facilitate sustainable agricultural practices to reduce and prevent environmental degradation.</p>	<ul style="list-style-type: none"> a. Promote agroecological practices to stimulate sustainable agriculture in farming communities. b. Offer training in sustainable agricultural techniques to local farmers. c. Consult and liaise with agricultural agencies.
<p>Policy NE 8. The local planning authority will ensure that the relevant authorities protect and monitor the coastal and marine eco-systems.</p>	<ul style="list-style-type: none"> a. Survey and assess data on coastal and marine eco-systems. b. Survey and appraise encroachment, to discover causes of coastal and marine eco-systems. c. Formulate an environment protection scheme to mitigate deterioration of coastal and marine eco-systems. d. Develop and implement a massive replanting programme of mangroves along the Rock Main Road as a buffering system against rise in sea level from hurricane and ships coming into the Bay. e. Ensure public access to beaches and sea parks
<p>Policy NE 9. The local planning authority will liaise with the relevant authorities to ensure that innovative approaches to environmental sustainability are implemented.</p>	<ul style="list-style-type: none"> a. Establish linkages with various stakeholders. b. Ensure the functional operation of a recycling programme. c. Reuse waste in a sustainable manner. d. Promote the use of eco-friendly building designs and constructions principles.



CHAPTER 3

THE SOCIO-CULTURAL ENVIRONMENT

TRELAWNY

LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond

This chapter includes a description of the approaches to enhance social and cultural well-being, demographic characteristics and trends, housing, education and training, health, public safety and heritage resources.

3 THE SOCIO-CULTURAL ENVIRONMENT

3.1 The Vision

The social and cultural aspects of Trelawny form its very nature, as 'culture' is considered the essence of a society. Culture and the environment are relational as certain aspects of the environment are supportive of the components or expressions of culture. The communities within the Parish place emphasis on promoting a sustainable future for its residents as Trelawny possess a diverse range of cultural and historical resources. The citizens will be engaged in providing inputs for the development of policies and regulations. Focus will be directed towards the provision of safer, stronger and more vibrant communities, while promoting safe and walkable communities with a range of affordable housing and employment opportunities. The creation of recreational spaces will enrich the daily lives of the residents and their overall health. The provision of additional social amenities and services to cater to the needs to the locals and tourists alike will encourage people to be healthy in mind and body and live in harmony in safe environments.

"Despair shows us the limit of our imagination. Imaginations shared create collaboration, collaboration creates community, and community inspires social change."

*~ Terry Tempest Williams
Conservationist and Activist*

3.2 Goal and Objectives

Goal: Develop, implement and maintain the social and cultural systems of the communities where the well-being, livelihood and welfare of the residents are enhanced.

Objectives:

1. Enhance the delivery of social services to all the residents in the Parish.
2. Build stronger communities while promoting equity and opportunities to improve lives.
3. Promote the importance of cultural preservation, celebration and appreciation amongst the residents.

3.3 Demographic Characteristics and Trends

3.3.1 National Population Trends and Projections

According to the Population Censuses, the population of Jamaica was recorded at 2,697,983 million in 2011 moving up from 1,848,800 million in 1970 (Table 5). It was also noted that the Nation's population grew by less than 100,000 during the decade 2001 to 2011. However, based on projections (medium variant), the population is expected to increase to 2,872,000 in 2030⁴. The population was estimated at 2,660,700 million in 2005 reflecting a downward trend in annual growth rates observed since the 1980s. Annual growth rates have been estimated at below 1.0 per cent over the past eight years (ESSJ, PIOJ, 2005). The major effects on the growth rates have been declines in fertility and continuing high levels of external migration.

Table 5 National Population Growth and Size 1970 – 2030.

Year	Population	Annual Growth Rates (%)
1970	1,848,800	1.39
1982	2,190,400	1.42
1991	2,380,600	0.93
2001	2,607,633	0.91
2010	2,718,000	0.46
2015	2,761,000	0.31
2020	2,806,000	0.32
2025	2,845,000	0.28
2030	2,872,000	0.19

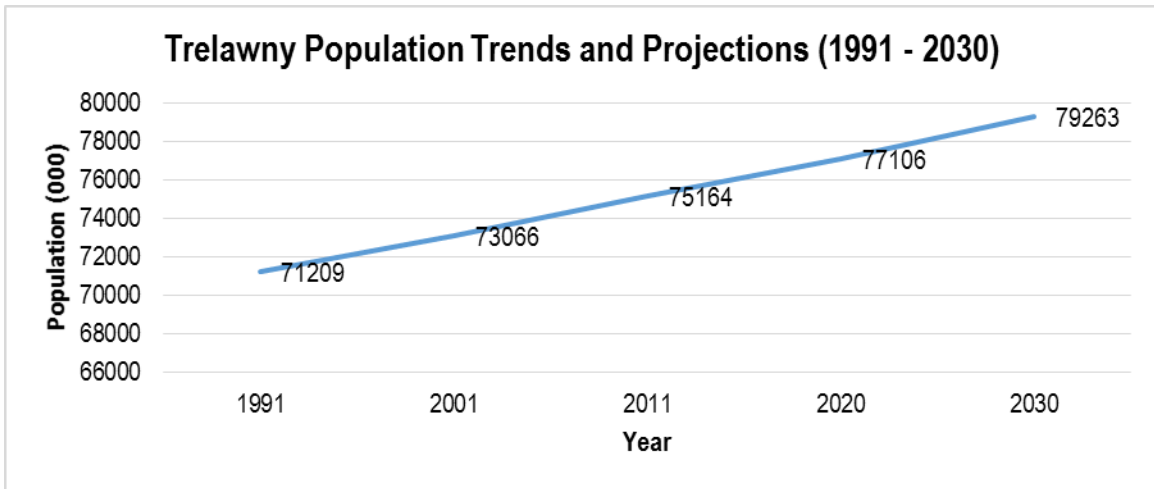
Between 2001 and 2011 St Catherine was the fastest growing Parish. St Catherine grew by 7 per cent, doubling the national growth. The slowest growing Parishes were Trelawny, St Thomas and Portland, which saw population increases between 2 and 3 per cent over the period.

3.3.2 Trelawny's Population Trends and Projections

The study of a Parish's population is an essential component in the development of a comprehensive regional plan. By understanding the makeup of its population, a Parish is then better prepared to plan for the future needs of its citizenry.

⁴ STATIN/PIOJ/UWI Population Projections (Medium Variant), 2007

Figure 3 Trelawny Population Trends and Projections (1991 - 2030).



The count of Trelawny's population based on the Population and Housing Census 2011 is 75,164. This represents a 2.87% increase between the period of 2001 and 2011. In numerical terms, the addition to the population between 2001 and 2011 was 2,098 compared to the 1,857 between 1991 and 2001 (Figure 3). This change in population has been influenced by three (3) components; births, deaths and migration. Population change must be interpreted within the context of these components which add or take away from the population.

The future population of Trelawny is expected to continue to be influenced by migration, births, and deaths, construction of new housing developments, construction of hotels, employment opportunities within Trelawny and the neighbouring parishes of St. Ann, St. James and Manchester. Therefore, if the population continues to grow along its current path, it is estimated that the population will increase to approximately 77,106 and 79,236 in 2020 and 2030 respectively (TPC 2011). This means that any development within the parish must take into account the future population with respect to the provision of infrastructure, employment opportunities, social services, open spaces amongst others to adequately support the needs of the growing population. Also, the Local Planning Authority along with other agencies must ensure that development and growth in the parish is done in an orderly manner in an effort to mitigate against the negative impacts of development and an increase population.

Births and Deaths. According to STATIN (2016) there were 13370 live births by Parish of Residence of Mother in Trelawny between the 2004 and 2014 periods. This represents on average 1,216 births annually between this periods. On the other hand, there were 5,222 registered deaths representing on average 475 deaths per annum between the 2004 and 2014 period. This resulted in a natural increase (the difference between births and deaths) amounted to approximately 8,148 between 2004 and 2014, nevertheless migration levels have remained high.

Migration. Migration continues to impact Jamaica's population growth and structure, with estimates that indicate as many Jamaicans may currently be living outside the country as those who are living within it. The Migration Policy Project Unit at the Planning Institute of Jamaica provided the latest migration trends, which shows that persons migrated mainly to three (3) countries – Canada, United Kingdom and United States, with the US continuing to absorb the bulk of migrants from Jamaica. It was noted that between 2010 and 2013, just under 100,000 Jamaicans migrated to these three (3) countries⁵. The emigration of skilled persons has had tremendous impact on the workforce, most notably in the social sectors such as health and education where there is a shortage of qualified nurses and teachers.

According to the 2011 Population and Housing Census, there were approximately 87,109 persons that were born in Trelawny. Of this population, at the time of the census 27,313 (31%) resided outside of the Parish and 14,205 (19%) represented persons who are resident of the Parish that were born outside of Trelawny. This represents approximately 13,108 people more leaving the Parish when compared to those entering. While there may be several pull factors in other Parishes and countries that are attracting persons to move outside of Trelawny, the construction of new housing developments, construction of hotels, access to employment opportunities within Trelawny and the neighbouring parishes are some factors pulling persons to settle in the Parish.

Locally, persons in the Parish have been migrating to where jobs are available, while many especially rely on the tourism sector for economic opportunities and employment. With the construction of new housing developments, in-migration is being experienced in the Parish, in particular in and around Falmouth. The

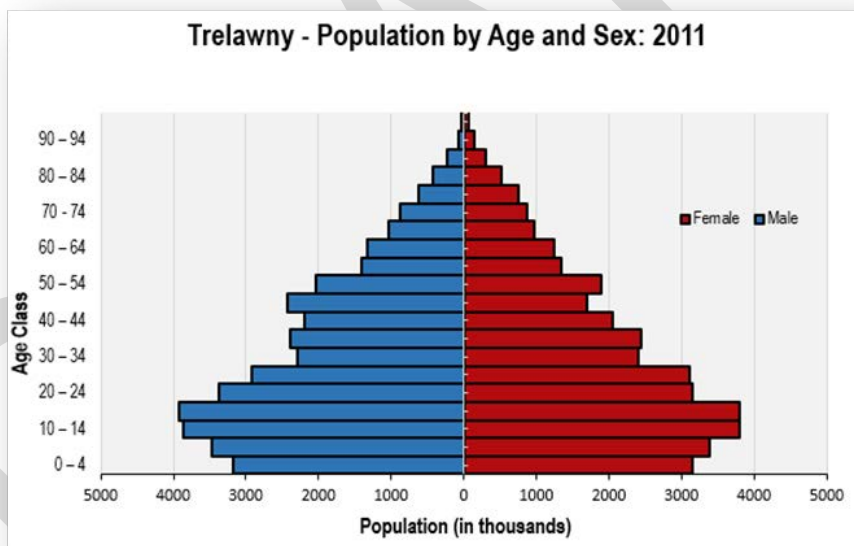
⁵ <http://jamaica-gleaner.com/article/news/20150923/2010-2013-migration-trends-almost-100000-jamaicans-leave-us-canada-and-uk>

increased accessibility to Montego Bay and Ocho Rios provided by the North Coast Highway is expected to facilitate new developments in the Parish.

3.3.3 Age and Sex Composition

Child Population. The evidence of the continued declining fertility (the number of children under the age of five compared to the number of women in their childbearing years, ages 15 - 44) is clearly seen with the decreased proportions of persons in the younger age groups (0 - 14) among males and females between the 2001 and 2011 period (Figures 4 and 5). This age cohort represented 36.5 per cent in 2001 but declined to 27.7 percent in 2011. In 1991, more than one third (36.8 per cent) of the female population and 36.3 percent of the male population were less than 15 years old. By 2011, this had declined to 27.8 per cent of the female population and 27.6 per cent of the male population. The decline in the population in this age cohort is synonymous to the decline in fertility ratio from 60.68% in 1991 to 37.27% in 2011.

Figure 4 Trelawny Population by Age and Sex: 2011 by population.

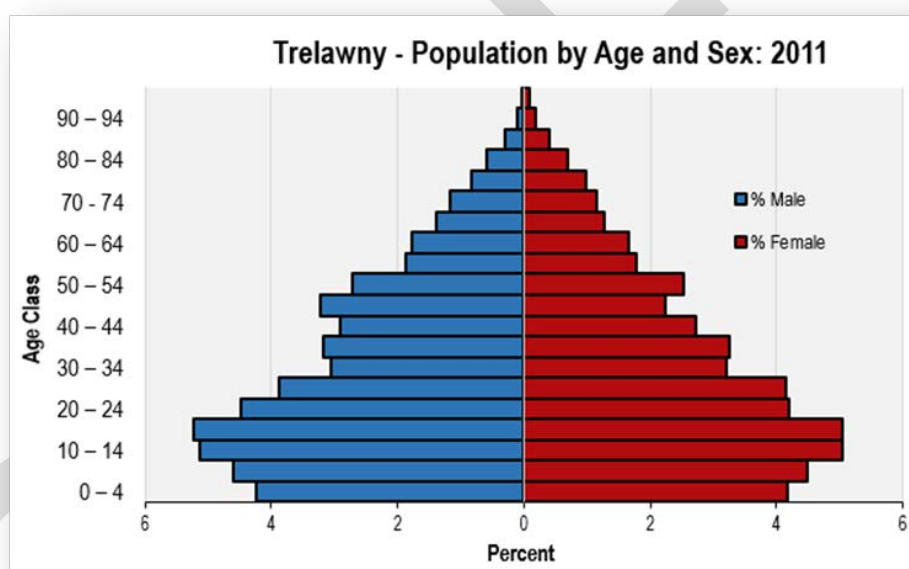


Working Age Population. Occurring simultaneously with this decline in the proportion of persons in the younger age groups is the increasing proportion of persons in the older groups. The number of persons between the 15 - 64 age cohort increased from 38,902 (54.6 %) in 1991 to 47,428 (63.1%) in 2011. This represents a demographic dividend for Trelawny which means that there is a higher proportion of persons in the working age relative to the dependent ages (child 0 - 14 years and elderly 65 and over). Surprising, is

the greater number of females than males in the age cohorts of 25 - 29, 30 - 34 and 35 - 39 as these age cohorts might be affected by migration.

Elderly Population. Overall, the proportion of the population 65 years and older remained almost unchanged between 2001 and 2011 moving minimally from 6,588 (9 %) to 6923 (9.2 %). For the oldest cohort, 65 years and older the increase was from 9.6 percent to 9.7 percent for women and from 8.5 percent to 8.7 percent for men. Despite a greater number of males in the 0 - 14 and 15 - 64 age cohorts, there are fewer males in the 65 and over age cohort. This means that the life expectancy for females is greater than that of males. The increase in the elderly population means there is a need for greater concentration on programmes for the elderly.

Figure 5 Trelawny Population by Age and Sex: 2011 by percentage.

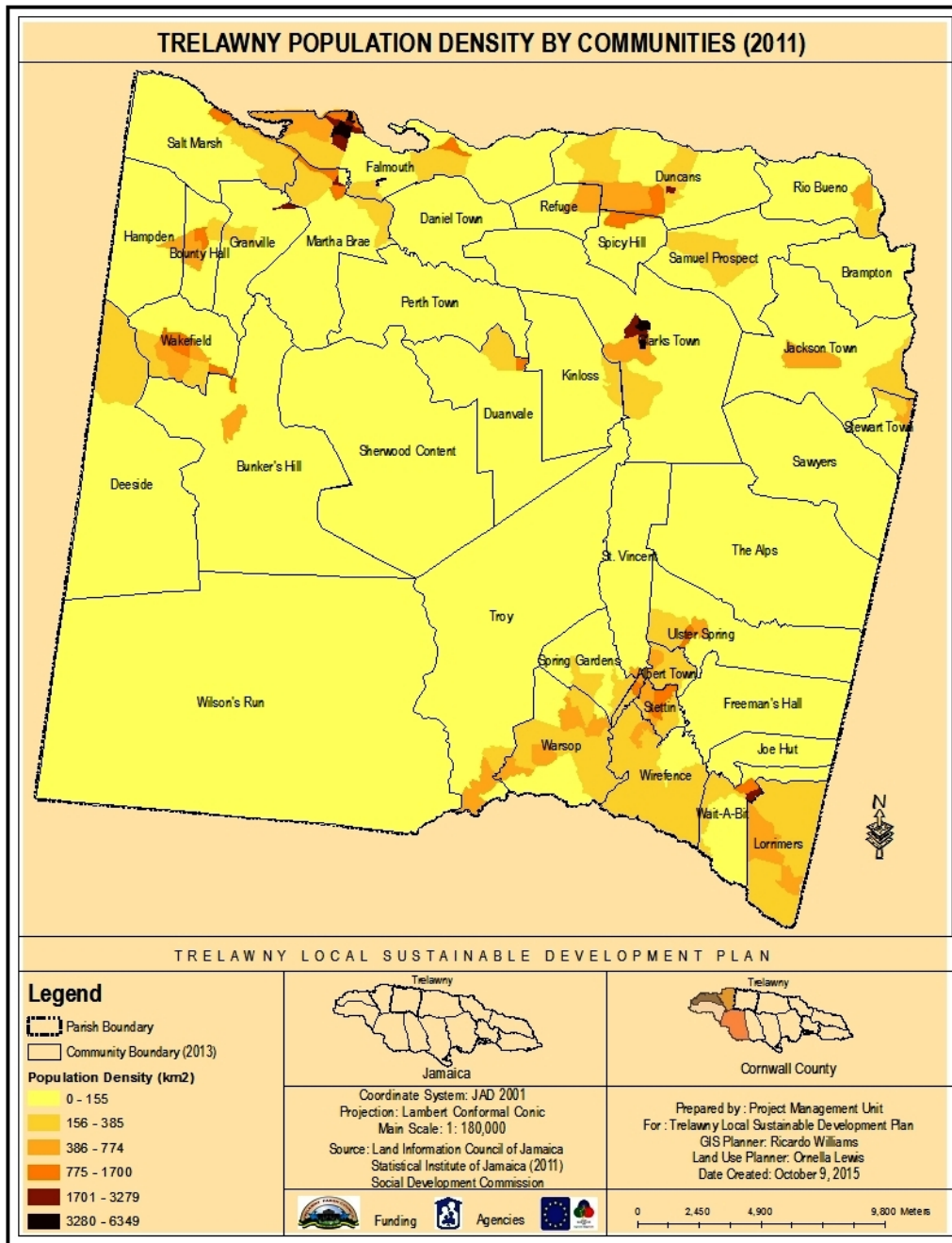


Sex Composition. The sex composition of a population is generally determined by the sex ratio at birth and the different patterns in mortality and migration of men and women. The sex ratio, which is the measure of the sex composition of a population, is also referred to as the male to female ratio, and is usually expressed as the number of males for every 100 females.

The 2011 census results showed that of the population of 75,164, males numbered 38,102 (51.1%) and females 37,062 (49.9%). Between 1991 and 2001, the female population had a higher percentage increase (3.12 %) than the male population (2.63 %). The excess of males over females dropped to 1,040 in 2011

compared to 1,607 in 1991. Despite the decline in the number of males over the period 1991 and 2011, the number of men continues to exceed the number of women making Trelawny a male dominated Parish.

3.3.4 Population Distribution



Map 6 Trelawny Population Density by Communities (2011).

Population Density. With a total population of 75,164 and a size of 875km², Trelawny had a population density of 85.90 persons per km² in 2011 as shown in Map 6. This density is significantly low when compared to the density of Jamaica (236 persons per km²). Areas of highest density are Falmouth, Duncans and Clark’s Town while areas with low density are Troy and Ulster Spring. The areas of high density tend to be major economic hubs and are associated with high density housing while areas of low density are predominantly major agricultural areas and are dominated by forest cover.

Political Constituency. The 2011 census results show that of the population of 75,164, there were approximately 48,599 (64.7%) persons living in Trelawny Northern and 26,565 (35.3%) persons living in Trelawny Southern. This does not represent an equitable distribution between constituencies because Trelawny Northern is associated with the major Housing Developments, Hotel constructions, Falmouth Historic Cruise Pier, proximity to the North Coast Highway and greater access to job opportunities in the urban centres and the neighbouring Parishes.

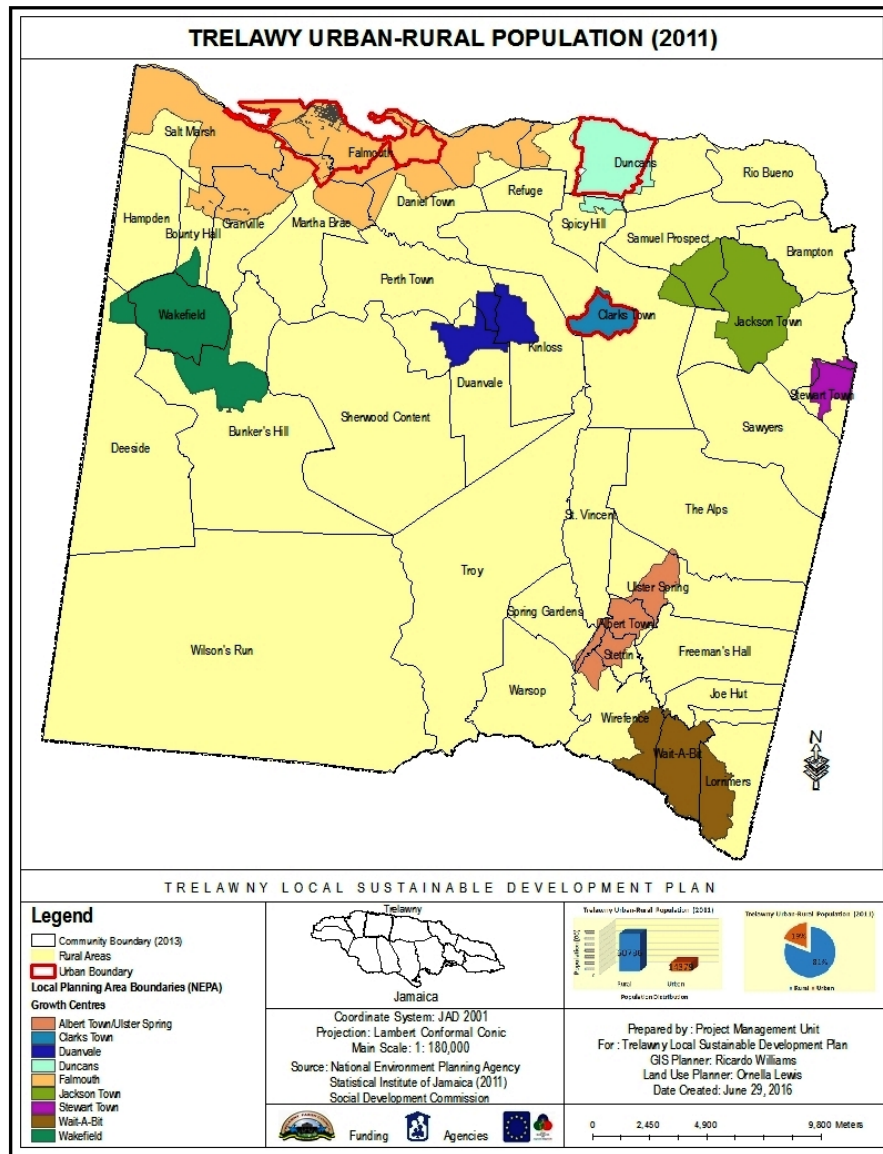
Urbanisation. For statistical and planning purposes the population is typically characterised as urban. For the census, a place was classified as urban if it had a population of 2,000 or more and provided a number of amenities that in Jamaica indicated modern living. In addition, there are criteria related to land use, which must be satisfied. Such criteria include the existence of commercial, industrial and residential areas. According to STATIN (2011) there are three (3) urban areas in Trelawny; Falmouth, Duncans and Clark’s Town. Census 2011 shows that 14,379 (19.1%) of the population of Trelawny lived in areas classified as urban (Figure 6). This represents an increase of 89 persons (0.6%) between the 2001 and 2011 period. On the other hand, the rural population increased more than twenty times the growth of the urban population from 58,776 to 60,786 representing a total change of 2010 persons (3.4%) during the same period. Therefore, Trelawny represents one of those parishes that are becoming increasingly ruralised (Map 7).

Figure 6 Trelawny Urban and Rural Population: 2001 – 2011.

Trelawny	Population 2011	Percentage (%)	Population 2001	Percentage (%)
Urban	14,378	19.1	14,290	19.6
Rural	60,786	80.9	58,776	80.4
Total	75,164	100	73,066	100

Trelawny maybe becoming more ruralised because people may choose to live on the periphery of these major urban centres due to ease of access and distance from these centres. Also, the slow rate of

development and growth, large expanse of forest cover, hilly terrains may be contributing factors to the predominantly rural population in the Parish especially in southern Trelawny where there are no urban centres. Closer analysis of the population data revealed that the parish might also be affected by internal and external migration. This is because of the over 1000 housing solutions provided in the main urban area of Falmouth between 2001 and 2011, the population only grew by 450 persons (6%). It is pertinent that the relevant authorities assess the need for proper infrastructure, better resources and connectivity in growth centres outside of the existing urban centres. If these growth centres are self-sustaining, it will ease the burden on the infrastructure of the existing urban areas.



Map 7 Trelawny Urban-Rural Population (2011).

Dependency Ratio. The variations in the proportions of children, aged persons and persons of working age are taken account of jointly in the age dependency ratio. The age dependency ratio represents the ratio of the combined child population and aged population, (under 15 and 65 years and over) to the population of the economically productive ages (15–64 years).

In 1991, for every 100 persons of working age there were approximately 83 persons in the dependent groups. By 2001, this ratio had fallen by approximately 8 percent to 75 per 100 and continued to decline to 58 per 100 in 2011. The youth dependency ratio which relates the 0-14 age cohort to the 15–64 years fell from 67 per 100 in 1991 to 44 per 100 in 2011. The smallest movement is observed for the old age ratio, which moved only minimally from 16 per 100 in 1991 to 15 per 100 in 2011.

It is important that the dependency ratio of Trelawny continues to trend in this direction because as the ratio increases there may be an increased burden on the productive part of the population to maintain the upbringing and pensions of the economically dependent. As the dependency ratio continues to decline it means a smaller proportion of a government's expenditure is required on health, NIS & education, which are most used by the youngest and the oldest in a population. Nevertheless, the dependency ratio ignores the fact that the 65+ are not necessarily dependent (an increasing proportion of them is working) and that many of those of 'working age' are actually not working.

Poverty. A large number of persons in Jamaica today do live in poverty despite the programmes implemented by organisations to aid in such instances. As observed, the poverty rate in Jamaica in 2009 stands at 16.5%. The result is that a larger proportion of the population now falls below the poverty line and inequality has risen, in many instances heightening vulnerabilities of the most-at-risk populations, including women and young people. As reported the largest number of persons living in poverty is those in rural areas and in the inner-city areas. The prevalence of poverty in the Parish for 2012 was 13.2 per cent. (Jamaica Survey of Living Conditions (JSLC) 2012). High levels of poverty in some cases lead to crime. However, in 2015 the Jamaica Constabulary Force Statistics and Information Management Unit reported Trelawny as the second safest Parish to live in.

3.4 Social Services

These include benefits and facilities such as housing, education and training, health care, community infrastructure, parks and open spaces provided by the government, and are used to improve the life and living conditions of the residents in Trelawny.

3.4.1 Housing

Jamaica's housing market has faced many challenges the last few years, due to high inflation, slow economic growth and high crime rates. In 2011, the total number of dwelling units in the country was 853,660, an increase from the 2001 figure of 723,041. However, the government has recently taken measures to slow down inflation and lower the country's massive debt-to-GDP ratio to sustainable levels.

Existing Housing Stock. Trelawny's total housing stock grew by 16.35 per cent between 2001 and 2011, compared with 18.06 per cent for Jamaica as a whole. Dwelling units increased from 21,263 in 2001 to 24,741 in 2011, therefore, the Parish's housing stock significantly increased reflecting the over 9000 housing solutions (Table 6). This indicates, a quarter of the housing stock in Trelawny is less than 10 years old, with completed and ongoing projects of Outram Estate, Florence Hall Village, Stonebrook Vista, Stonebrook Estate, Holland Estate, Coral Spring Village and Tamarind Ridge Development. Proposals for development include Dry Valley, Amaterra Jamaica Limited, Harmony Cove and Stonebrook Manor. The overall housing conditions similarly would have shown a significant improvement in terms of materials used for construction and sewage disposal.

Table 6 Number of Dwelling Units: 2001 and 2011.

	2011	2001	Difference
	Dwelling Units	Dwelling Units	
Jamaica	853,660	723,041	130,619
Trelawny	24,741	21,263	3,478

Household and Household Size. In Trelawny an increase in the number of households and household sizes for 2011 at 25, 207 households to that of 21,732 in 2001. However, the average number of persons

per household was reduced from 3.4 in 2001 to 3.0 in 2011, registering a difference of 0.4 (Table 7). The same was also observed at the national level.

Table 7 Number of Households: 2001 and 2011.

	2011		2001		Difference
	Households	Average Number of Persons Per Household	Households	Average Number of Persons Per Household	
Jamaica	881,078	3.1	748,326	3.5	0.4
Trelawny	25,207	3.0	21,732	3.4	0.4

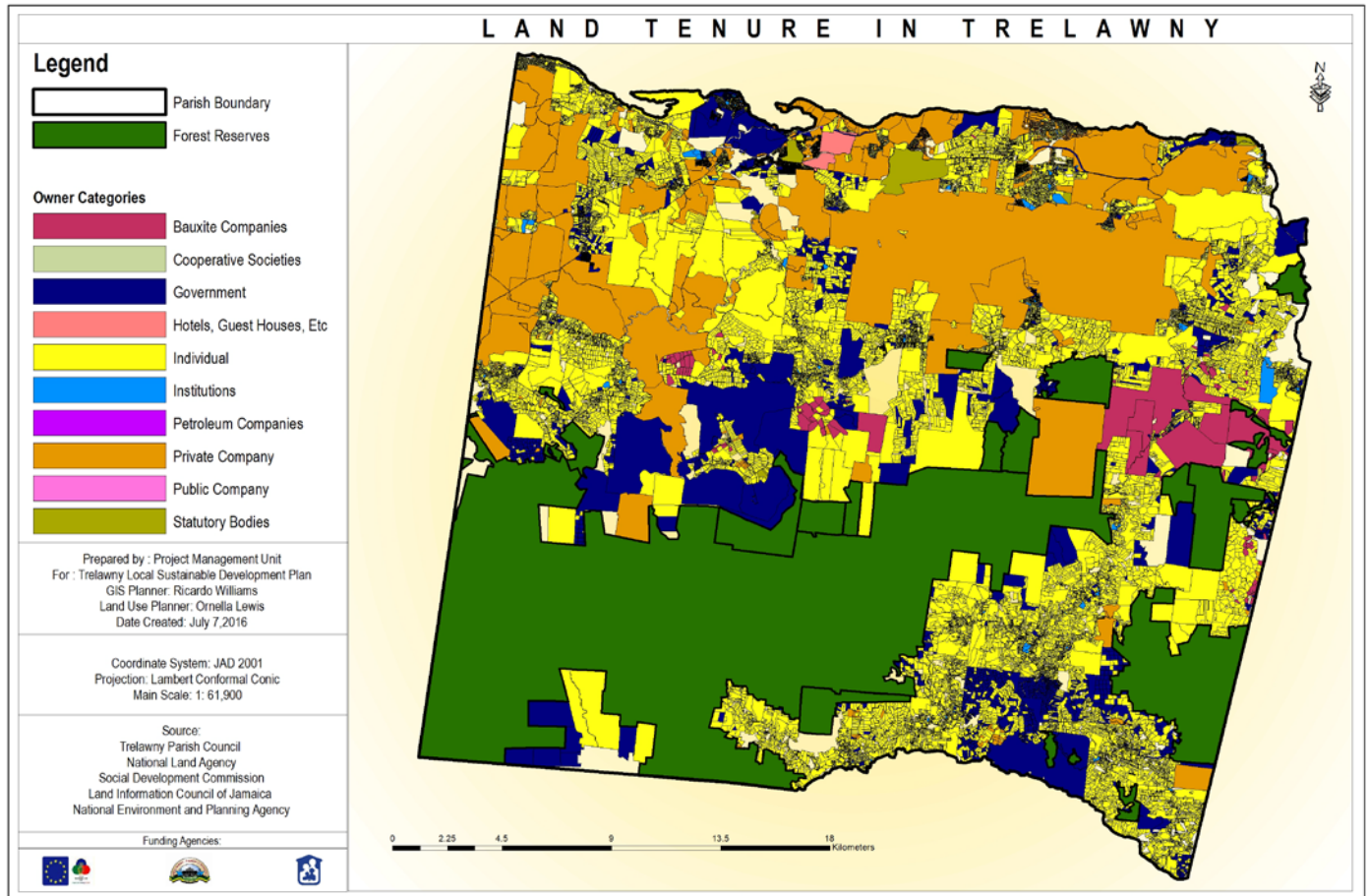
Trends by Location and Community. Between the 2001 and 2011, private residential units have been constructed and added to the housing stock. These housing units are mainly located in Falmouth and Duncans. The National Housing Trust (NHT) in 2009 identified ten (10) locations in the Parish for possible development over a five year period. Persons in the housing market indicated a clear preference for Duncans over the other communities that were suggested – Hague, Long Pond, Granville and Coral Spring (ranked in order of preference). Besides the communities put forward for consideration by the NHT, persons in the market also suggested other locations for consideration, which included Albert Town, Lowe River, Stettin, Duanvale and Salt Marsh.

Housing Quality. A pleasant home environment and good quality of housing makes peoples happy and content. Housing quality describes the condition of housing available to the residents in the Parish. Housing quality has greatly improved over the last two (2) decades, with residents now living in better housing conditions. Notably, measures can be taken to better improve the quality of housing that will be affordable and beneficial to the communities in the Parish. Some of these include:

- Affordability – implementation of accessible home financing schemes and low-income housing.
- Provision of Infrastructure – the creation of well-designed homes that are safe and environmentally friendly.
- Social improvement – provision of mixed housing development and housing for senior citizens and those who with disabilities (special needs).
- Land management – security of land tenure and cost of lands.

Land Tenure. In Trelawny, majority of the lands are individually owned with a share of private and government ownership (Map 8). Most persons with property are legal owners with titles: common law titles

and registered titles, although a common law title is not a full title to the land, it can be upgraded to a registered title. Some of the lands are usually obtained through inheritance, purchase, lease, kinship ties and informal settlements.



Map 8 Land Tenure in Trelawny.

Government Land Settlements. During the 1930s, the Government of Jamaica introduced a land reform initiative to provide lands to the poor and landless through the Government land settlements. The fundamental purpose of these settlements was to increase the social and economic opportunities of the poor and landless through agricultural development. Therefore, the general trend is for land settlements to be utilised for agricultural purposes. Albeit, there were instances where some of the land settlements were designed solely for residential purposes, while other agricultural holdings included adjacent residential units. According to NEPA, 2002 there were eighteen (18) Government land settlements in Trelawny (Appendix 4).

Informal Settlements. In Jamaica, the three (3) major types of informal settlements are agricultural, commercial and residential, with residential being the most dominant. Rural-urban migration, housing shortages, economic hardship, the high cost of land, and the availability of idle land often lead people to move onto private and public lands. At times, the physical infrastructure (roads and drains) within these informal settlements are either poorly developed or non-existent. If there is access to water and electricity due to these settlements being in close proximity to the mains at times most of the connections are illegally done.

Informal Settlements are very evident in the Parish and as documented by the Squatter Management Unit, there are over twenty-seven (27) informal settlements (Appendix 5), where these persons tend to occupy government-owned lands. The Unit also conducted a Rapid Assessment in 2008 and Socio-economic surveys in 2014, to determine the statuses and locations of informal settlements in the Parish. In Trelawny some of these settlements are located close to natural resources on level and marginal land with a few of them sited in watershed areas. Regarding land capability, arable lands account for the greater number of settlements followed closely by marginal lands. Due to the location of such settlements, they are vulnerable to natural hazards such as earthquakes, flooding, landslides and storm surges. It was also noted that the location of these squatter settlements are in areas where persons earn their livelihood, such as on agricultural lands, along fishing bays and within or in close proximity to town centres.

Housing Demand. Based on the Housing Demand Surveys (2009) undertaken by NHT, Trelawny has typically been characterised by seasonal employment and low income levels. The findings suggested that there was a low demand for lots to be developed in the Parish. Of note, there was a high demand for making improvements/additions. Although the occupations of those in the housing market are a combination of mostly seasonal and a few stable forms of employment, the relatively low to low-medium income levels observed across most occupational groups would impact on affordability.

As observed, the purchasing of serviced lots provided residents with a more cost effective housing solution compared with purchasing a unit. Most important however, is the strategic locations of the serviced lots. Duncans was the most popular location in the Parish. Duncans is a typical small town located 12.9 km east of Falmouth or 30 minutes-drive from Montego Bay in an easterly direction. Hague was listed as the second

most popular with Long Pond in third. Albert Town and Lowe River were two of the 'other locations' suggested by the market for development.

Current and Proposed Developments. There are a few developments in the Parish that are currently under construction as well as there is the potential for future developments for companies and individuals wishing to contribute to Trelawny's development (Tables 8 and 9). In addition to meeting the existing needs, the demand for additional developments will only continue to increase due to the erection of hotels, housing developments and other developments. The local planning authority will ensure that precautionary measures are taken to avoid unacceptable environmental consequences.

Table 8 Current and Proposed Housing Developments in Trelawny.

Name of Development	Location	Developer	Type and Number of Units	Status
Stonebrook Estate	Falmouth	KEMTEK Development & Construction Company	152 units with 2 bedrooms	Completed
Stonebrook Vista	Falmouth	KEMTEK Development & Construction Company	794 units with 2 bedrooms	Completed
Florence Hall Village	Falmouth	Gore Developments Ltd.	828 units with 2 bedrooms	Completed
Holland Estate	Martha Brae	KENCASA Construction & Project Management Ltd.	1200 units, studio-duplexes, 2 bedrooms and 3 bedrooms	Phase 1 – completed Phase 2- coming soon!
Coral Spring Village	Duncans	Gore Developments Ltd.	547 lots 1, 2 & 3 bedrooms	On going
Amaterra Jamaica Ltd.	Duncans	Keith Russell and American Charles Murphy III	2000 units	
Tamarind Ridge Development		Keith Russell	387 lots	Completed
Outram Estate	Hammersmith	Outram Estate Jamaica Limited, Mr. Keith Outram	205 lots	On going
Dry Valley	Dry Valley	National Housing Trust		Proposed

Table 9 Current and Proposed Hotel Developments in Trelawny.

Name of Development	Location	Developer	Type and Number of Units	Status
Harmony Cove	Duncans	Harmonisation Limited and Tavistock Group	Phase 1 – 1000 hotel rooms Phase 2- 1000 hotel rooms with casino and attractions	Proposed
Amaterra Jamaica Ltd.	Duncans	Keith Russell and American Charles Murphy III	2300 hotel rooms with casino and attractions	Proposed
Excellence Resorts	Bush Cay	Excellence Group Luxury Hotels & Resorts	450 hotel rooms	Proposed

3.4.2 Education and Training

Education and training in Jamaica are administered primarily by the Ministry of Education, Youth and Information (MOE) and are essential human rights that are considered to be very vital in attaining economic growth and a sustainable society. Education remains high priority and is one of the best investments that can be for the people of Trelawny, with the aim of reducing poverty and inequality. In 2006, the Government began implementation of the recommendations of the National Education Task Force as well as introducing a number of programmes and projects towards improving quality, equity and access in the education system⁶. The Government is also committed to continue making significant investments in the education sector in a bid to improve quality and performance standards. The future of Trelawny will be heavily dependent on the continuous improvements in the educational system that would have to be flexible enough to respond and adjust to the every changing realities of Jamaica as a whole.

⁶ http://www.vision2030.gov.jm/Portals/0/Sector_Plan/Microsoft%20Word%20-%20Education.pdf

3.4.2.1 Enrolment and Capacity

The education system caters to students in public and private institutions at the early childhood, primary, secondary and tertiary levels. At the National level, there have been significant declines in the number of students who make the transition from primary to secondary level education, which contributes to a rising negative trend in the Jamaican education system. The institutions at the basic levels receive excellent support from the government and local communities with the provision of infant schools and community funded basic schools. An increasing volume of privately operated kindergartens, nurseries and pre-schools also supplements this level of education in the Parish.

Educational Institutions in Trelawny are grouped in Region III along with the Parish of St. Ann. These various institutions have improved significantly over the last six years with the opening of Troy and Holland High Schools, as well as the University of Technology, Jamaica with its campus at the Trelawny Multi-Purpose Stadium. There are also prospects for other universities and colleges to offer various programmes and courses.

Institutions by Type and Location. Within the Parish of Trelawny there are over 100 Public Educational Institutions along with a few Independent Educational Institutions, ideally situated in the urban, rural and remotes areas (Table 10). Majority of these Institutions are owned by the Government of Jamaica, whereas the remaining Institutions are owned by private organisations and influential church denominations.

Early Childhood Education. The first five years of a child's life offer the greatest potential for building the foundations of conceptual learning and of developing life skills, habits and attitudes. Early Childhood Education is an essential focus of Jamaica's education system and relates to the teaching of young children up to age five. Basic Schools are predominantly community operated institutions. Infant schools and Infant departments are publicly operated entities. The infant schools are stand-alone institutions while the department are attached to schools offering primary level education. There are over sixty such institutions in Trelawny.

Primary Education (All-Age/Junior High). Primary Education prepares children for secondary education and enrolls children in Primary, Primary & Junior High, All-Age and Preparatory schools covering ages 6 – 13 years old. There are over 30 such institutions in the Parish. The Grade Six Achievement Test (GSAT) is

highly important and was designed to measure the academic development of children at the primary level and serves as a mechanism to facilitate the placement of students at secondary level schools.

Table 10 Educational Institutions in Trelawny.

Educational Institutions in Trelawny					
	Albert Town DA	Clark's Town DA	Falmouth DA		Total
			Falmouth Node	Wakefield Node	
Pre-School	0	1	0	0	1
Day Care/Basic	20	19	11	14	64
Infant	0	0	2	0	2
Primary and Infant	4		1	1	6
Preparatory	0	2	2	1	5
Primary	3	8	6	3	20
All-Age	1	2		1	4
Primary & Junior High	1	0	1	0	2
Secondary High	2	2	0	3	7
Vocational/Training	2	1	3	1	7
Theological Institution	0	1	0	0	1
University	0	0	2	0	2
Total	33	37	27	24	121

Source: Jamaica Directory of Public Educational Institutions 2012/2013

Special Education. Throughout the island there are many students with special needs and who are severely affected by different types of disabilities or challenges; many are diagnosed with medical/physical disabilities and those with mild learning disabilities or challenges. These special needs students are usually enrolled in government and government-aided special education programmes. Special education programmes are provided mainly through private voluntary organisations in collaboration with the Government and cater to individuals from 4 - 20 years. The Mico College Child Assessment and Research in Education Centre (CARE) was established to provide services for early detection of disabilities, which affect the development of children, including prescribing corrective programmes to address the problem.

Secondary Education. At the secondary level, students are exposed to a wide range of subjects, including foreign languages and are divided into lower schools (ages 10 – 13/14) and upper schools (ages 15-16). Students are enrolled in All-Age, Primary & Junior High, Secondary High and Vocational/Training Institutions, with a few schools operating on the shift system.

Tertiary Education. The educational institutions that provide higher education are located throughout Trelawny and usually accommodate students aged 17 and older. With the presence of the Trelawny Multi-

Purpose Stadium, the University of Technology, Jamaica, has seized the opportunity and currently operates its campus from that location. The HEART Trust/NTA Vocational Training Centre located in Falmouth has expanded the courses being offered and operates under the umbrella of the North West Technical Vocational Education and Training Institute with head campus at Kenilworth. One such new course is Call Contact Centre Operations which is geared towards training individuals for Business Processing Operations by Off Shore Companies such as the Elephant Group and Alliance One. Tour Guiding is now being offered in a bid to meet the demands in the growing hospitality industry in the Parish.

Quality of Education. In determining the quality of education, a number of emerging factors can be outlined within the primary and secondary schools. The Ministry of Education stipulates the Pupil Teacher ratio be assigned to 34 students (34:1), however, is often exceeded and this makes it more difficult for the learning material to be effectively related to the entire classroom population. In Trelawny, the average Pupil Teacher ratio is 25:1, a little below the national standard. Some institutions do experience overcrowding within the existing classrooms, which then become a concern of maintenance and upgrading. Schools have been making recent attempts to keep pace with changes in technology and since the mid-1990s Information Technology has become an important part of the average school curriculum. Throughout the primary and secondary institutions, there is still the predominant usage of what is classified as the “talk and chalk” method. This can be seen as a limitation with regards to the use of more interactive and participatory learning.

School Infrastructure. With the availability of good quality school infrastructure, students’ performance and well-being are improved. The Education Sector over the last decade has made considerable effort to improve and upgrade the school facilities; however there is still the need for greater improvements. As it relates to the design and construction of the buildings, more sustainable design strategies should be employed, such as designs to maximise the use of natural and artificial lighting, ventilation, space (total floor area), types of furniture and the building materials. Emphasis should also be directed towards improving the environment of the school, implementing and upgrading the recreational spaces (fields, courts, playground sets) and landscaping efforts, and not be limited by the total area of the campus or school grounds. Sanitary facilities also need immediate attention; as in some rural community schools pit latrines are still utilised and associated with this is the fear for students’ health and safety.

3.4.2.2 Skills Training

Education and skills training enable individuals to improve their employability and potential productivity, and as noted there has been an increasing demand for skills training institutions and programmes in the Parish. The government focuses on Training and Workforce Development, which targets the training institutions and programmes, such as training activities of secondary schools, post-secondary and tertiary institutions in preparation for the labour market.

The HEART Trust/NTA is active in shaping a vibrant and dynamic workforce and the Falmouth Vocational Training Centre, individuals are not only provided with training but also with certification programmes to better equip them for the world of work. Programme such as Jamaica For Lifelong Learning (JFLL) is charged with the execution of adult and youth learning and lifelong learning interventions from basic literacy to the secondary level. Courses offered by JFLL range from basic literacy and numeracy up to the level of Caribbean Secondary Education Certificate (CSEC) subjects in a variety of disciplines and courses in computer applications usage.

3.4.2.3 Library Service



Trelawny Branch Library.

The Trelawny Parish Library is a part of Region Three within the regional structure of the Ministry of Education. The library is situated on Rodney Street in the capital town, with eight (8) other branches located across the Parish in the communities of Albert Town, Clark's Town, Duncans and Wakefield (Table 11). Service is administered to the public through the Public Library Network and to schools through

the School Library Network. Some of these services include computer and the internet, lending, reference, research as well as printing and photocopying.

Table 11 Library Facilities in Trelawny.

Library Facilities in Trelawny	
Parish Library	Falmouth
Full-Time Branch Libraries	Duncans
Part-Time Branch Libraries	Albert Town
	Clark's Town
	Wakefield

3.4.3 Health Services

Good health is the foundation of human welfare and productivity. The critical problems of ill health are closely related to environmental conditions and development problems. Parasitic diseases are among the common health issues, which are mainly related to wastewater disposal and drainage. Development conditions such as air pollutions and other exposure to hazards in the workplace also play a role in ill health among the populous.

The health sector in Jamaica is comprised of the public sector, which provides services to the majority of population at the primary, secondary and tertiary levels at a highly subsidised cost (no user fees are charged) and the private sector which provides an alternative to the public sector and is largely the leader in the categories of new technological initiatives and health modalities. There are no significant barriers that may prevent physical access to basic public health services as the country has a well-developed network of health centres and hospitals and payment barriers, in principle, have been eliminated by the abolition of user fees by the Government (Vision 2030).

Health care access in Trelawny is mainly provided by the public facilities or a combination of both public and private. The Western Regional Health Authority has responsibility for providing healthcare services to the residents in Trelawny. The Parish is served by a Type C Hospital - the Falmouth Hospital and provides general outpatient and inpatient services to the residents. The Health Centres are divided throughout three (3) Medical Districts: Falmouth, Albert Town and Duncans amounting to a total of Nineteen (19) Health Centres as outlined in Table 12. The Falmouth Health Centre is the only Type IV facility in the Parish, which not only serves Falmouth but the Greater Falmouth area and administers the Parish's programmes from that facility. The remaining health centres are located in and around the Parish and are of Types III, Type II and Type I. There is also a Rural Maternity Clinic (RMC) which is located in Clark's Town.

Description of Health Centre Types I – IV are as follows:

- **Type IV** - Serves 15,000 to 20,000 people with varying staff according to service provided while operating on a daily basis. Services and staff include curative clinic, dental clinic and nurses, medical.
- **Type III** - Serves 10,000 to 15,000 people. Offers the same services and operates on a daily basis as Type IV, but with less staff.

- **Type II** - Serves 5,000 to 10,000 persons. Services offered include maternal and child health, family planning, post-natal, medical and some dental service. There is a visiting doctor operating at this clinic type once a week.
- **Type I** - Serves up to 4,000 persons. Services offered include maternal and child health planning. Staff includes a visiting doctor once a month, midwife, and visiting public health nurse (i.e. child health nurse visits 6 times a month).

Table 12 Health Centres in Trelawny.

Health District	Name of Health Centre	Type
Falmouth	Falmouth	IV
	Wakefield	II
	Deeside	I
	Bounty Hall	I
	Sherwood Content	I
	Bunkers Hill	I
Albert Town	Albert Town	III
	Wait-A-Bit	II
	Warsop	II
	Ulster Spring	II
	Troy	I
	Lowe River	I
	Rock Spring	I
Duncans	Duncans	III
	Clark's Town	II (RMC)
	Duanvale	II
	Jackson Town	II
	Stewart Town	I
	Rio Bueno	I

Source: Trelawny Health Department, 2015

Private health care is mainly provided by doctors in the main towns. Many residents from the Parish travel to the neighbouring Parishes to access private and public health care, which is due to proximity of facilities but also because there is the probability of receiving higher qualities of service as the hospitals in the neighbouring Parishes of St James, St Ann, Manchester and Clarendon are considered to be better equipped and staffed. The service of a wider range of specialist doctors is also needed within the Parish.

3.4.4 Crime and Safety

The safety of the communities within Jamaica and the Parish is very important. Increases in crime rates may result from several socio-economic factors, including lack of education, high levels of unemployment, increase in drug use, peer pressure and politics. However, in 2014, Jamaica saw a decrease in murders and other serious violent crimes. It is believed that the reduction in crimes may be attributed to overall proactive police actions. At the local level, community groups and other NGOs also assist in minimising public safety issues such as trespassing, noise, littering and other quality of life issues through surveillance.



Falmouth Police Station.

Police Services. In 2015, Trelawny was ranked as the second safest Parish in which to live by the Jamaica Constabulary Force, as the Parish records low crime rates. The Parish is served by nine (9) police stations: Clark's Town, Duncans, Falmouth, Rio Bueno, Stewart Town, Ulster Spring, Wait-A-Bit, Wakefield, Warsop and over three hundred (300) Officers of varying ranks (Appendix 6).

The Police Station in Falmouth was newly built and opened in March 2013, where it houses a Mobile Reserve Unit and offer other police services. The condition of the police stations ranged from deplorable to fair. The Officers are confronted with major issues and challenges that increase the occurrence of criminal activities. These include lotto scamming, migration of criminals from neighbouring and other Parishes as well as gang feuds. Nonetheless, the Jamaica Constabulary Force continues to undertake initiatives aimed at curbing crime to ensure effective execution of the mandate.

According to DSP Cyril Brissett of the JCF in Falmouth, there are adequate police stations to serve the Parish. However, there is a shortage in the number of vehicles and human resource. Due to the shortage of these resources, it affects the ability of the police to response to multiple situations at once as well as the number of police officers that may be deployed to a particular area. He indicated that major crimes are low and on the decrease, however scamming is on the rise and southern Trelawny is affected mainly by domestic violence. The low crime rate is due largely to the proactive approach undertaken as well as the relationship between the police and the residents. Nonetheless, additional financial resources are needed

to host community events, activities and workshops. These events and activities are critical components of the community based policing strategy used to foster good relationship between the police and residents.

Due to the dynamics of scamming there is no one solution to the problem and it will require a serious culture change to stem its growth. This is because scammers are in some cases breadwinners and as a result the home facilitates such kind of activities. He indicated that the Wakefield area is affected by scamming due to the direct access to the neighbouring Parish of St. James.

The Parish is affected by migration which has contributed to the proliferation of informal settlements and criminal activities. Some of these informal settlements have been formed or expanded due to increasing developments in the housing and hotel industry. Some of these workers are from outside the Parish and after construction of such developments are completed, they do not return to their previous residences. The informal settlements possess a challenge to policing due to improper layout, absence of critical infrastructure such as lighting and roads which makes the area difficult to access especially at nights. Furthermore, DSP Brissett stated that some of these areas lack other basic amenities such as sewerage and potable water that contributes to other social problems. It therefore requires a coordinated approach between the relevant authorities to put a stem on the growth of existing settlements and early intervention to prevent new ones.

Another factor as outlined by DSP Brissett is the construction of several housing developments that have also influenced increases in scamming and other criminal activities. A significant number of these houses are sold and rented, without conducting background checks on the individuals.

Fire Services. The Jamaica Fire Brigade (JFB) in Trelawny was established in 1957, where high quality responses and value added services are provided. A state-of-the-art fire station was opened in 2007, and is located at the corner of Lower Parade Street and Tharpe Street in Falmouth and serves the entire Parish of Trelawny. There are a total of one hundred and sixty-three (163) fire hydrants that have been installed with many of them properly functioning at present.



Jamaica Fire Brigade, Falmouth.

Currently, the Parish is served by one fire truck and one ambulance with a capacity of one person at any given time. With the absence of a facility in Southern Trelawny, responding to a fire or other emergency in that area, would affect Trelawny Northern as it would be left uncovered, as well vice versa. In cases where the unit is down due to mechanical or other problems, depending on the location of an emergency, support is provided by units from St. James, St. Ann and Manchester. Deputy Superintendent Roland Walters of the Jamaica Fire Brigade (JFB) in Trelawny indicated that there needs to be an additional unit at the Jamaica Fire Brigade in Falmouth, so that in the event there is a fire simultaneously in both constituencies, they can respond. He also indicated that with the increase in population of Duncans and frequent accidents along the Bengal to Pillar main roads, a substation equipped with an ambulance and Fire truck in Duncans could increase response time and possibly save lives and money. He also indicated that a substation is also needed in Southern Trelawny possibly in the Ulster Spring Area to improve response time. Responding to emergencies in Southern Trelawny is affected by the distance to be travelled, hilly terrain, and land slippage during and after heavy rains, narrow and in instances poor road conditions.

At this moment there is adequate human resource for the fire unit, however, the ambulance is short of about four (4) Emergency Medical Technicians (EMT). Also, with the addition of more physical resources, greater human resource in the future would be required.

Other challenges the Jamaica Fire Brigade in Falmouth face are financial, inadequate parking spaces, lack of a street alarm system to indicate to the public when there is an emergency, fire boat, limited mobility - especially on Wednesdays due to the influx of commuters, the road way and fire hydrant at the facility are partially or completely blocked off by vendors and other vehicles.

With only one fire station in the Parish, the residents also face many challenges regarding fire safety measures, which include the conducting and enforcement of fire safety inspections for buildings and subdivisions, installation of fire prevention and fire-fighting devices, and educating the public on fire safety. However, the JFB and the TPC continues to incorporate and strengthen partnerships to effectively and efficiently get actions enforced and implemented.

3.4.5 Cultural Heritage

The cultural heritage of Trelawny is represented by the interesting music, historic and cultural buildings and sites that are located in different areas of the Parish. Trelawny's culture is heavily influenced by the architecture and traditions of the Afro-Jamaicans, British and other groups. The Taino were the very first people who lived in Jamaica and traces of the Taino culture was a part of Trelawny, where Stewart Castle is a site known for Taino excavations. The Jamaica Cultural Development Commission (JCDC) is responsible for all of the cultural activities throughout Jamaica and organises these activities, which include training, art competitions and exhibitions at the local level to incorporate programmes and celebrations.

Under the Jamaica National Heritage Trust Act of 1985, a section of Falmouth, known as Falmouth Historic District, recognised as rich architectural and archaeological heritage, was declared as a National Monument on September 5, 1996. The Falmouth Historic District is protected and administered by the Trelawny Parish Council and the Heritage Development Review Committee, an advisory body created by the Trustees of the Jamaica National Heritage Trust. The Falmouth Historic District contains the largest intact collection of British Colonial architecture in the Caribbean.

Cultural Practices. Trelawny's cultural practices are manifested in religion, cuisine, music, art and clothing, folklore and other arts. The cultural and artistic tradition of Trelawny reflects a heritage that is rich and vibrant. Much of the social activity is related to religion where in some areas of the Parish have been known for revivalism and pocomania. Tambu groups are also mainly found in Trelawny and such dances are performed mainly for entertainment. Many of these practices are integral to the way of life of many communities and attempts are made to preserve them, mainly through the efforts of the Jamaica Cultural Development Commission (JCDC). The art has manifested itself in sculptures, paintings, collage and craft works.

Historical Monuments and Archaeological Sites. The historical monuments are located in the cultural landscape of Trelawny. These monuments teach residents about the history that happened before they were born and promotes the respect for those who lived in different times and different societies. Some of the historical monuments in the Parish are fragile and in danger due to deterioration from the elements and time, vandalism and disrepair. The heritage resources were categorised as having buildings of architectural and historic interest, churches, cemeteries and tombs, historic sites and public buildings.

Major Historical and Cultural Sites

Balcarres (The Fort of Falmouth). Was named for the birthplace of Governor Trelawny and whose 1811 barracks now functions as a school. To this date the school is called "Barracks School or Falmouth All-Age School".



Good Hope Great House and Plantation. Good Hope Great House is as stately and unique as any of Jamaica's great houses, and also acts as an adventure centre featuring zip lining, river tubing, horse and buggy etc. The plantation also specialises in cattle and citrus farming.

Cockpit Country. The Cockpit Country represents Jamaica's largest wilderness area and is of global significance for its Karst limestone topography and biodiversity, and was given its name by the shape and formation of the many hills which make up the area. This was the main area for the Maroons (historical name for runaway rebel slaves) settlement.



The Phoenix Foundry (Dome). Located at corner of Tharpe and Upper Harbour Street, the Dome is an iron foundry which was constructed in 1801 used for repairing sugar estate machinery.

Falmouth Court House. Erected in 1815, this building is a Georgian design. These building are usually well proportioned



with seemingly vertical and horizontal grads crossing the building. Other unique features of this type of architecture include fanlights, shingled walls and jalousies. The courthouse though razed by fire in 1926 was rebuilt. It numbered among the first official buildings in the town.



Falmouth Parish Church (St. Peter's Anglican). This building is considered to be the oldest in Falmouth. It is a Georgian edifice that was built in 1795, constructed in brick and stone. The Church is a good example of vernacular architecture derived from classical forms.

Falmouth Wharves. Beginning at the Phoenix Foundry to Tharp House, the Falmouth Wharves stand as a reminder of the town's former glory. The warehouses were tall single floor structures built of brick, cut stone and or timber with slate or zinc roof.



Fort Dundas. This fort is situated behind the Rio Bueno Primary School. The date 1778, which is marked on one of the stones flanking the arched doorway, suggests that the fort was built around that time. The fort had a fan shape and an impressive wall with eight embrasures for cannons facing the sea and bay. Loopholes were also built in the walls.

Glistening Waters. A luminous lagoon also known as Oyster Bay contains microscopic algae that make the waters glisten like green fire at night, and it also offers deep sea fishing as well as a restaurant.



Green Park Great House. This house was originally called Green Pond by its first owner George Sinclair of St. Ann, who acquired the property around 1740. The name Green Pond was derived from a small pond on the

property, which was located nearby the Great House.

Hyde Hall Great House. This substantial Great House was built in 1820 and is now owned by the Long Pond Sugar Estate Limited. The property was first owned by a Mr. James Hall from 1699, and is easily recognised by the row of tapered, cut-stone columns.



Kettering Baptist Church. Founded in 1844 and located in Duncans, this church has Georgian features that was constructed of brick, stone, mortar, and timber and is associated with William Knibb, who founded the Kettering Free Village.

Martha Brae River. Offers a unique rafting experience along with a special embarkation area, “Rafter’s Village”, which encompasses six acres of beautifully manicured lawns situated on a natural horseshoe island. It offers a fully appointed recreational facility which includes picnic grounds, a full service bar, two souvenir shops, swimming pool and modern restrooms.



Persian Water Wheel. This was ordered by the Falmouth Water Company and installed in 1798. It is a large vertically situated wheel with a diameter of six metres. A dam was built to supply a flow of water. The wheel was equipped with radial blades or paddles that rotated the apparatus as they were impacted by the flowing water that came into contact with the

lower immersed portion of the wheel.

The Ruins of Stewart Castle. The small community of Stewart Town is home to the ruins of an impressive cut stone mansion,



known as Stewart Castle. A Taino Midden was found on the property in 1957.



St. Michael's Church. The town of Clark's Town was centred on a church and is identified on the plan of 1843 as Swanswick Town and Church. This church is one of the twenty or so built around the time of Emancipation.

William Knibb Memorial Baptist Church. The twentieth-century William Knibb Memorial Baptist Church stands on the site that has housed the Baptists in Falmouth since their first chapel built in 1831 and destroyed in 1832. The church that replaced the chapel in 1836 was demolished by a hurricane in August 1944, after which the present structure was built, incorporating material from the nineteenth-century church.



Windsor Caves. Located within the Cockpit Country, these caves offer a large gallery full of stalactites with dramatically arched ceilings. During the rainy seasons, one can hear the roar of the Martha Brae River flowing underground.

3.5 Policies and Actions for the Socio-Cultural Environment

The development of the Parish will be guided by the policies and actions outlined and are intended to contribute, enhance and protect the socio-cultural environment, while at the same time improve the character and quality of life for the residents.

3.5.1 Policies and Actions for Housing

Policies	Actions
<p>Policy SCE H1. The relevant authorities will seek to increase housing accessibility and affordability based on the market demand.</p>	<ul style="list-style-type: none"> a. Encourage inclusionary zoning of newly constructed schemes. b. Develop regulations for specific urban areas to accommodate infill development. c. Identify lands for affordable housing solutions to incorporate a mix of housing types and sizes. d. Introduce and improve incentives for the construction and real estate market outside of Falmouth. e. Improve the mortgage system through incentive practices to low income earners. f. Encourage Developers to increase the provision of service lots. g. Encourage the provision of sustainable housing solutions for the indigents.
<p>Policy SCE H2. The relevant authorities will seek to ensure the regularisation and relocation of informal settlements to foster community growth and development.</p>	<ul style="list-style-type: none"> a. Identify informal settlements in the Parish and improve the living conditions of residents through the provision of adequate infrastructure and services. b. Create a self-help programme to assist residents with the rehabilitation and sustenance of their communities. c. Expedite and improve the regularisation and relocation process of informal settlements. d. Contain the expansion of existing informal settlements.
<p>Policy SCE H3.</p>	<ul style="list-style-type: none"> a. Encourage the incorporation of renewable

<p>The relevant authorities will seek to promote cost efficient-housing measures through renewable energy approaches.</p>	<p>energy in the development of housing solutions.</p> <ul style="list-style-type: none"> b. Encourage investment through grants or low interest loans to beneficiaries. c. Initiate energy efficiency and energy conservation programmes for developers and beneficiaries.
<p>Policy SCE H4. The relevant authorities will seek to develop housing solutions through the use of sustainable design principles and rehabilitation techniques that enhance the long-term usability.</p>	<ul style="list-style-type: none"> a. Ensure that developers adhere to the building code principles. b. Promote and ensure that housing solutions are designed with rain water harvesting mechanisms that provide potable water for everyday use. c. Promote public education on the use of alternative building materials.

3.5.2 Policies and Actions for Education and Training

Policies	Actions
<p>Policy SCE ET1. The relevant authorities will seek to facilitate infrastructural development to support the education system.</p>	<ul style="list-style-type: none"> a. Identify schools in the Parish in need of upgrades to their facilities and teaching aids to create an environment conducive to learning. b. Develop technological infrastructure to support the advancement of the education system. c. Develop partnerships with the private sector, NGOs and civil society to facilitate investment in schools' infrastructure.
<p>Policy SCE ET2. The relevant authorities will seek to increase accessibility to the education system for all age cohorts.</p>	<ul style="list-style-type: none"> a. Support enrolment and retention through family recognition of the importance of schooling. b. Provide adequate space and facilities to offer high quality standardised curriculum and eliminate the need for the shift system. c. Promote the inclusion of vocational training at the secondary level.

	<ul style="list-style-type: none"> d. Facilitate education empowerment in communities through skills training and certification. e. Agitate for improved affordability up to all levels. f. Lobby for financial aid support systems. g. Promote the diversification of programmes and activities offered by the library service.
<p>Policy SCE ET3.</p> <p>The local planning authority will seek to support practical learning through informal educational practices.</p>	<ul style="list-style-type: none"> a. Develop programmes and activities to build social skills. b. Promote extracurricular activities to encourage students to learn and appreciate valuable life lessons. c. Ensure the participation of students in at least one extracurricular activity. d. Promote interschool related programmes and activities.
<p>Policy SCE ET4.</p> <p>The local planning authority will seek to support the continuation of volunteerism through services to schools.</p>	<ul style="list-style-type: none"> a. Open and market registering of volunteers to service in different capacities in schools. b. Develop a mechanism to monitor and evaluate volunteerism in schools. c. Facilitate capacity building for volunteers through training programmes and certification.
<p>Policy SCE ET5.</p> <p>The relevant authorities will seek to provide a safe and secure teaching/learning environment.</p>	<ul style="list-style-type: none"> a. Implement all aspects of the school's safety act. b. Strengthen parental involvement in the management of safety and security issues at all levels.
<p>Policy SCE ET6.</p> <p>The relevant authorities will seek to diversify assessment methods of student and increase accountability of educators and parents.</p>	<ul style="list-style-type: none"> a. Promote greater use of alternative assessment methods. b. Encourage and ensure that educators and parents guardians set attainable goals and objectives to account for students' holistic

	<p>development.</p> <p>c. Increase monitoring and evaluation of the goals and objectives of educators to account for students' holistic development.</p> <p>d. Provide appropriate and early feedback for students and parents/guardians.</p>
<p>Policy SCE ET7.</p> <p>The relevant authorities will seek to facilitate and support the development of Early Childhood Institutions (ECI).</p>	<p>a. Assess, maintain and upgrade existing ECI.</p> <p>b. Identify and assess the need for new ECI and support the construction of same.</p> <p>c. Promote the legislative framework to encourage the enrolment of students' ages 0 to 5.</p>

3.5.3 Policies and Actions for Health Services

Policies	Actions
<p>Policy SCE HS1.</p> <p>The relevant authority to ensure that facilities within the health sector are equipped with the required human capacity.</p>	<p>a. Ensure staff possesses the requisite skills and qualifications to practice/operate in specified area/capacity.</p> <p>b. Ensure adequate supply of human resource to meet demand.</p> <p>c. Facilitate training and development of staff.</p> <p>d. Revise training programmes to align with market trends and health sector needs.</p> <p>e. Implement a plan for recruitment and retention of staff including managing migration of staff.</p> <p>f. Seek to identify lands for the construction or relocation of health facilities.</p>
<p>Policy SCE HS2.</p> <p>The relevant authority to improve the health infrastructure and services.</p>	<p>a. Assess, upgrade and maintain existing health structures.</p> <p>b. Ensure the provision and maintenance of an efficient and appropriate fleet of vehicles.</p> <p>c. Develop and implement a mechanism for continuing assessment and acquisition of</p>

	<p>advanced and appropriate technology at all levels of the public health delivery system.</p> <ul style="list-style-type: none"> d. Ensure that supplies are of adequate quality and quantity to the meet the needs of the public health system. e. Strengthen the policy and regulatory framework of the health department to address issues such as customer service, equity, human rights etc.
<p>Policy SCE HS3.</p> <p>The relevant authorities will seek to promote sensitisation and early detection of critical health challenges affecting the Parish.</p>	<ul style="list-style-type: none"> a. Encourage greater involvement of public/private partnerships. b. Identify the main chronic illness affecting persons and promote sensitisation programmes to inform residents of prevention and treatment. c. Increase the frequency of health related activities and events. d. Strengthen the health system through research and development. e. Encourage research competition at the secondary and tertiary institutions in the Parish of critical health issues. f. Ensure hazardous waste from health facilities are properly stored and disposed.
<p>Policy SCE HS4.</p> <p>The relevant authorities will seek to empower communities to support the enhancement of the healthy lifestyle approach.</p>	<ul style="list-style-type: none"> a. Identify suitable lands for public open spaces and recreational areas. b. Ensure that a healthy environment is encouraged, such as no smoking zones and noise free zones etc. c. Build mechanisms to foster community participation through wellness activities and promotions.
<p>Policy SCE HS5.</p> <p>The relevant authorities will seek to improve disaster management through mitigation, preparedness, response and</p>	<ul style="list-style-type: none"> a. Identify and analyse health risks posed by emergencies and disasters. b. Collaborate with Local Planning Authority - Parish Disaster Coordinator, ODPEM and relevant

recovery.	<p>Agencies to identify various approaches to disaster management.</p> <ul style="list-style-type: none"> c. Identity and assess health facilities located in high risk/ disaster prone areas. d. Establish mechanisms to monitor and enforce compliance – adherence to building codes and other regulations. e. Introduce emergency crisis outreach teams at the Parish level. f. Increase the adaptative capacity of health facilities through sustainable approaches such as rainwater harvesting and renewable energy etc.
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3.5.4 Policies and Actions for Crime and Safety

Policies	Actions
<p>Policy SCE CS1.</p> <p>The relevant authorities will seek to improve the operational capacity of the Security Forces and Jamaica Fire Brigade.</p>	<ul style="list-style-type: none"> a. Identify and increase the resources lacking. b. Ensure the provision and maintenance of an efficient and appropriate fleet of vehicles. c. Collaborate with relevant Agencies to acquire additional funding for provision of necessary resources. d. Establish programmes to build human capacity. e. Encourage youths and adults to volunteer in the Fire Brigade and Police Force. f. Promote the need for continuous collaboration among Fire Stations located in neighbouring Parishes. g. Encourage the JFB to provide continuous training of community members.
<p>Policy SCE CS2.</p> <p>The relevant authorities will seek to promote safe communities through sustainable</p>	<ul style="list-style-type: none"> a. Identify and improve design and construction principles that deter criminal activities. b. Identify and formalise haphazard

<p>design and construction principles.</p>	<p>developments.</p> <ul style="list-style-type: none"> c. Conduct audits of existing critical infrastructure such as street light (night audit), fire hydrants, signs etc. and make necessary adjustments. d. Encourage the consistent inspection of structures and facilities by the relevant authorities. e. Assess the need for other critical infrastructure such as stop lights, road markings, cat's eye and reflectors etc. f. Encourage landowners to continuously maintain properties.
<p>Policy SCE CS3.</p> <p>The relevant authorities will seek to enhance community policing and intervention strategies and programmes.</p>	<ul style="list-style-type: none"> a. Foster good relationships between the local Police, residents and civil society through workshops, meeting and other social activities. b. Establish a governance structure to provide awareness and development strategies. c. Develop institutional framework to implement and monitor programmes. d. Seek additional funding from local and international stakeholders. e. Assess and monitor migration in relation to crime and safety. f. Encourage the formulation and continuation vigilant neighbourhood watch groups.
<p>Policy SCE CS4.</p> <p>The relevant authorities will seek to promote the use of advanced technology to increase safety and security.</p>	<ul style="list-style-type: none"> a. Identify new and advanced technology that can add efficiency to fight against crime. b. Promote intelligence-driven approaches to criminal investigations. c. Improve and integrate Management of Information Systems (MIS) and Geographic Information Systems (GIS) throughout the law enforcement sector.

<p>Policy SCE CS5.</p> <p>The relevant authorities will seek to increase the accessibility of water supply for emergencies.</p>	<ul style="list-style-type: none"> a. Identify resourceful ways of sourcing, collecting, storing water in the event of an emergency. b. Identify the need for and increase the number of fire hydrants. c. Assess, repair and maintain existing fire hydrants.
<p>Policy SCE CS6.</p> <p>The relevant authorities will seek to increase public knowledge and awareness about dealing with emergencies.</p>	<ul style="list-style-type: none"> a. Establish training programmes to educate communities on how to respond during emergencies. b. Develop an emergency plan. c. Perform simulation exercises in schools, workforce and communities to enhance preparedness in the event of an emergency.

3.5.5 Policies and Actions for Cultural Heritage

Policies	Actions
<p>Policy SCE CH1.</p> <p>The relevant authorities will seek to educate locals and tourists about the rich tangible and intangible cultural heritage.</p>	<ul style="list-style-type: none"> a. Establish and promote school based activities to educate students about the cultural heritage of the Parish. b. Implement programmes to sensitise locals and tourists.
<p>Policy SCE CH2.</p> <p>The relevant authorities will seek to promote the preservation of historical Architecture, historical sites, monuments and artefacts.</p>	<ul style="list-style-type: none"> a. Extend greater support to entities that promote, restore and preserve the cultural heritage of the Parish. b. Greater collaboration among Agencies. c. Increased capacity building for agencies to identify breaches in historical Architecture. d. Continue to promote Market Street as the premier historical architecture corridor in the Historic district by: <ul style="list-style-type: none"> ▪ Enforce specified guidelines for existing

	<p>and new developments.</p> <ul style="list-style-type: none"> ▪ Alter existing buildings to reflect the specified guidelines. ▪ The local planning authority should approve or deny buildings based on the adherence to specific guidelines. ▪ Collaboration among the local planning authority, business entities, tourism entities, communities and agencies responsible for promotion, preservation and development of historical cultural heritage. ▪ Promote public awareness of the importance and value of the cultural heritage. <p>e. Encourage the restoration and use of historical buildings.</p> <p>f. Construct a museum to showcase historical artefacts.</p> <p>g. Promote access to cultural artefacts through technology.</p>
<p>Policy SCE CH3.</p> <p>The relevant authorities will seek to create and promote diversity in cultural entertainment for all age groups.</p>	<p>a. Establish social spaces to accommodate cultural events of varying sizes.</p> <p>b. Promote and establish events and activities that highlight the diverse culture of the Parish.</p>



CHAPTER 4

ECONOMIC DEVELOPMENT AND WEALTH CREATION

TRELAWNY

LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond

This chapter includes a description of the ways to strengthen relationships among the sectors that will boost the economic development of the Parish. These include tourism, agriculture, manufacturing as well as the advancement of existing industries and the establishment of new ones that will work harmoniously with the environment.

4 ECONOMIC DEVELOPMENT AND WEALTH CREATION

4.1 The Vision

Economic development is essential to the residents of Trelawny. Over the past decade, the economic performance has been impressive especially within the tourism and agriculture sectors. The Parish however, will continue to brand the tourism experience by including international and local businesses to enhance the welfare of tourists and locals alike. The agriculture sector will continue being an integral sector of the economy, while incorporating technological advancements to drive food security, environmental sustainability and economic opportunity. Agriculture is and should continue to be innovation-driven, with the support of the right policies, infrastructure and market structure.

"If poverty is a disease that infects the entire community in the form of unemployment and violence, failing schools and broken homes, then we can't just treat those symptoms in isolation. We have to heal that entire community."

~ Barak Obama
US President

Focus will also be directed towards creating and supporting partnerships and linkages among sectors, while attracting new industries together with strategic locational guidance, reliable services and efficient decisions. Trelawny will seek to emulate, and exceed, the local economic, technical and creative vitality stimulated on the agriculture, tourism and manufacturing sectors. Over-reliance on tourism for the Parish's economic survival or on any one sector is often accompanied by underdevelopment within the other sectors. As such, diversification of the economy would assist the Parish achieve economic growth and stability, while promoting sustainability.

4.2 Goal and Objectives

Goal: Develop and sustain economic growth capabilities as well as promote economic opportunities that improve the quality of life of residents.

Objectives:

Agriculture

1. Strengthen the delivery of agricultural support services and promote adoption of productivity enhancing technologies.

2. Promote the sustainable use of natural resources and environmental management.
3. Promote an efficient agricultural marketing system to encourage greater local consumption and exportation of agricultural commodities.

Tourism

1. Develop and improve the infrastructure and services for tourists and locals to maximise the Parish's economic development potential.
2. Encourage tourism by establishing and improving the attractions and amenities in the communities.
3. Promote the use of cultural and heritage assets as heritage destinations, while protecting these assets for future generations.
4. Educate and train locals to access job opportunities within this sector and achieve the full economic benefits from Trelawny.

Manufacturing

1. Develop and enhance the manufacturing sector to promote growth and development in the Parish.
2. Achieve high levels of growth in the manufacturing sector.
3. Improve standard of living through manufacturing and investments.

4.3 Trelawny's Economy

The major sectors that contribute to Trelawny's economy are agriculture, tourism and manufacturing. Sugar and rum are the major agricultural products along with exports crops such as yam, bananas, papayas, pimentos, coffee, ginger and coconut among others. With sugar being on the decline, the other non-traditional crops have great economic potential with the help of new initiatives and investment in technology. Traditionally, remittances continue to play a central role in the lives of many families in the Parish. Remittance inflows are mainly influenced by "trends" in earnings and employment in key sectors in which Jamaican workers are employed overseas, where it is viewed as a tremendous source of foreign exchange for Jamaica.

As one of the main economic activities that steer growth in Trelawny, tourism is needed and is also interconnected to the environmental, socio-cultural and economic aspects of sustainability. The demand for tourist facilities is expected to increase and will aim to provide jobs, generate income, diversify the economy, protect the environment and also promote cultural awareness. However, the need for investment in infrastructure and human capacity that will benefit the communities and meet their expectations and desired needs should be a priority.

Labour Force. According to the 2011 Population and Housing Census, there were approximately 55,772 persons fourteen (14) years and over by economic activity in the week preceding the census. Of this population, 32,177 (58%) were considered to be economically active and 41 per cent were considered to be inactive and the other 1,005 (1%) was not reported. Of the economically active population 28,050 (87%) were considered to be employed and 4127 (13%) were considered to be unemployed.

Employment by Industry. As shown in the Table 13 below, of the 28,050 persons who were considered to be employed, 17,488 (62%) were males and 10,562 (38%) were females. Males dominated the: a. Agriculture, Forestry, Fishing, Mining and Quarrying, b. Manufacturing; c. Construction; d. Transportation, Storage, Communications and Public Utilities industries while females dominated the: e. Hotels and Restaurants; f. Wholesale and Retail, Repair of Motor Vehicles and Personal and Household Goods; g. Education, Health, Social Work and h. Private Households with Employed Persons.

The following four (4) sectors accounted for over half (64%) of the employment within the Parish.

- a. Agriculture, Forestry, Fishing, Mining and Quarrying (28%)
- b. Wholesale and Retail, Repair of Motor Vehicles and Personal and Household Goods (14%)
- c. Hotels and Restaurants (13%)
- d. Construction (9%)

Table 13 Employed Population of Trelawny: 2011

Employed Population of Trelawny in the Week Preceding the Census by Sex and Major Industry Group: 2011			
	Total	Male	Female
Total	28,050	17,488	10,562
Agriculture, Forestry, Fishing, Mining & Quarrying	7,986	6,672	1,314
Manufacturing	1,405	1,104	301
Construction	2,519	2,432	87
Wholesale & Retail, Repair of Motor Vehicles & Personal & Household Goods	3,879	1,766	2,113
Hotels & Restaurants	3,612	1,645	1,967
Transport, Storage, Communications & Public Utilities	1,698	1,397	301
Financial Intermediation, Real Estate, Renting & Business Activities	1,179	581	598
Education, Health and Social Work	1,996	359	1,637
Other Community, Social & Personal Service Activities	1,003	469	534
Public Administration & Defence, Compulsory Social Security & Extra Territorial Organisations	765	424	341
Private Households with Employed Persons	1,142	184	958
Not Adequately Specified	307	133	174
Not Reported	559	322	237

Source: STATIN

Unemployment. It is important to note that of the 4,127 (13%) who are economically active but unemployed, the age cohort 14-24 which consist of the youthful population (15-24) accounted for just under half (49%) of those who are unemployed. This age group has been singled out due to its vulnerability to a number of social ills. They are the primary victims and perpetrators of violent crimes. The large proportion of youths in our working age population presents an opportunity for our parish's development. It is therefore essential that we build the capacity of this group to ensure that it is integral to development planning and

implementation (Vision 2030). The age cohort 25-29 accounted for 18% and the number of unemployed persons declined significantly as the age cohorts increased.

Of the 22,590 (41%) of those who are considered to be inactive, the age cohort 14-24 accounted for 9,125 (40%), 25-64 accounted for 8,298 (37%) and those 65 and over accounted for the remaining 5,167 (23%). The 14-24 age group may have accounted for such inactivity due to a large portion of this age range would be enrolled in school or looking to further their education. Closer analysis of the data suggest that of this forty percent, 7,225 (32%) were in the 14-19 age cohort.

It is important to pay keen attention to the 8,298 (37%) of the population between the age cohort 25-64 who are considered to be part of the productive sector but is currently unemployed and not seeking a job. Some of these persons are considered inactive because they are students, temporary or long term sickness or disability, looking after family member or home, retired early or they may fall into the discourage workers category amongst others. If these persons can be gainfully employed they can contribute to development of the parish and further reduce the already declining dependency ratio.

The 65 and over age cohort represents the elderly population many of whom at this age would be retired. It is therefore not surprising that 23% of this age cohort is considered to be inactive.

4.4 Agriculture

In Trelawny, agriculture has been the main economic contributor for many years, and employs many residents, with majority being self-employed in domestic crop production and livestock production. There is an estimated population of 10,000 farmers of which 8,468 are registered with Rural Agricultural Development Agency (RADA). Known as the “yam capital” of Jamaica, Trelawny produces more yam than any other Parish. After the decline of the leading commodity - sugar, which has been produced for centuries, yams, bananas and papayas became the major agricultural products for the Parish's economy. This decline was mainly due to high cost of production, inefficient factory operations, low cane production and cane yields, poor cane quality, declining sugar and cane prices, increasing debt burden, high interest rates, weaknesses in the administration and management structure of the industry, low productivity and poor employee morale, and shortage of manual labour, among others. Nonetheless, sugar and rum are still produced at the Long Pond Sugar Factory and Hampden Sugar Factory.

According to Rural Agricultural Development Agency (RADA), at the end of 2015, the Parish produced 6,178 hectares of assorted crops of which 4,642 hectares was yam. It accounted for 66 per cent of the total agricultural production in Trelawny and approximately 50 per cent of yams exported from Jamaica are grown in the Parish. Most exports are distributed to West Indian communities in the United States, Canada and Great Britain. Other products such as sugar cane, bananas, plantains, Irish potatoes, vegetables, ginger, coffee, strawberries, pimento, pepper and coconut form Trelawny's agricultural production. Increases in production of these crops have been noted over the years, although the changes in climate change, limited land available for crop rotation, financial status of farmers and diseases have been affecting production and decreases in yield.

Operating Principles for the Agriculture Sector

Mobilise the private sector:
to unleash agriculture as core driver of future growth and stability

Employ market-based solutions:
to activate public and private investments

Empower farmers and entrepreneurs:
to reach their full potential

Integrate interventions:
to achieve momentum and scale

Collaborate:
with diverse stakeholders to build on strengths and distribute risk

Source:
http://www3.weforum.org/docs/WEF_IP_NVA_Roadmap_Report.pdf

4.4.1 Crop Production

The chief economic crops produced in the Parish are listed below, each of which is dealt with in detail.

Yam. Yam is the common name for perennial herbaceous vines cultivated as a staple food crop for consumption. The three (3) most popular varieties grown mainly in southern Trelawny are Yellow Yam (*Dioscorea cayenensis*), Negro yam and Lucea yam (*D. rotundata*), White yam, St. Vincent and Sweet yam (*D. alata*). Yellow and Negro yams are the main types exported. Yam production over the years has recorded notable declines. This can be attributed to attrition in the number of farmers growing yam, as well as slow and/or no recovery due to hurricane damage experienced over the last few years. However, the demand for the commodity has been increasing for both domestic consumption and export.

There is great need to improve yam productivity using modern technology and developing value-added products such as semi-processed, vacuum-packed yam slices, wines, yam chips and yam flour. In this respect, entrepreneurs/investors are being sought to partner in the future development of the industry.

Sugar Cane. Sugar cane is grown in Trelawny and does well as an export crop. Many products, such as alcohol, sugar and molasses among others are derived from sugar cane, which are used in people's everyday lives. The different varieties are distinctly produced for commercial purposes, while softer varieties are enjoyed fresh by individuals.

Banana. Despite the decline and subsequent cessation of exports, banana continues to be of importance, contributing significantly to rural employment in the Parish. The domestic market remains important as many persons consume bananas annually, thus the market has potential for significant increase to meet the increasing demand for value added products.

Plantain. A member of the banana family, plantain is used in many dishes – usually fried, baked or boiled. Plantains grow all year round, which makes the crop a reliable all-season staple food.

Papaya. Papayas are spherical or pear-shaped fruits that usually average about 7 inches and weigh about one pound to be sold on the market. Papaya can be enjoyed in many ways which adds to its popularity. According to RADA, the Parish produced 177 hectares in 2015 – 4,425 tonnes.

Irish Potato. Irish potato (*Solanum tuberosum*) is an edible tuber, which is a major source of starch. Local consumers prefer locally grown potatoes to that of imported because of their superior quality; as such they continue to support the industry. It is the intention of the producers to extend this project into commercial production of the wide varieties of Irish potato for the value added products such as: fries, wedges and chips, in the medium term. In a quest to produce tubers as part of the Import Substitution Programme, in 2015 the Parish produced 91.4 hectares of Irish potatoes yielding approximately 1,280 tonnes of the tuber for market.

Ginger. Ginger, grown in Jamaica is rated the best in the world due to its high potency. Its strength and flavour are generated naturally, and this is attributable to the island's climate and rich soil composition. The crop is used primarily for culinary and medicinal purposes. A total of 26.4 hectares was produced in 2015.

Pimento. To most English speaking people the tree is called "pimento" and the berries "allspice". The name allspice originated from the popular notion that the pimento berry contains the characteristic flavour and aroma of cloves, nutmeg, cinnamon and pepper, all combined in one spice. However, production now seems to be on the decline.

Coconuts. Coconut palms grow on many different types of soil but they give best results where the soil is friable. Over the years, many thousands of trees are being destroyed by a scourge called Lethal Yellowing, however replanting of dwarf coconut trees has progressed, which are immune to the disease. Coconuts have been contributing to the oil and soap industry, which is developing rapidly.

Pineapple. Pineapple (*Ananas comosus*) is an economically important fruit in Trelawny. The fruit is utilised extensively in the agro processing sector as well as the export and fresh food market. The Parish is diversifying its crop production by introducing the MD2 variety of pineapple to farmers. They have produced approximately 2.1 hectares to date.

4.4.2 Livestock Production

Keeping livestock is an important risk reduction strategy for vulnerable communities, and livestock are seen as important providers of nutrients and traction for growing crops in smallholder systems. Beef production, goat production, chicken meat production have increased over the years, where increases are made up of both number of animals and productivity.

Cattle. Over the years, some farmers have left the cattle production business (beef and dairy); however, recently RADA has been encouraging and imploring farmers and business individuals who have access to land to explore this subsector of agriculture. Increases in cattle production locally would help reduce the massive food import bill that threatens the economy, by growing for consumption and consuming what is grown.

Goats and Sheep. Given the high demand for chevon (goat meat), mutton and goat's milk, small ruminants (goat and sheep) production is considered a rewarding business. Over the years, new breeds are introduced with the aim of improving the quality and size of native goats and sheep to fulfil local demand. Larger breeds that have introduced include the Nubian and Boer goats and the Dorper and Katahdin sheep. This combination has resulted in increases of carcass size of the local breeds and off springs, which are better acclimatised to the local environmental conditions compared to the imported breeds.

Poultry. Poultry a relatively low-investment enterprise with a fairly quick turnaround time from investment to revenue provide a major income-generating activity from the sale of birds and eggs. Poultry production in the Parish has been on the rise, both large and small scale. Today's poultry are the product of complex, scientifically based programmes aimed at producing more meat or eggs while consuming less feed.

Bees. The Beekeeping Industry is one of the fastest growing of the subsectors in agriculture. As the demand for products of the beehive increase (resulting from improved awareness of the values of these products) more individuals recognise the need to satisfy this demand. The short term returns on investment is also another attractant to new investments.

4.4.3 Fisheries

The fishing industry is divided into the processing sector and the productive sector, with both including capture and culture fishing components. Fishing in Trelawny is done along the northern shelf, with nine (9) active fishing beaches of varying sizes. The fishery is mainly made up of artisanal fishermen operating from open type boats powered by either outboard motors or oars. There is a relatively smaller but economically significant industrial fishery for



A section of Silver Sands Beach.

conch and the Caribbean spiny lobster. Additionally, participants engage in commercial sport fishery associated with tourism as well as in recreational fishery.

Majority of the catch is sold fresh by vendors for domestic consumption with conch meat, lobster tails and snappers are exported in chilled or frozen state. Overexploitation of the marine resources - not only fishes, but also invertebrates and macro algae, has become an issue among the locals, where the maximum amount of fish that can be taken from the sea is exceeded. To note, the amount of fish landed is getting less and less along with the size of fishes is getting smaller and smaller. In addition, the percentage of the catch that is made up of the more expensive, high quality fishes such as snappers and groupers is very small if not non-existent whilst the percentage of the more in-expensive species such as doctor fish and squirrelfish are increasing⁷. Observing these factors, the Ministry with responsibility has adopted a comprehensive approach to the sustainable management of the marine resources.

The methods and fishing gear used to catch fish are a determining factor of sustainability as they can impact upon marine life and habitats. Fishes of all sizes and species are harvested using these methods. Coral reefs are particularly sensitive to destructive fishing methods, and when fishing methods result in destruction of critical habitat, the fishes may never have a chance to recover. Blasting and small mesh apertures in fish pots result in excessive fish being killed, and large quantities of juvenile fish being caught before they become mature enough to breed. This reduces the quantity of the next generation of fish. The main methods of fishing employed in Trelawny are:

Pot Fishing. This is the most common method used. These are called Antillean Z-shaped traps and are made from mesh wire supported by a wooden frame, usually made from bamboo. The design of the pots is of such that it allows the fish to enter but they cannot escape. Sometimes traps are lost, for example during a storm and not retrieved. To avoid catching organisms after being lost, degradable escape panels are often required on traps.

Net Fishing. Net fishing includes a variety of different types and uses for nets. The entangling nets (or gill nets) used locally include sprat nets, trammel nets and lobster nets. All of these are made with panels of

⁷ http://www.nepa.gov.jm/symposia_03/papers/fisheries.pdf

netting attached between a floated topline and a weighted bottomline. Most types of net fishing are potentially destructive when used around reefs.

Blasting. Blasting involves the use of dynamite or homemade explosives onto the reef. The blast from the explosion kills or stuns the fish, which are then collected from the surface. This method usually causes damage to the reef, which in most cases is long term because the coral in the blast zone is pulverised by the explosion.

Spear Fishing. This is seen as an efficient way to harvest fish from coral reefs for consumption. Although spears can damage the reef, this is not as destructive to the corals and non-targeted organisms as other fishing methods. This is due to the fact that the target species may be picked out easily, thus eliminating unintended incidental catch.

4.4.4 Forests

The forests in Trelawny consist of a mixture of mainly evergreen, broad-leaved tree species, with a sparse occurrence of the more valuable species. The value of the forest cover is extremely important in protecting the soil from severe damage by heavy rainfall and in conserving moisture which is allowed to percolate slowly into the natural aquifers and thus ensure the continuous flow of the major rivers and streams. However, forests have always been exploited for timber but in recent years extensive clearing for agriculture, including yam, and unrestricted cutting for other purposes have severely reduced the forest lands, leaving large areas of 'ruinate' or understocked natural forests. Below Table 14 outlines the forest reserves in Trelawny.

The Local Forest Management Committees and community members in Trelawny play a vital role in managing and conserving the forest reserves. According to the Forestry Department, there are plans to incorporate tourism and recreation with the forest reserves. As such a Forest Management Plan for the Cockpit Country Forest Reserve and surrounding Forest Estates was formulated in 2012 by the Forestry Department to guide the sustainable management of the forest ecosystem.

The agriculture sector will continue growing as a major contributor to the economy and livelihood of the residents of Trelawny. However, agricultural growth, although commendable, by its very nature is placing

stress on the earth's resources, therefore sustainability needs to be factored into the policies and actions for agricultural development.

Table 14 Forest Reserves in Trelawny.

Forest Reserve	Area (ha)	Remarks
Allsides	64.26	Part of Allsides Land Settlement
Baron Hill	141.69	
Belmont	30.97	
Bottom Hampden	193.83	
Chatsworth	343.76	
Cockpit Country	22173.36	
Discovery	149.83	
Dromilly	56.55	Part of Dromilly (Bunker's Hill and Hampton Mountain) Land Settlement
Forest Mountain	126.47	
Hyde	541.78	Part of Hyde Land Settlement
Hyde Hall Mountain	662.71	
Litchfield-Matheson's Run	4649.24	Part of Litchfield Land Settlement
Llandaff	129.26	
Peru Mountain	233.99	
Pike & Ravens	82.34	
Richmond Pen	2.01	Part of Richmond Pen Land Settlement
Richmond Pen	3.05	Part of Richmond Pen Land Settlement
Richmond Pen	1.94	Part of Richmond Pen Land Settlement
Richmond Pen	3.91	Part of Richmond Pen Land Settlement
Richmond Pen	14.27	Part of Richmond Pen Land Settlement
Richmond Pen	58.51	Part of Richmond Pen Land Settlement
Stonehenge	400.01	
Troy	523.44	Part of Troy Land Settlement
Windsor	524.01	

Source: Forestry Department, 2015 & NEPA 2002

4.4.5 Agriculture Opportunities

The Government of Jamaica provides vast support for the development and expansion of the agriculture sector. There are a number of markets ready to absorb local agricultural products – both primary and processed; these include the domestic market, the large, consistent tourist trade, the large markets of nearby USA, the Caribbean, Central and South America; other countries around the world that are used to the quality goods that Jamaica produces.

Jamaica Promotions Corporation (JAMPRO) is actively engaged in developing opportunities for Jamaican companies to leverage strong consumer demand for specialty foods in external markets. The primary focus

is on market entry and partnership opportunities for individuals or clusters of companies dealing with functional foods, nutraceutical ingredients, seasonings, condiments, spices, and other authentic Jamaican food and beverages⁸. The following have been outlined as incentives and opportunities with the agriculture sector by the Government of Jamaica.

- The government has extended numerous incentives to investors in the agricultural sector, including income tax relief, duty concessions on production-related imports;
- In a bid to improve competitiveness in international trade, the government has introduced online registration for importers and exporters that allows access to all trade-related agencies;
- There is access to information on commerce and industry such as information on product marketing, trade statistics and government incentives;
- Large scale improvements to the transport infrastructure and services;
- Incentives to provide traders with information on financing and technical assistance and;
- Contract farming joint venture opportunities to produce crops all year round.

4.5 Tourism

Tourism plays a significant role in the economy given the Parish's location at the heart of the north coast tourism destinations and the area's natural and cultural attractions. The industry is comprised of various private and public players in various sub-sectors, including: accommodations, tourist attractions, food and beverage facilities, ground transport, in-bond shopping, and crafts. The cruise shipping industry is integral to the operations of the tourism sector, and there are numerous linkages with other sectors in the domestic economy.

While a considerable number of local residents are employed in the hotels, villas and guest houses of nearby St. James and St. Ann, there are two major hotels - Royalton Hotel and Melia Braco Village Hotel and Spa that lie within the Parish's boundary. There are several smaller hotels, villas and bed-and-breakfasts inclusive of Silver Sands Resort, Glistening Waters Hotel, Restaurant & Marina, Fisherman's

⁸ http://www.jamaicatradeandinvest.org/sites/default/files/resources/agriculture_brochureAug2012.pdf

Inn, and Sparkle among others. In addition there are several nature and cultural heritage tourism attractions that together employ a substantial number of local citizens including the Chukka Caribbean Adventures, Falmouth, Martha Brae River Rafting Tour, the Greenwood Great House, the Good Hope Great House, the Hampden Estate, the Glistening Waters Boat Tour and the Cockpit Country Adventure Tours among others.

In Falmouth, cruise tourism has steadily increased its share of total visitor arrivals over the years. The Historic Falmouth Cruise Port plays a significant role for the growth and development of the local economy as its contribution to the National GDP is expected to increase by 2030 and detailed studies should be undertaken to highlight the current contribution it now makes in order to give a more comprehensive analysis of the economic trends. The industry is served by all the major cruise companies, of which the largest are Royal Caribbean Cruises Limited and Carnival Corporation. Key players in the cruise shipping industry are the cruise lines, Ministry of Tourism, the Jamaica Tourist Board, The Port Authority of Jamaica, in-bond associations, the Association of Jamaica Attractions Limited (AJAL), and ground transport agencies. Given Trelawny's strategic location that is in close proximity to the Sangster's International Airport and nearby the major tourism markets of Montego Bay and Ocho Rios, the area is well positioned to exploit its natural and cultural heritage attributes as well as to assist in diversifying and enhancing Jamaica's tourism product.

The craft industry over the years has taken a new direction to become more formal. The Ministry of Tourism guides the overall policy direction of the sector, while Tourism Product Development Company (TPDCo.) provides product development services, marketing and promotional development, training, and monitoring of the sector. The Jamaica Business Development Centre (JBDC) also plays an important role. Through its Things Jamaica brand, the JBDC facilitates branding, distribution, market segmentation services, and market opportunities for craft products. The majority of local craft consists of handcrafted products, wooden statuettes, basketry and weaving, embroidery and sewn products, beaded, metallic and wooden jewellery and paintings. Craft vending is mainly done in craft markets located in Falmouth town centre and at the Falmouth Historic Cruise Port.

4.5.1 Tourism Opportunities

Tourism is changing rapidly as nature, heritage, and recreational destinations become more important, and as conventional tourism is forced to meet tougher environmental requirements. While Trelawny's tourism sector continues to grow, exciting opportunities are emerging from new segments that will build a strong and sustainable sector. Tourism has the potential to increase employment while preserving the natural and cultural heritage of the Parish. To better facilitate the spurring economic growth of tourism, the following opportunities may be further explored by investors.

Community Based Tourism. Community based tourism is tourism in which local invite tourists to visit their communities with the provision of overnight accommodation. This is officially a relatively new phenomenon that is used by tourism planners to mobilise communities into action to participate in broadening the scope of offerings in the industry. The goal is socio-economic empowerment and a value-added experience for local and foreign visitors. However, for years locals have been engaged in community based tourism informally, where visitors participated and learnt about the communities' way of life while experiencing warm hospitality. The Tourism Product Development Company (TPDCo.) has been actively involved in formulating, implementing and acting as a catalyst for community-based tourism. The vision of community based tourism is to expose the local resources and talents, and make the concept a reality for local people. Community based tourism embraces ecotourism, cultural tourism, adventure tourism, recreational tourism, geo-tourism, cultural heritage tourism, health tourism, farm tourism and all the popular special interest tourism.

Ecotourism. Already being promoted and marketed in Trelawny, ecotourism is distinguished by its emphasis on conservation, education, travel responsibility and active community participation. Overall, ecotourism is quickly becoming one of the most popular forms of vacationing, aimed at preserving the natural resources while also promoting them and accommodating volumes of tourists. Within the Cockpit Country, Cockpit Country Adventure Tours (CCAT), a small ecotourism outfit, is managed by the

Principles of Ecotourism

- Minimise physical, social, behavioural, and psychological impacts.
- Build environmental and cultural awareness and respect.
- Provide positive experiences for both visitors and hosts.
- Provide direct financial benefits for conservation.
- Generate financial benefits for both local people and private industry.
- Design, construct and operate low-impact facilities.

Source: <https://www.ecotourism.org/what-is-ecotourism>

Southern Trelawny Environmental Agency (STEA). CCAT uses the local resources of the Cockpit Country to provide an authentic Jamaican experience that is an alternative to the “sun and sand” vacations most visitors associate with Jamaica. Local guides familiar with the area are trained to take visitors to natural attractions, residents of the area open their homes to provide bed and breakfast services for CCAT guests and local chefs provide authentic Jamaican cuisine as part of each tour. By developing and using these local resources CCAT aims to provide high-quality, safe and reliable recreational and educational ecotourism experiences based on the natural attractions of the Cockpit Country while providing economic opportunities for citizens of the area⁹. The landscape also provides the opportunity for investments in small scale accommodations along with attractions that offer soft adventure and tours, hiking trails and zip-line rides.

Cultural Heritage Tourism. Recognition of the significance of cultural heritage assets, and ensuring their long-term protection, is essential for sustainable and appropriate tourism. As the term implies, cultural heritage tourism involves visiting places that are significant to the past or present cultural identity of a particular group of people. Tourists with a high level of interest in natural and cultural heritage could visit heritage sites and participate in a range of activities in the Parish as part of their travel experience. A list of the sites of architectural/historical significance in Trelawny is outlined in the Appendix 7.

Benefits of Cultural Heritage Tourism

- Create jobs and businesses.
- Diversify the local economy.
- Create opportunities for partnerships.
- Attract visitors interested in history and preservation.
- Increase historic attraction revenues.
- Preserve local traditions and culture.
- Generate local investment in historic resources.
- Build community pride in heritage.
- Increase awareness of the site or area's significance.

Source:

<http://www.tpdco.org/dynaweb.dti?dynasection=tourismenhan cement&dynapage=htbeifits>

Volunteer Tourism. Also termed as ‘voluntourism’, is a combination of volunteering and tourism. Voluntourism for tourists is a way to discover a new country and play an important role in the local community. Volunteer tourism offers something for everyone. It allows tourists to travel beyond ‘the boundaries of the brochure’, host communities to share their cultural richness with others, NGOs to generate revenue in a sustainable way, tour operators to differentiate their product in a ‘responsible’ manner, hotels and suppliers to ‘green’ their operations and reduce costs, corporations to demonstrate their

⁹ <http://jamaicans.com/cockpitctry/>

commitment to social responsibility, build employee morale and provide innovative training for their staff and educators to enhance their classroom experience.

4.6 Manufacturing

The manufacturing sector is a key area of economic growth in Trelawny and is dominated by agroprocessing and light manufacturing including other inputs to the tourism sector, packaging and labelling, aquaculture, essential oils and nutraceuticals and value-added products from limestone. However, the sector's vitality has been impeded by a number of factors such as crime, high energy costs, reduced access to affordable credit and most recently fleeting demand as a result of the economic recession. This sector has linkages with the agriculture and tourism sectors and it also depends on a wide range of financial, business and professional services which are largely sourced from the domestic economy.

4.6.1 Manufacturing Opportunities

Agroprocessing. The agroprocessing industry refers to the subset of manufacturing that processes raw materials and intermediate products derived from the agricultural sector. Indeed, a very large part of agricultural production undergoes some degree of transformation between harvesting and final use. The increased demand for Trelawny's unique and diverse range of food products from both the local and export markets has opened up significant room for expansion in agro-processing. Chief among the Parish's agro-processing outputs are beverages, fruit jams, jellies, preserves, liqueurs, condiments, sauces and confectionery.

Sugar Cane. The sugar industry is operated by Everglades Farms Limited, with two (2) operating factories – Long Pond and Hampden Estates, which process the sugar cane into raw sugar, molasses and rum distillation. Some of the other by-products from the sugar cane include food for cattle which is made from the internal cellulose fiber of the cane, molascuit and a variety of bagasse, like the fiberboard well-known as paper pulp of Celotex. The organisations share the responsibility for the operation of the sugar industry include; All-Island Jamaica Cane Farmers' Association (AIJCFA), Jamaica Cane Products Sales Limited (JCPS), Sugar Manufacturing Corporation of Jamaica (SMCJ) and Sugar Producers Federation of Jamaica (SPF).

Yams. Although yams can be consumed by boiling and roasting, it can also be processed into the production of numerous by-products. Organisations and Groups such as the Kimroy Bailey Foundation and the Ulster Spring Women's Group have been exploring yam by-products such as yam fruit cake, ice cream and cupcake using yellow yam and negro yam. The Kimroy Bailey Foundation through its 100% Renewable Community Centre located in the heart of Yam Country, Trelawny is exploring innovative techniques to keep the tradition of yam alive while generating a solid source of income for youths and farmers in and around Trelawny¹⁰.

Pepper. King Pepper Products Limited is the manufacturer of "Eaton's" local seasoning and condiments. Currently, a line of eighteen (18) products covering jerk seasoning, pepper sauces, barbeque sauces, jams, chutneys, jerk ketchup and soy sauce are produced. The manufacturer is targeting deeper market penetration for Eaton's and other products in Europe and the United States.

Non-equity Modes (NEMs). According to Jamaica Promotions Corporation (JAMPRO), welcoming investment in non-equity modes (NEMs) of international production can yield significant economic benefits. These include contract manufacturing, services outsourcing, contract farming, franchising, licensing, management contracts, and other types of contractual relationships. Prime investment areas for NEMs would include bio-technology and organic farming; irrigation projects in south Trelawny; and other production activities required to meet the demand of the export sector and the tourism industry.

To note, unlocking the above mentioned opportunities, which would lead to economic growth, requires various support from the government, industry players and consumers for import substitution, linkages, export expansion and foreign and local investment.

¹⁰ <http://kimroybailey.com/yam-by-products/>



CHAPTER 5

THE BUILT ENVIRONMENT

TRELAWNY

LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond

This chapter includes a description of the physical elements in our surroundings that provide comfort and well-being, while focusing on land use and proposed land use, circulation and transportation and development control.

5 THE BUILT ENVIRONMENT

5.1 The Vision

To incorporate the elements of sustainability, the built environment will focus on enabling healthier lifestyles and greater community cohesion through sustainable design as well as through the implementation of planning rules and regulations. Sustainable design should be inspired by the natural environment, while maintaining an awareness of both the short-term and long-term consequences of any transformation of Trelawny's environment. As noted from the 2000 World's Fair in Hannover in Germany, sustainable design is the conception and realisation of environmentally sensitive and responsible expression as a part of the evolving matrix of nature.

"Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishment toward organisational objectives. It is the fuel that allows common people to attain uncommon results."

*~ Andrew Carnegie
Philanthropist*

Responsible practices on the macro and micro levels can mitigate the negative effects of the built environment. Creating a sustainable built environment, through design, construction and management, enables all people to live well, within environmental limits. The built environment should inspire the residents to move towards sustainable operations that will provide an environment that is flexible and adaptable to future users and resilient to cope with local effects of climate change.

With the involvement and empowerment of communities, not only the effects of climate change would be addressed, but focus will be placed on providing efficient transport networks, improving water supply, maximise employment opportunities and create safer and more cohesive communities.

5.2 Goals and Objectives

Goals:

1. Protect, conserve and enhance the appearance, character and historic integrity of the built environment.
2. Improve the functioning of the built environment to create a sustainable and attractive environment for the residents of the Parish.

Objectives:

1. Preserve the historic buildings and infrastructure of the built environment, while incorporating energy efficiency measures and sustainable design principles.
2. Monitor developments in both urban and rural areas to reduce environmental impacts.
3. Ensure developers and investors adhere to the rules and regulations governing development proposals for the Parish.

Land Use

Goal: Preserve and enhance the natural, historic and cultural value of the Parish to ensure developments conform to the natural beauty and environmental limitations.

Objectives:

1. Protect the natural and historic resources to ensure high quality of life for residents.
2. Promote the need for efficient land management practices.
3. Promote economic growth, while maintaining a balance with environmental quality and character of spaces.

Transportation and Circulation

Goal: Improve and provide mobility and better access throughout the Parish for efficient movement of people and distribution of goods and services.

Objectives:

1. Improve connectivity across the Parish including vehicular, transit, air, bicycle and pedestrian, while improving the safety of all users.
2. Strengthen the connection between transportation and land use to improve the quality of life of residents.
3. Fund and maintain the existing transportation system as well as identify new projects that can be efficiently maintained.
4. Develop parking strategies that support planned land uses.

5.3 Land Use

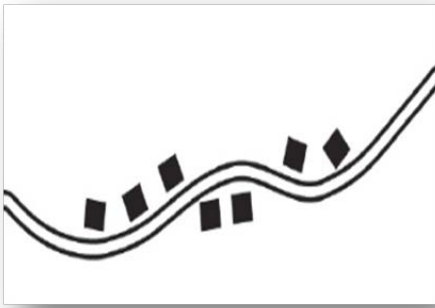
5.3.1 Settlement Patterns

Land development focuses on the alterations made to the landscape, whether it included changing the landforms from a natural or semi-natural state for a different use. The development pattern of settlements in Trelawny describes how much land is developed for different land uses: residential, commercial, industrial, mixed use and institutional and other activities and is influenced by the topographic limitations and the economic forces of the Parish. It also identifies the location and acreage of land that is conserved for agriculture and other natural resource uses, or preserved for environmental, scenic and recreation purposes. Additionally, the settlement pattern drives the needs of other facilities such as schools, transportation, fire, police, water, and sewer. However, the existing development pattern reflects the traditional economic base of agriculture and the tourism sector.

The shapes of settlements are usually influenced by the surrounding landscape:

- *Linear settlement* is where the buildings are built in lines often along roads and is often found on steep hillsides.
- *Nucleated or clustered settlements* often form at crossroads or route centres is where a lot of buildings are grouped together and is often found in lowland areas.
- *Dispersed settlements* have no obvious centre and are where the buildings are spread out and are often found in upland areas.

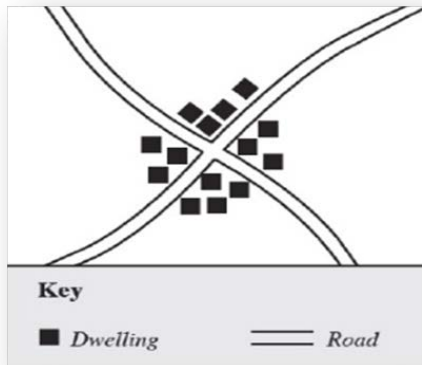
The settlement pattern in the Parish is associated with the major road networks and is one of virtually no increase within the rural areas and of increasing urban growth. Majority of Trelawny's population is located towards the north, which is along the coastline and marshland areas, and tends to sprawl. However, in the south, settlements are concentrated mainly towards the south-east in a linear pattern, with the Cockpit Country occupying a vast portion of the Parish. Examples of such type of settlement patterns in Trelawny are depicted below.



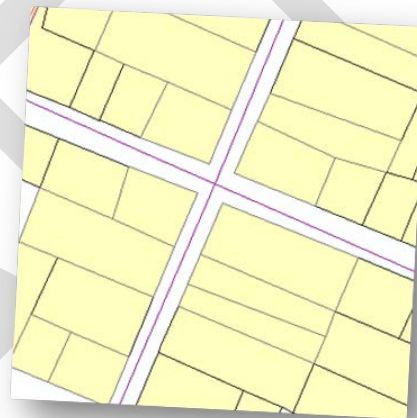
Linear Settlement Pattern



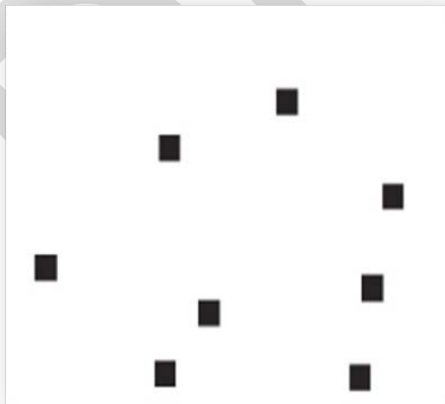
Ulster Spring LDPA



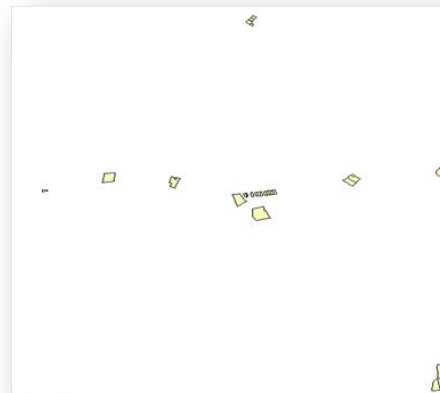
Nucleated Settlement Pattern



Falmouth Town Centre



Dispersed Settlement Pattern



Sherwood Content Community

There are many factors that can influence where settlements locate within a region. In the Parish, two of the major factors that have and continue to influence settlement patterns are topography and access to highway. Other factors include employment sources, government regulations, resources and communications.

Topography. It has a great impact on the growth of settlements. Mostly people will try to settle on the low-lying areas because in mountainous areas the growth of settlements is restricted because of rugged terrain and lack of transportation and communication. A similar pattern is observed in Trelawny where majority of the people prefer to settle in areas mainly between 100m to 500m above sea level as appose areas 2000m and above. Settlements tend to avoid these mountainous and rugged terrains. Also, some of these areas are designation as forest reserves and protected and there are little or no settlements found in these areas.

Access to Highway. Road network is a critical component in connecting one community to another. People tend to settle where there is access to roads at different classes, thus the availability of roads to transport people and goods has significantly influenced the location of settlements in the Parish. Additionally, the development of the North Coast Highway has spurred the construction of several major housing developments in the Falmouth and Duncans area. With the construction of the North Coast Highway, individuals have greater access to other Parishes due to improved level of service which reduces travel time among other things.

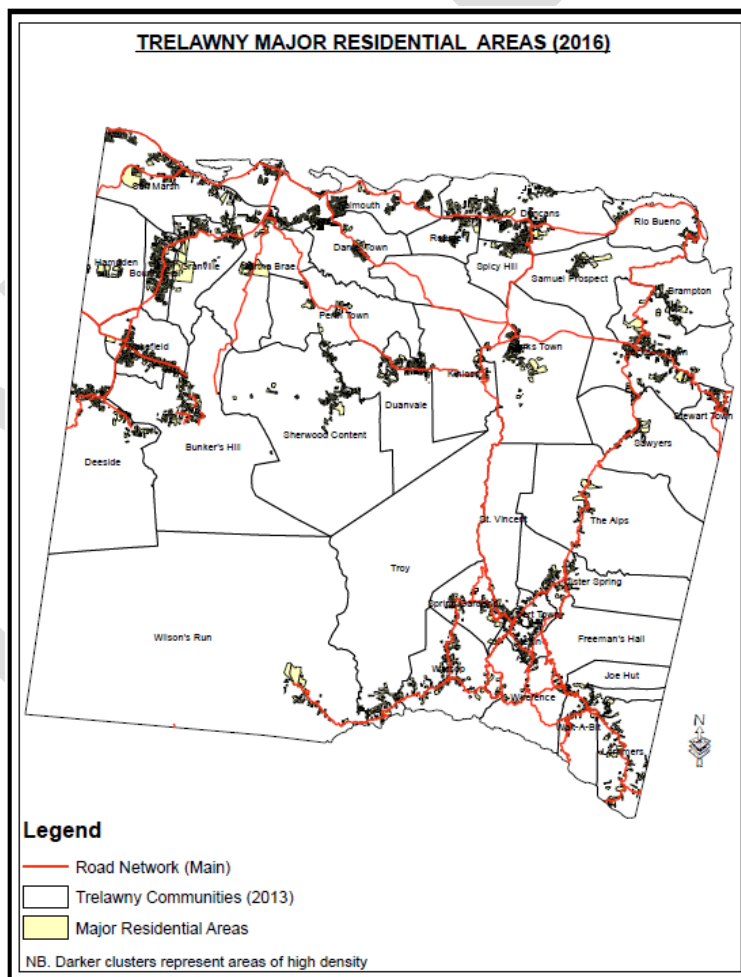
5.3.2 Existing Land Use

The land use information for the TLSDP was formulated through the use of a comprehensive land use survey and the general land use map for Trelawny (Map 9). Land use data are needed in the analysis of environmental processes and problems that must be understood if living conditions and standards are to be improved or maintained at current levels. Knowledge about land use has become increasingly important in order for the Parish to overcome the problems of haphazard, uncontrolled development, deteriorating environmental quality, loss of prime agricultural lands, destruction of important wetlands, and loss of fish and wildlife habitat among others.

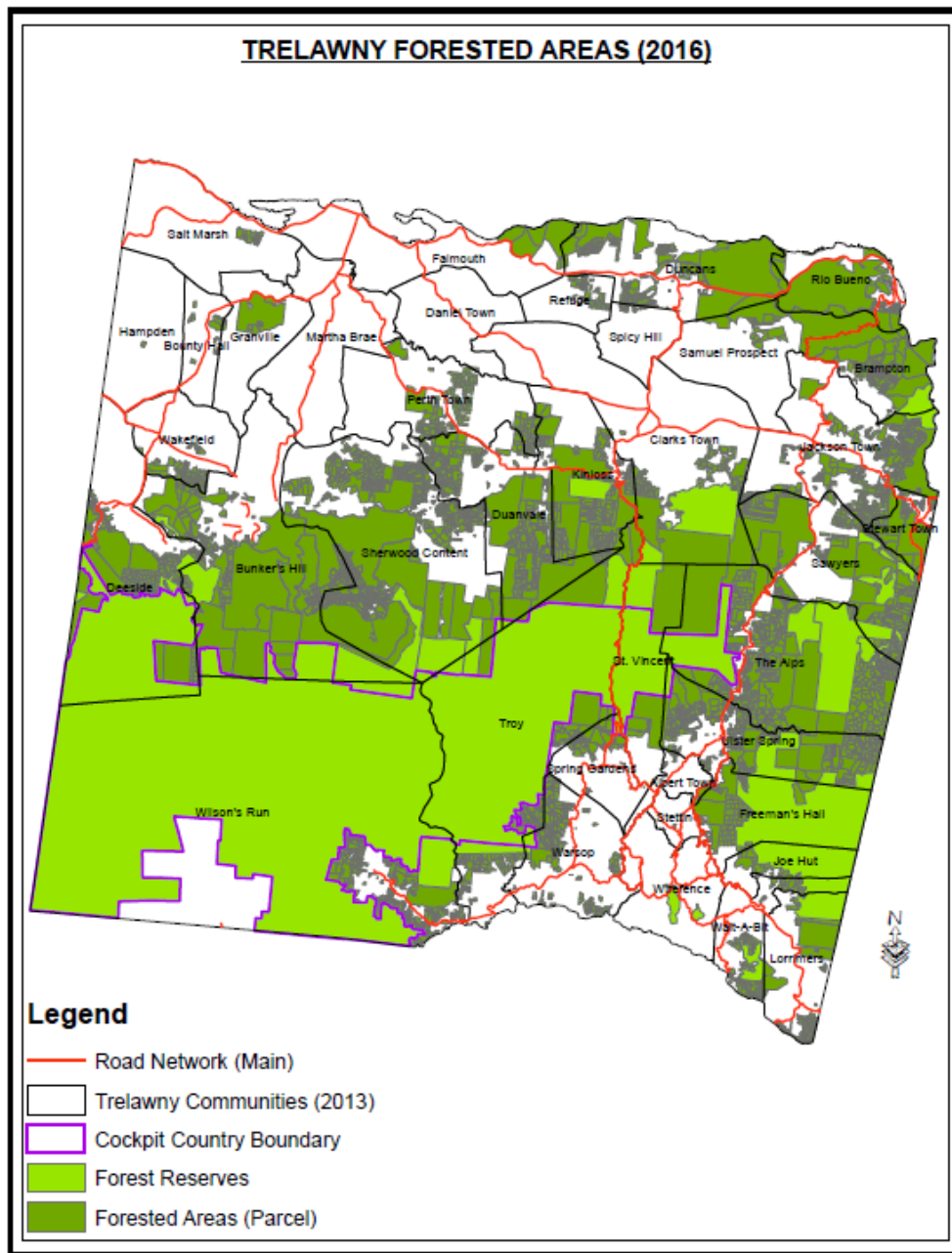
The land use information is vital for studying the three (3) elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to, govern and preserve the “existing

and future" use of land of the settlement or region. An evaluation of the land uses that presently exist within Trelawny is critical to the formulation of a Comprehensive Development Plan. It is the type and location of the existing land uses which provide the foundation for formulating a plan for the future development of the Parish and the basis for the formulation of feasible zoning regulations to protect existing uses and promote desired future uses. Based on the land use survey conducted, the five (5) predominant land use categories are residential, forestry, woodland, agriculture and vacant lot.

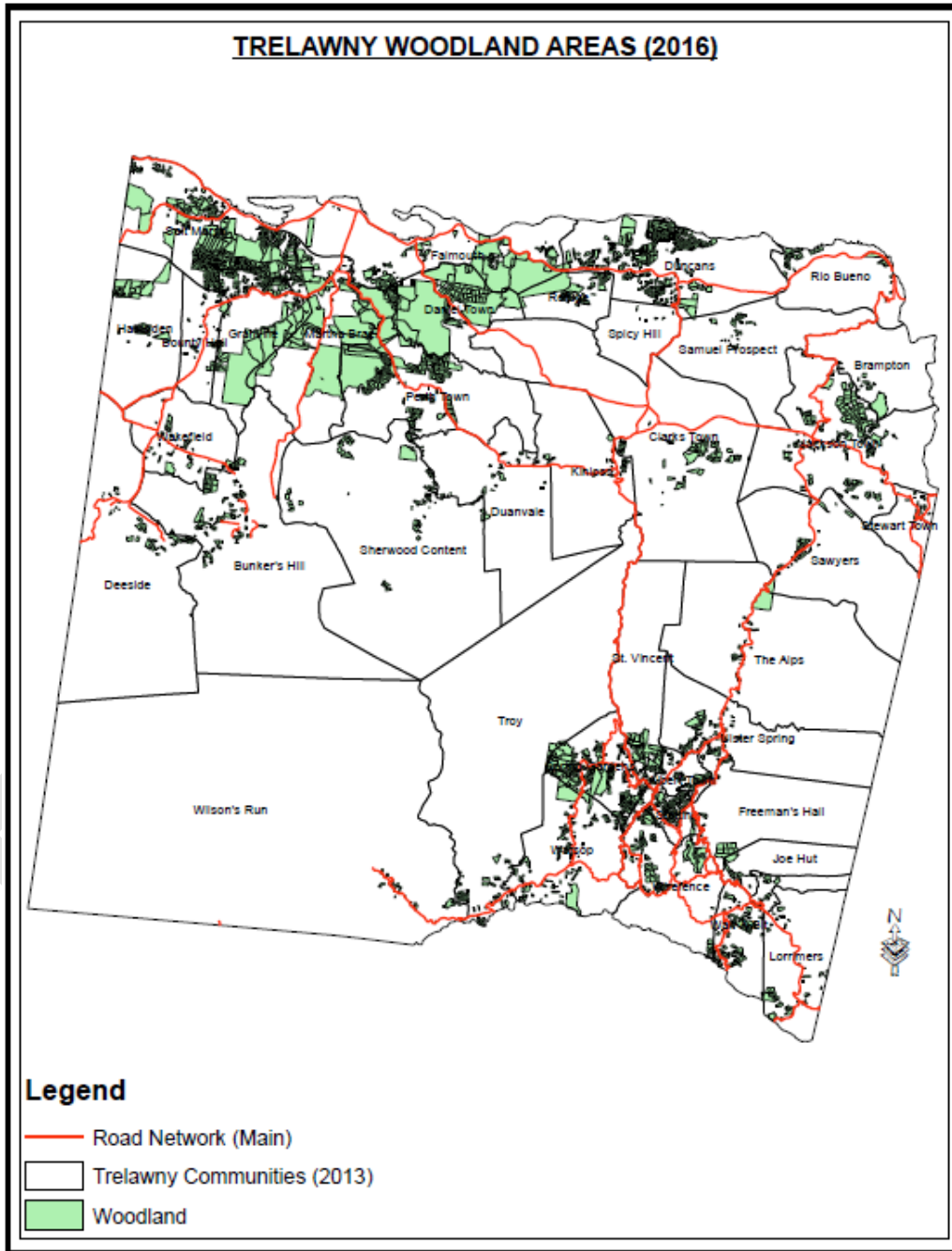
Residential. Residential use accounts for about 33% of the land use in the Parish. Residential use follows a linear pattern with areas demonstrating characteristics of a dispersed settlement pattern. The majority of residential lots are located in the Trelawny Northern along with some of the major housing developments such as Stonebrook Estate, Stonebrook Vista, Florence Hall Village, Holland Estate and Coral Spring Village located close to the coast.



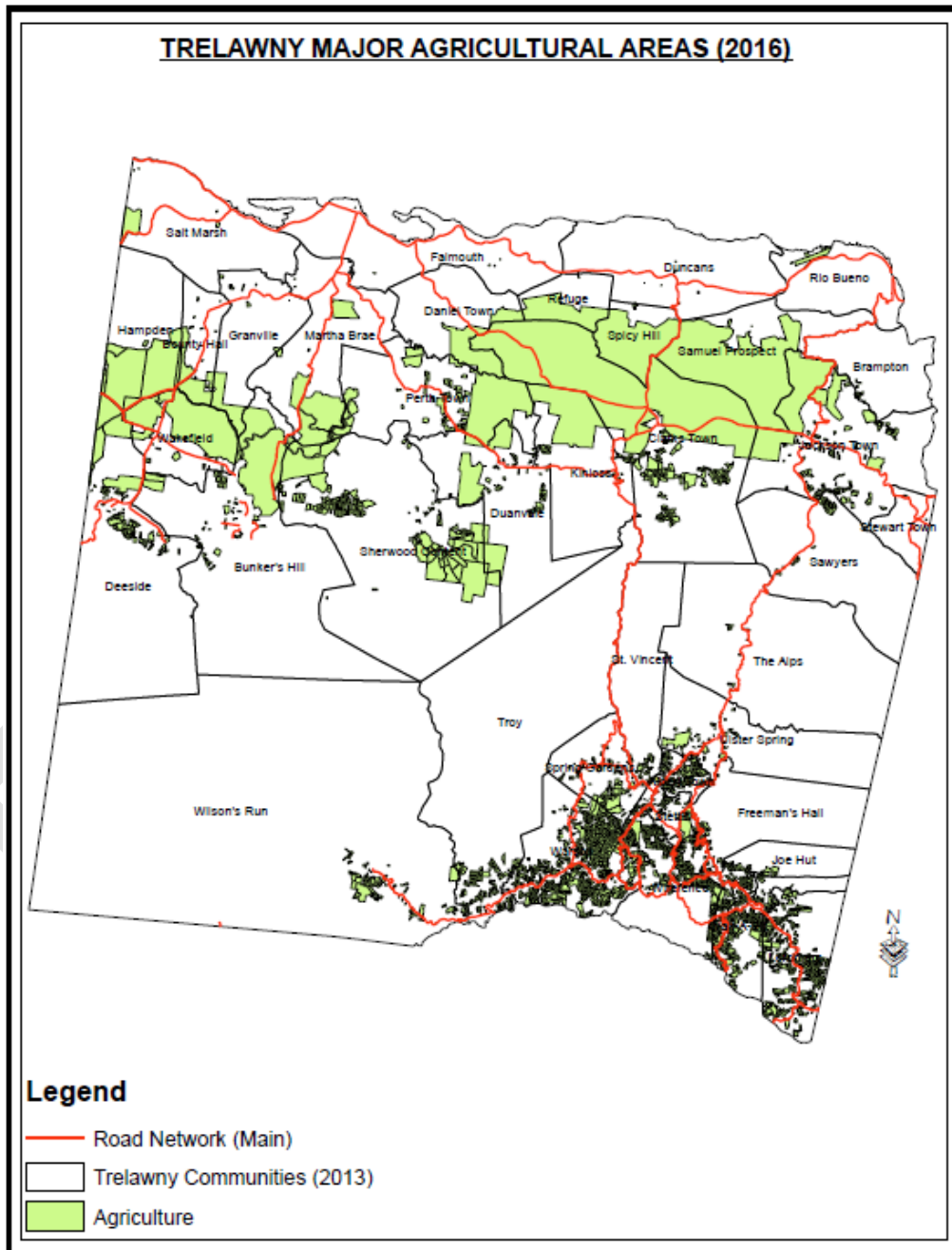
Forestry. Approximately one fifth of the existing parcels are covered by forest. Some of the predominant forested areas are Ulster Spring, Alps, Sawyers, Wilson Run, Troy, Sherwood Content, Joe Hut, Freemans Hall, St. Vincent and areas along the North Coast Highway. Additionally, approximately 76,877 acres (36%) of the Parish is covered by Forest reserves with the Cockpit Country accounting for approximately 54,791 acres.



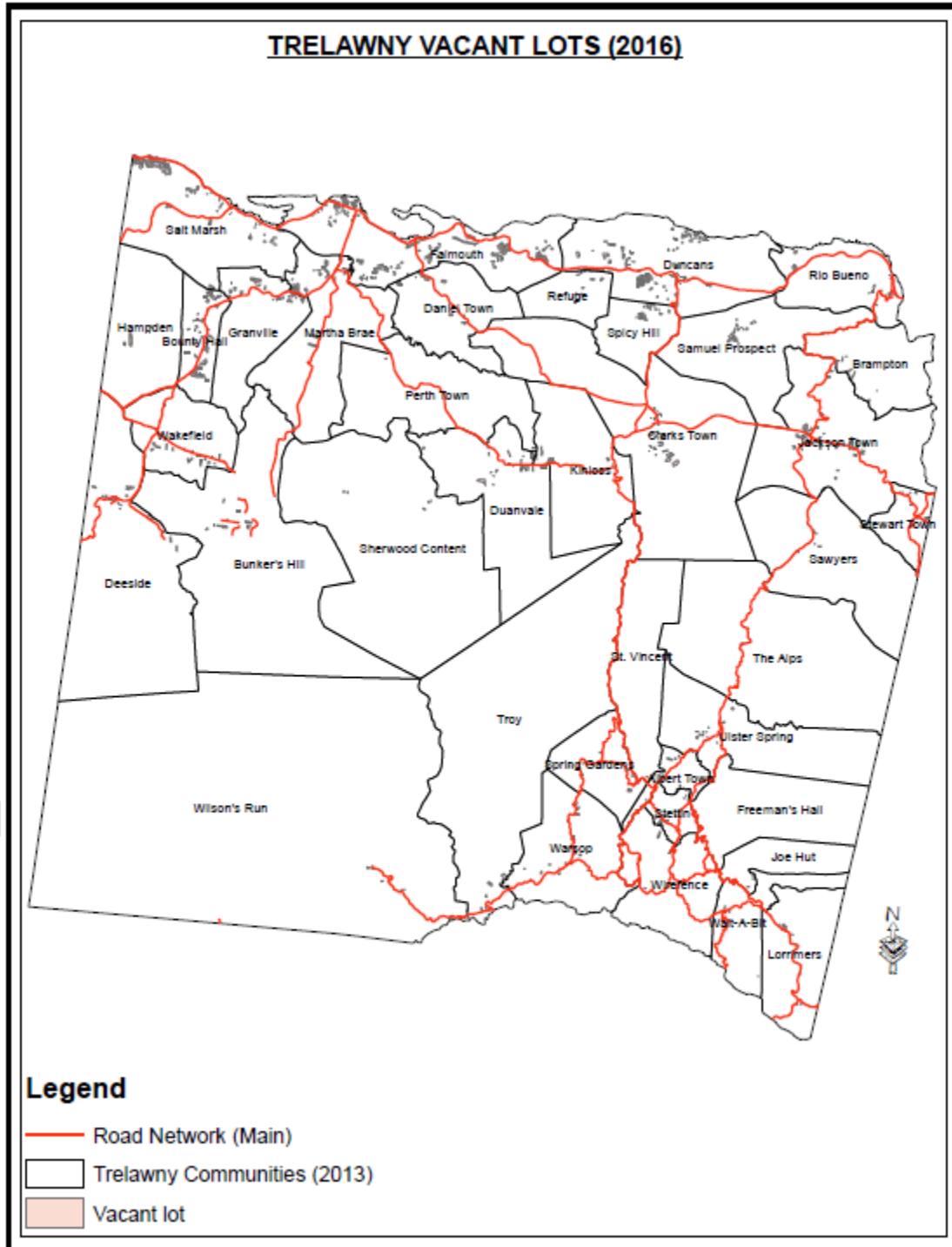
Woodland. Woodland is the third predominant land use category and has a canopy cover of less than 30% and usually less than 30m in height. Woodland trees usually have a spreading branch appearance, different to the usual straight trunk and high branching forest trees. While woodland is scattered throughout the Parish, the north-western and south-eastern sections have the significant woodland concentration.

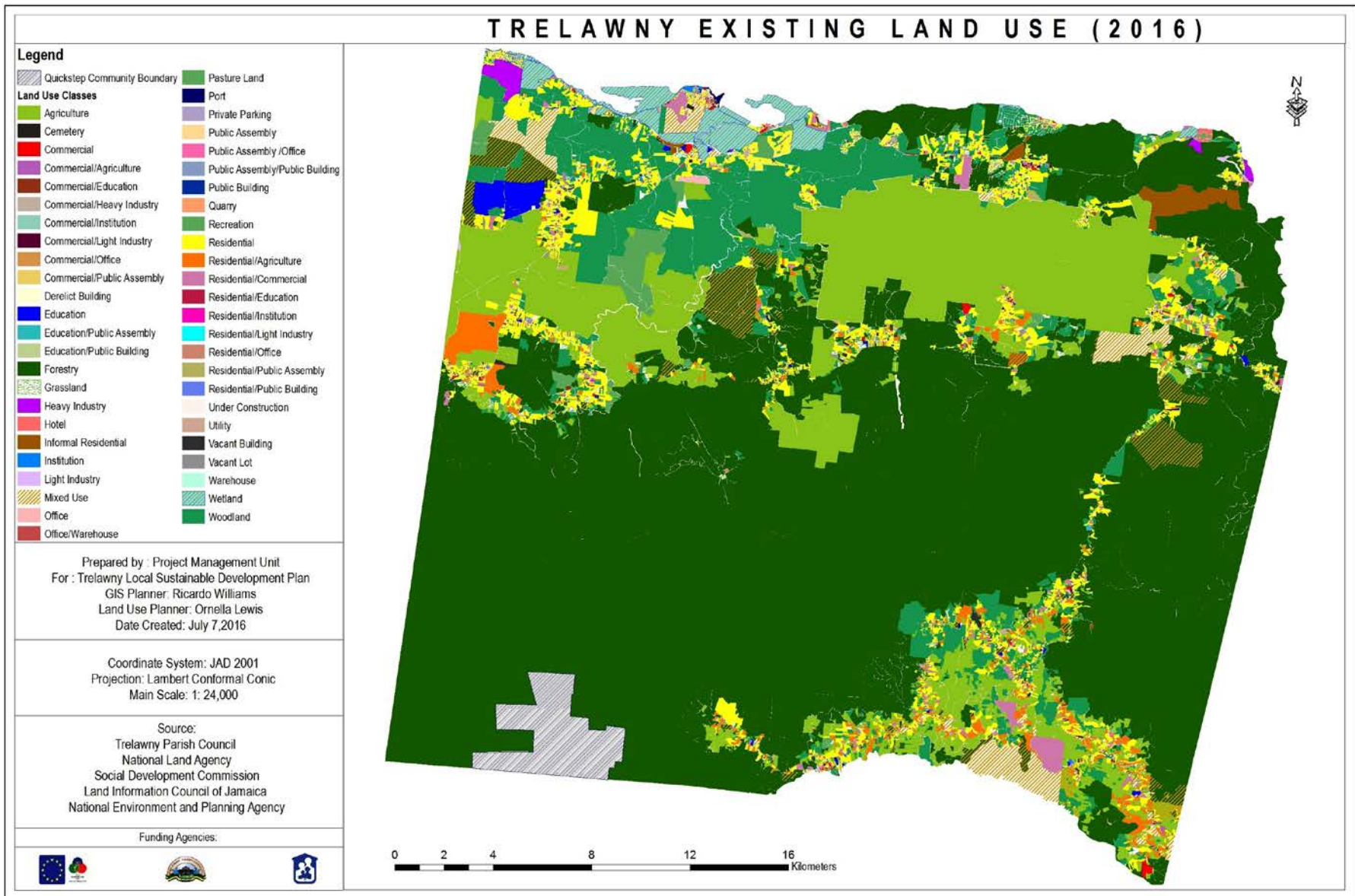


Agriculture. Agriculture is the fourth predominant land use in the Parish. It is heavily concentrated in the southern section of the Parish namely within the Wait-A-Bit, Troy and Albert Town LDPAs. The main crop grown is yam for local consumption and export. Also, in these areas farming also takes place on residential lots. Sugar cane and coconut crops are mainly concentrated in the northern section of the Parish mainly in the Wakefield, Duanvale and Clarks Town LDPA.



Vacant Lots. Only a small amount of land in the Parish is vacant, less than 5% of the total parcels. The vacant lots consist mostly of small individual parcels scattered throughout the Parish that could represent small potential development opportunities.





Map 9 Trelawny Existing Land Use (2016).

Proposed Land Use (2nd Draft)

The TLSDP supports land use planning to guide decision-making about the types of activities to take place in the Parish. The updated land use plans will not only define and outline where activities can take place, but also will determine the effect of human impacts on the landscape. The preparation of land use plans and formulation of land use policies and development standards are some of the main outputs of the development/land use planning process. As such the plans are prepared to:

- anticipate the development needs of the Parish;
- identify relevant development issues;
- identify opportunities for and constraints to development;
- identify areas which are suitable/unsuitable for different types of development;
- make proposals for the way in which the Parish should develop over time; and
- establish policies and standards to guide orderly development.

Proposed Land Use Designations

Policies & Standards

Agriculture

Residential

Commercial

Industrial

Institutional

Commercial/ Residential

Agricultural/ Residential

Cemetery

Recreational

Forestry & Conservation Area

Heritage Site

Water Body

Utility Corridor

5.4 Transportation and Circulation

The focus of this aspect is to provide guidance and specific actions to safely and efficiently move people, goods and services within Trelawny and connect to the national transportation system. The relatively low density setting, the location and the terrain of Trelawny have a significant impact on access throughout the Parish, particularly for vehicles. Nonetheless, the transport sector in Trelawny includes road, maritime and air transportation. Nonetheless, the preferred mode of transportation in the Parish is by motor vehicles, which due to the Falmouth Historic Cruise Pier and the North Coast Highway have enabled people and goods to access freer movements across the Parish.

Generally, the road conditions are fair, with those in the rural areas of a poorer status. According to the Survey of Main Roads Condition that was administered by National Works Agency in 2010, eighty-two percent (82%) of the main roads in the Parish are in need of major repairs. Twelve percent (12%) was in fair condition and the minority of six percent (6%) in good condition. The North Coast Highway (Class A) is the only corridor within Trelawny that was found to be in good condition. It was observed that the Class B roads are generally in bad condition, while the significant majority of Class C roads are in poor condition and the remainder of roads in fair condition (Table 15).

For commuters, the rugged and hilly terrain of South Trelawny has provided limited access to services in Falmouth, due to the poor road conditions and the journeys are long and expensive. In the town centre of Falmouth, the developments do not facilitate an efficient system of high occupancy transport, thus the area suffers from heavy traffic congestion, disorderly parking and discomfort for motorists and pedestrians alike.

5.4.1 Road Transportation

Road transportation includes the road infrastructure, private motor vehicle movement, and the public transport system including buses and licensed public passenger system. Many challenges are faced by commuters, such as congestion, while at the same time fuel prices keep on rising, as does the need to reduce air and noise pollution which road transport contributes.

Road Network. The road network in the Parish provides easy and convenient movement between growth centres and is the main transportation carrier of people, good and services. Trelawny has a very dense

main road network, with an approximate total length of 278.12 km. In addition to the main road network, the Parish is also served by parochial (604 km) and farm (123.60 km) roads. The main road network is concentrated primarily along the coastal, eastern and southern sections of the Parish. The south western section of the Parish which borders with St. Elizabeth and St. James is void of roads. This area is occupied by the Cockpit Country, which has remained undeveloped, due to the need to preserve the forest and its flora and fauna.

Trelawny is served by two (2) arterial (Class A) roads – The North Coast Highway and the main road that follow the coastline of the Parish (Table 15). The Class A roads extends from Bengal Bridge in the east to Pillars in the west. It measures approximately 35.79 kilometres in length with an average width of 9.08 meters. All class A roads are asphaltic concrete. The Parish is also served by six (6) Secondary (Class B) roads, namely;

1. Stewart Town to Rock – (26.83 Kilometres)
2. Stettin to Highgate Hall – (15.96 Kilometres)
3. Albert Town to Stettin – (2.27 Kilometres)
4. Ulster Spring to Albert Town – (4.34 Kilometres)
5. Jackson Town to Ulster Spring – (16.1 Kilometres)
6. Duncans to Long Pond – (5.97 Kilometres)

The total length of the Class B roads is 71.47 kilometres, with an average width of 7.3 metres. Class B roads are primarily surface dressed.

Table 15 Characteristics of Main Roads in Trelawny.

Road Class	Total Length (Kilometres)	Average Road Width (Metres)
Class A	35.79	9.08
Class B	71.47	7.3
Class C	170.86	6.5

Source: National Works Agency, 2014

Tertiary (Class C) roads spanning a combined length of 170.86 kilometres are concentrated towards the north western and south eastern sections of the parish. Tertiary roads vary in width and surface material, although majority of the Class C roads are constructed using the surface dressed method of construction.

The North Coast Highway accommodates all classes of motor vehicles and has provided improved and easy access to Montego Bay and Ocho Rios. This corridor has opened up economic opportunities whilst

facilitating an increase in migration to Trelawny. However, it is important to recognise that such an infrastructure still has the potential to accelerate growth in Falmouth, keeping in mind that one of the aims of the entire Parish is to create and promote livable communities, while growing and diversifying the existing economy for the sustainability of Trelawny.

Traffic Conditions in Urban Areas. In the past, traffic congestion has mainly been concentrated in Falmouth and was as a result of high volumes of traffic for the road capacity and obstacles in and along the roadways. With the narrow roads and the lack of adequate parking in the town centre, persons were forced to double parking and also during road works, blockages were encountered.

Proper traffic management strategies are being employed by the Jamaica Constabulary Force and the Trelawny Parish Council, as there is a need to reduce the increase of traffic crimes, improve safety and flow of traffic while maintaining order in the town centre.

Public Transportation (Transit – Bus and Taxi System). The public transportation system is important as many persons do not have access to or own a motor vehicle, as such, there is a need to utilise a more efficient and affordable mode, for example buses and route taxis. The Montego Bay Metro Limited was set up in 1997 as a private entity to manage the operations of a dedicated school bus service in Montego Bay. The operation of Montego Bay Metro Ltd. extends as far as to the town of Falmouth, Trelawny. Presently, there is only one (1) regulated transportation centre in Falmouth, while in Clark's Town a transportation centre is currently under construction (Table 16). The current Falmouth Transportation Centre is located at the intersection of Tharpe Street and Upper Parade Street; however this facility is slated for renovation.

Table 16 Transportation Centres within Trelawny.

Name	Status	Capacity	Average Number of Users
Falmouth Transportation Centre	Operational	40	400
Clark's Town Transportation Centre	Ongoing	12	150

Source: Transport Authority, 2012

In some rural areas, for example Alps and Ulster Spring, where agriculture is dominant, donkeys are still being used to transport produce from the fields to the main road where it is picked up by vehicles and transported to markets in the Parish or to other areas of the island.

5.4.2 Maritime Transportation

There are two (2) Ports within the Parish of Trelawny, namely; Falmouth Historic Cruise Port and the Rio Bueno Port, as shown in Table 17.

Table 17 Sea Ports in Trelawny.

Port Name	Status	Operator
Falmouth Historic Cruise Port	Operational	Port Authority of Jamaica
Rio Bueno Port	Operational	Tankweld Metals Limited

Source: Port Authority of Jamaica, 2014



metres.

Falmouth Historic Cruise Port. The Falmouth Historic Cruise Port (FHCP) is located on the north eastern coast of the historic town of Falmouth. The port was redeveloped and reopened in March 2011 to welcome cruise ships. The port facility includes a dock with two (2) berths, with depth between 10.6 metres and 11.6 metres. Notably, the port is able to accommodate vessels with a maximum length of 360

The cruise passengers who arrive from the various cruise ships at the Falmouth Historic Cruise Port, have no doubt impacted and continues to impact the existing pedestrian system, motorised and non-motorised vehicular traffic in Falmouth. Nonetheless, there is a continuous need to ensure that a harmonious balance between incoming traffic from the Port and existing traffic within the Town is maintained. The Trelawny Fire Brigade also highlighted the need for a fire boat station to serve the FHCP with its firefighting capabilities.

Rio Bueno Port. The Rio Bueno Port is located on the western banks at the mouth of the Rio Bueno River. It is sheltered in the Rio Bueno Harbour. The Port is operated by Tankweld Metals Limited and is used to ship cement, lumber, steel, limestone aggregates and other building materials. It is a "L" type facility with length of 186 metres and depth of water being 7.6 metres. The port can accommodate vessels with a maximum length of 122 metres.



5.4.3 Air Transportation

There is only one (1) aerodrome in the parish of Trelawny, the Braco Aerodrome, it is privately owned and is currently in operation (Table 18). Due to its proximity, access to international air transportation is mainly facilitated by the Sangster International Airport, which is located in the neighbouring parish of St. James. As such, there is no demand at present for an airport in Trelawny.

Table 18 Aerodromes in Trelawny.

Name of Aerodrome	Operator	License Number	Elevation	Runway	Ownership	Status
Braco	Tankweld Limited	20	Sea Level	08/26Asp1500'	Private	Active

Source: Jamaica Civil Aviation Authority, 2014

5.4.4 Non- Motorised Transportation (NMT)

This form of transport mode is also known as active transportation and includes walking and cycling, and variants such as small-wheeled transport (skates, skateboards, push scooters and hand carts) and wheelchair travel. Such mode is ideal for town centres, as it is relatively used for short distances. Walking and cycling, when compared to motor vehicles, occupy less space, consume no energy, generate less traffic and is very sustainable and affordable.

However, to better facilitate and promote this mode of transport, paths, sidewalks and bike lanes should be provided and made accessible to all users, as well as focus should be directed towards pedestrian-oriented development.

Good walking and cycling opportunities are a key part of any sustainable transport and planning strategy, and provide an overall improvement of the quality of life (Penalosa, 2004). More specifically, sustainable development benefits of NMT are:

Environmental

- Air quality improvement; and
- Greenhouse Gas (GHG) emission reduction.

Non-motorised transport does not emit greenhouse gas emissions, nor local air pollutants. Every increase in NMT therefore leads to a direct decrease in emissions.

Social

- Congestion reduction;
- Health benefits due to exercise. For example, cycling for 30 minutes a day reduces the chance of cardiovascular diseases and diabetes by 50% (Witting et al., 2006);
- Safety: increase in bicycle use is often accompanied by a reduction in cycling accidents and an increase in safety in public areas (Vanderbulcke et al., 2009; Witting et al., 2006); and
- Noise reduction.

Economic

- NMT, particularly cycling, is easy, flexible, cheap and fast;
- More attractive town centres for tourists and residents, particularly if car-free zones are included;
- Reduced travel times due to improved traffic flow; and
- Energy security due to lower vehicle energy use.

5.4.5 Parking

For some motorists, access to parking is challenging as the infrastructure is limited especially in the town centres of Trelawny. The Trelawny Parish Council has attempted to regulate vehicular parking to ease traffic congestion and create public order, while encouraging space turnover. Due to the layout of Falmouth town centre, parking is facilitated along the roadways and motorists are asked to make a payment to utilise the permitted area for parking. However, the vehicles of motorists who park in non-permitted parking areas may be towed and clamped by the Municipal Police of the Trelawny Parish Council. The parking situation sometimes becomes chaotic as the lack of accessible parking may hurt the local businesses and also decrease the quality of life for residents.

At the current location of the Falmouth Transportation Centre on Tharpe Street, public passenger parking is permitted and offered to motorists, as well as to bus and taxi operators at a cost, where the parking fees are used to contribute to the cost of enforcement. It is recommended that an adequate, accessible and well-maintained supply of parking spaces be provided for residents businesses and tourists in the town

centres, especially in Falmouth. As such, with further growth, more parking spaces would almost certainly be needed in the Parish.

5.4.6 Transportation and Sustainability

Sustainable Transportation involves integrating new and different approaches to planning, designing, constructing, operating and maintaining transportation solutions and systems. The University of Plymouth Centre for Sustainable Transport outlined that a sustainable transportation system is one that:

- *allows the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem health, and with equity within and between generations;*
- *is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy;*
- *limits emissions and waste within the planet's ability to absorb them, minimises consumption of non-renewable resources to the sustainable yield level, reuses and recycles its components, and minimises the use of land and the production of noise.*

In the context of sustainability, when developing a sustainable transportation system to ensure that transportation solutions and infrastructure is sustainable, the economic, social and environmental elements have to be considered.

Integrating walking and cycling into the communities are often recommended as sustainable travel modes, as these modes are affordable, consume no energy, have no effect on the environment and provide health and personal benefits. It is also encouraged that taking Transit – Bus and Taxi System, is better on an individual's health than driving a personal motor vehicle. Less stress from road rage would be encountered and more walking or cycling could mean that you can live a longer and healthier life. The use of a more sustainable transportation system also lessens congestion and traffic in urban areas, which is good for the area and individuals. Sustainable transportation also offers job creation possibilities in services, high technology, construction, design, manufacturing, maintenance, education, and research.

At times, measures to promote transport sustainability have their limits. Indeed, the built environment, transport infrastructures and even modes cannot change quickly enough to solve the bulk of problems related to unsustainable transport.

5.4.7 Transportation and Land Use

The integration of transportation and land use is very important as the policies developed for each aspect should ensure that the transportation system is designed to accommodate the travel needs of the current and future users. The residents would therefore envision a transportation system that encourages healthy, active living; provides a range of transportation options; reduces the impacts of transportation on climate change; supports environmentally-friendly transportation options; and provides safe, comfortable transportation options for all residents, persons patronising local businesses, employees of Trelawny's businesses, and other system users.

Integrating land use strategies with transportation infrastructure decisions ensure that the transportation network is designed to accommodate the travel needs of current and future users. Land use patterns also work with the viability of a transportation system as the structure of land use has an important impact over transport demand and over the capacity of transportation systems to answer such needs. This involves three dimensions, which influence the environmental impacts of transportation and land use:

- *Spatial form.* Refers to the spatial arrangement of a city or town centre, particularly in terms of the orientation of its main axis of circulation. This form thus conveys a general structure to urban transportation ranging from centralised to distributed. The prevailing influence has been expansion and motorisation, resulting in polycentric cities, which are economically and functionally flexible but consume more energy. Examples of polycentric cities include the Ruhr area in Germany, Stoke-on-Trent in the UK and the San Francisco Bay Area in the United States.
- *Spatial pattern.* Refers to the organisation of the land use in terms of location of major socio-economic functions such as residence, commercial and industrial. The prevailing trend has been a growing disconnection and fragmentation between land uses. Also, different types of land use can be incompatible with their adjacency the source of additional externalities. For instance, residential land use is incompatible to the majority of industrial, manufacturing, warehousing and terminal activities as they generate noise and congestion externalities to which residents are highly susceptible. In such a context, buffers, which apply different barriers effects to promote physical separation, can be used to help mitigate incompatible land uses.

- *Spatial interaction.* Refers to the nature and the structure of movements generated by urban land uses. The prevailing trend has been a growth in urban interactions in terms of their volume, complexity and average distance¹¹.

A higher level of integration between transportation and land use often results in increasing levels of accessibility without necessarily increasing the need for automobile travel. The spatial location of activities like residence, work, shopping, production and consumption give some indications on the required travel demand and average distances between activities. It is over the matter of density that the relationships between transportation, land use and the environment can be the most succinctly expressed.

Studies have shown that road, transit, and other transportation elements shape land development, while the distribution and types of land uses affect travel patterns and transportation facilities. A dispersed pattern of low-density development relies almost exclusively on cars as the primary mode for transportation. Alternatively, denser and more mixed use urban development can combine different land uses in closer proximity, encouraging walking, cycling, transit and other non-motorised travel.

5.5 Water Supply

Water is a basic human need and the water supply systems should include facilities for storage, transmission, treatment, and distribution. The design of these facilities depends on the quality of the water, on the particular needs of the user or consumer, and on the quantities of water that must be processed. One of the first ever piped water supply systems in the Western Hemisphere originated in Jamaica, in the town of Falmouth, Trelawny. With the Martha Brae River as its source, in 1799 the Falmouth Water Works Company was established, to supply the town of Falmouth and visiting ships with the precious commodity. Table 19 below outlines the water supply systems in Trelawny.

As noted by National Water Commission (NWC), the water supply network throughout the Parish is aged and undersized, which has resulted in unacceptable level of service being provided. The Commission in 2011 provided piped water to some seventy-three percent (73%) of the population in Trelawny, which is an improvement over that in 2001 when the level of coverage was sixty-four percent (64%). There were 18,266 households in 2001 of which 11,691 had piped water, compared to that of 25,201 households in

¹¹ <https://people.hofstra.edu/geotrans/eng/ch8en/conc8en/ch8c3en.html>

2011 of which 14,325 had access to piped water (Appendix 8). The reliability of service to those who are served by NWC is estimated to average 19 hours per day. The average utilisation rate of the production facilities in the parish is forty-two percent (42%).

The current reality is that in a number of urban and rural communities throughout Trelawny there is an increasing demand on the water supply provided and maintained by the National Water Commission, the result of this has been frequent irregularities in supply (water lock-offs) and distribution. This is usually in an attempt to conserve on the amount of water that is exhausted on a daily basis.

According to the NWC, majority of the water present in the Parish is obtained from surface water sources. The main uses of surface water include drinking-water and other public uses, irrigation uses, and for use by the power industry. These include:

- Green Town Spring
- Martha Brae River (Martha Brae Water Treatment Plant No. 1 and No. 2)
- Rio Bueno River (that supplies the Dornoch Water Treatment Plant)
- Sherwood Content Blue Hole
- Troy Spring
- Ulster Spring
- Warsop Spring
- Wilson's Run Spring



Groundwater is the water that fills cracks and other openings in beds of rocks and sand. In addition to rural households and public water supplies that depend on wells and groundwater, farmers too use groundwater for irrigating crops and for their animals. The ground water in Trelawny is supplied from the following sources:

- Barnstaple Well
- Clark's Town Well
- Duanvale Well
- Ettington Well
- Queen of Spain Wells (No. 1, No. 3 and No. 4)

Table 19 Water Supply Systems in Trelawny.

Location	Supply System	Designed Supply(gpd ¹²)	Area(s) Served	Status
Surface Water				
Wait-A-Bit	Green Town Spring	250,000	Green Town, Litchfield, Wait-A-Bit, Joe Hut, Backwoods, Wood Grove, Lowe River	Out of operation
Martha Brae No. 1	Martha Brae River	1,500,000	Martha Brae, Hague, Falmouth, Coopers Pen, Carib Road, Salt Marsh and Wiltshire.	In operation
Martha Brae No. 2	Martha Brae River	6,000,000	Green Park, Granville, Shawfield, Davis Pen.	In operation
Dornoch	Rio Bueno River	750,000	Rio Bueno, Braco, Calabar, Brampton, Jackson Town, Samuel Prospect	In operation
Sherwood Content	Sherwood Content Blue Hole	250,000	Sherwood and Coxheath	In operation /affected by turbidity
Troy	Troy Spring	250,000	Troy and New Hope	In operation /affected by turbidity
Ulster Spring	Ulster Spring	250,000	Ulster Spring, Albert Town, Bamboo, Freeman's Hall, Lot, German Town	In operation /affected by turbidity
Warsop	Warsop Spring	200,000	Warsop, All Sides, New Roads, Lodge	Out of operation
Wilson's Run	Wilson's Run Spring	150,000	Wilson's Run and Crown Lands	In operation /affected by turbidity
Ground Water				
Barnstaple	Barnstaple Well	480,000	Barnstaple, Westwood, Stewart Town, Jackson Hill, Mahogany Hall	In operation
Clark's Town	Clark's Town Well	750,000	Clarks Town, Carey Park, Duncans, Sliver Sands, Hyde, Kinloss, Duncans Bay, Crawle, Gibraltar, Georgia	In operation
Duanvale	Duanvale Well	480,000	Duansvale, Duansvale H/S, New Forrest, Chester Relift	In operation
Ettington	Ettington Well	500,000	Refuge, Spicy Hill, Carey Park, Logwood Walk, Stewart Castle, Crawle	In operation
Queen of Spain	Queen of Spain Wells Nos. 1, 3, 4	5,000,000	Wakefield, Deeside, Bunkers Hill, Friendship, Unity Dromlley, Bounty Hall, Hammersmith, New Cargen,	Queen of Spain Wells No. 1: In operation Queen of Spain Wells

¹² Gallons per day

		Hampden, Green Park, Bounty Hall Reservoir, Falmouth, Greenwood, Rose Hall, Coral Gardens, Ironshore, Rhyne Park # 1, Terminal	No. 3: Out of operation Queen of Spain Wells No. 4: Out of operation
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Source: NWC Trelawny Water Sector Plan, 2011

Based on the survey that was done in 2010 for the Trelawny Water Sector Plan by NWC, the water supply situation in Trelawny at that time was, overall, there is insufficient water in the Parish to meet the water requirement, even with the existing technical losses (leaks, tank overflows, etc). The average daily water production in the Parish was 10.6 million gallons; the average day water requirement (domestic, commercial, institutional, etc.), which was based on 72.89% supply coverage, is estimated to be 3.92 million gallons and the technical water losses is estimated to be 3.19 million gallons per day. Based on average daily water requirement, there is an estimated supply surplus of some 3.5 million gallon daily. This is largely due to the output from the Martha Brae Water Treatment Plant which has a supply surplus of 2.92 million gallon daily in the demand centre (DC) in Trelawny. However, some millions of gallons of water from this system are exported to the neighbouring Parish of St. James, to augment the supply from the Great River system.

Potable Water Supply. Of all the services provided by the Local Planning Authority and the relevant Agencies for the residents of Trelawny, provision of potable water is perhaps the most vital. Water that is classified as potable is fit for consumption by humans and other animals. People depend on water for drinking, cooking, washing, carrying away wastes, and other domestic needs. The issue of access to potable water is very important, as the lack of adequate infrastructure as well as aging infrastructure affect the level of water availability in the Parish. This limits the ability of the infrastructure to move water to the areas where it is needed, which results in some of these areas being poorly served. The Parish Council's Roads and Works Department is in charge of maintaining the Council's minor water supplies infrastructure. The minor water supply systems comprise rainwater catchment tanks, wayside tanks, entombed springs and gravity-fed systems attached to community standpipes. Efforts should therefore be put in place to better manage and monitor the treatment of water process employed by the Council, as well as the facilities should be properly maintained so as to safeguard the water quality that the Council in providing to the residents.

Water Quality. In addition to quantity of supply, water quality is also of concern for the residents of Trelawny. Surface run-off and water supplied by underground drainage systems are both important sources in term of water supply within the Martha Brae watershed. Ground water sources are very susceptible to pollution resulting from the degradation of local conditions in the watershed. Groundwater has the potential to flow rapidly through the limestone aquifers because the void spaces may be large and have a high degree of interconnection. This makes the aquifer extremely vulnerable to pollution at any point on the surface. According to Windsor Research Centre, 2014 tracing experiments have shown flow rates in known conduits/channels to be very rapid. Transmissivity of the Limestone Aquifer is variable, as the size and number of conduits will determine its local productivity. Depth to water varies considerably as along the Duanvale fault line the depth varies from a few metres at Bunkers Hill and Deeside to about 24.38 metres to 30.48 metres at Fontabelle and Duanvale. In the Martha Brae valley, the average depth is about 15.24 metres to 18.29 metres, while in the coastal hills the depth varies between 24.38 metres at Dundee to 121.92 metres at Oxford. The water table fluctuates considerably during the year (up to 15.24 metres in some areas).

Sea water encroachment along the north coast will not affect the Martha Brae Valley aquifer, due to the presence of a coastal ridge of chalky limestone with very low permeability. Salt water contamination though, exists in the low-lying coastal terraces between the hills and the sea¹³.

Ground and surface waters in the Parish are generally of a high quality; however the water quality is sometimes mainly compromised by contamination from dunder - a juicy, foul-smelling waste that is freely discharged through sinkholes into karstic systems; and nitrates in the ground water - from both agriculture and from sewage. The dunder contamination in the River Basin usually causes discoloration, odour, high turbidity and high coliform bacteria counts.

The need to preserve the high quality and continuous water supply service is very important as it is a prerequisite for economic development and is necessary for the main economic sectors in the Parish – agriculture, tourism and manufacturing.

¹³ <http://cockpitcountry.com/waterquality.html>

5.6 Sanitation

According to the World Health Organisation (WHO) sanitation generally refers to the provision of facilities and services for the safe disposal of human excreta (urine and faeces). Sanitation includes systems to manage waste water, storm water, solid waste, and household refuse and it also includes ensuring that people have safe drinking water and enough water for household purposes. In Jamaica, the National Water Commission (NWC) is the primary provider of wastewater or sewage services and collects wastewater from over 700,000 persons across the island. Wastewater is essentially used water - a combination of liquid removed from residences, institutions, as well as commercial and industrial entities that has been adversely affected in quality by anthropogenic influence. Wastewater also includes storm runoff. Inadequate sanitation systems are considered major causes of diseases and illnesses world-wide and improving sanitation is known to have a significant beneficial impact on the health of households, the health of communities and on the environment.

Wastewater Treatment and Excreta Disposal. Presently, wastewater systems are designed to promote the conservation of water and nutrient resources, which would contribute to sustainable development. Generally, the main objective for the treatment of wastewater is to allow human and industrial effluents to be disposed of without danger to human health or unacceptable damage to the natural environment. Conventional wastewater treatment consists of a combination of physical, chemical, and biological processes and operations to remove solids, organic matter and, sometimes, nutrients from wastewater. Wastewater treatment processes are generally classified as taking the wastewater through four (4) stages or levels. They are: **Preliminary, Primary, Secondary and Tertiary.**

- **Preliminary.** This stage simply removes the easily separated solids, usually by screening and grit removal channels. Solids to be removed usually include rags, plastics, wood and even stones.
- **Primary.** During this stage, settlement of some suspended solids takes place through sedimentation. Grit and scum are also removed.
- **Secondary.** At this stage, wastewater treatment involves biological treatment through oxidation of settled sewage and/or the secondary settlement of suspended solids in the sewage. During this

stage, most of the germs to be found in the wastewater is either killed or removed. The exact way in which this is achieved varies from system to system.

- **Tertiary.** This stage of treatment is usually considered to be optional and referred to as 'polishing' of the already treated effluent to further improve effluent quality.

The NWC utilises treatment facilities that include oxidation ditch, activated sludge, waste stabilisation pond and primary treatment. In Trelawny, the treatment is done at secondary and tertiary levels as shown in Table 20 below.

Table 20 NWC Wastewater Facilities, Trelawny.

Name of System	Location	Type of System	Type of Treatment	Load	Areas Served	Discharging Point	Distance	Risk to human
Vanzie Land	Falmouth	Oxidation Ditch	Secondary	0.909	Falmouth Hospital, New Falmouth Police Station, Falmouth Market, Vanzie Land Housing Scheme	Swamp	3 Km from sea	Swamp area inhabited by Informal Settlers
Florence Hall	Florence Hall	Sand Filter	Tertiary	1.45	Florence Hall Village Housing Development	Gully/swamp	1 km from sea	No
Stonebrook Vista	Stonebrook	Sand Filter	Tertiary		Stonebrook Vista Housing Development	storm drain / swamp	1 km from sea	No
Stonebrook Estate (Private)	Stonebrook	Sand Filter	Tertiary		Stonebrook Estate Housing Development	Gully/sink hole	1.5 km from sea	No
Coral Spring	Coral Spring	Sand Filter	Tertiary		Coral Spring Village Housing Development	Gully/sink hole	1.5 km from sea	No
Holland Estate (Private)	Martha Brae		Tertiary					No

Source: National Water Commission, 2016.

Nonetheless, many households in Trelawny depend on 'on-site' septic systems to treat and dispose of effluent on the same property where the wastewater is produced. However, in Trelawny as the population densities increase, alternative solutions for the treatment of wastewater should be considered to eliminate and reduce ground water and soil contamination.

5.7 Waste Management

5.7.1 Solid Waste Management

Solid waste is broadly defined as non-hazardous, industrial, commercial and domestic refuse including household organic trash, street sweepings, hospital and institutional garbage, and construction wastes. In simple terms, solid wastes are any discarded or abandoned materials, which can be solid, liquid, and semi-solid or containerised gaseous material.

The Western Parks and Markets (WPM) Waste Management Limited of the National Solid Waste Management Authority (NSWMA) is responsible for solid waste collection and disposal in the Parishes of Westmoreland, Hanover, St. James and Trelawny. Prior to the establishment of the NSWMA, garbage collection was vested under the Trelawny Parish Council. The WPM Waste shed's disposal site is located in Retirement in the neighbouring Parish of St. James. Collection by garbage trucks and burning are the predominant methods of garbage disposal and treatment. Most uncollected waste ends up in drains, streams, wetlands (contributing to flooding), rivers, sea, open lots and illegal dumpsites.

Despite efforts at improvement, the current capacity (institutional, personnel, financial, technology, equipment) of the NSWMA is inadequate to efficiently and effectively manage the increasing generation of solid waste and the changing waste stream. Additionally, the Authority is burdened by the dual and conflicting role it has to play as collector and regulator.

The 3Rs

REDUCE

Use only what you need



RECYCLE

Convert waste into useful products

REUSE

Re-use things for the same or new purpose

Given the increasing cost for managing waste, it is important to sensitise and mobilise the communities to become more involved in reducing cost and increasing efficiency. Communities could be integrally involved in waste prevention, separation and final disposal stages. Acceptance by the community reduces conflicts emanating from the Not-In-My-Backyard (NIMBY) mentality, where a person who resists unwanted development. Each community needs to be educated on the importance of an integrated solid waste

management system and the adverse impact of poor disposal practices. Also engaging the community would not only make the system more efficient but can provide socio-economic benefits in the form of recovery and sale of valuable waste materials. Community-Based Organisations (CBOs) and Non-Governmental Organisations (NGOs) can play a vital role in waste management due to their resources, on the ground capability and influence with the people.

5.7.2 Hazardous Waste Management

Hazardous waste is a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment¹⁴. Hazardous waste is generated from many sources, ranging from industrial manufacturing process wastes to batteries. Such waste may come in many forms, including liquids, solids, contained gases, or sludges or by-products of manufacturing processes or simply discarded commercial products like cleaning fluids or pesticides. Hazardous waste are categorised according to how they are sourced, and in Jamaica they are mainly from industries, agriculture, commercial, household and medical facilities. However, for Trelawny among the categories of hazardous waste which are likely to pose a significant challenge in the near future are agriculture, medical and electronic waste.

Unfortunately, hazardous waste often ends up at dump sites with other solid waste material due to the absence of a hazardous waste dump facility in the Jamaica. The present system of incinerators for medical waste appears plagued by poor design, poor operation and inadequate and irregular maintenance. The implications for waste handlers and scavengers are serious as scrap tires in landfills tend to deteriorate very slowly and provide a mosquito breeding ground.

The National Environment Planning Agency (NEPA) informed the United Nations Environment Programme¹⁵ that cooperation is needed at all levels to improve hazardous waste management in Jamaica, as the country lacks the technical capacity for waste

Check if your waste is hazardous

Waste is generally considered hazardous if it (or the material or substances it contains) are harmful to humans or the environment.

Examples of hazardous waste include:

- asbestos
- chemicals, eg. brake fluid or print toner
- batteries
- solvents
- pesticides
- oils (except edible ones), eg. car oil
- equipment containing ozone depleting substances, eg. fridges
- hazardous waste containers

¹⁴ <https://www.epa.gov/hw/learn-basics-hazardous-waste>

¹⁵ <http://www.unep.org/gpwm/InformationPlatform/CountryNeedsAssessmentAnalysis/Jamaica/tabid/106565/Default.aspx>

management. International cooperation with developed countries to exchange information and expertise would assist the country in developing strategies for the handling and storage of hazardous waste. Public awareness programmes should be designed with the aim of involving the public in the monitoring and enforcement framework. Finally, cooperation with the private sector would be needed in order to procure funds for hazardous waste management.

5.8 Energy Supply

Jamaica Public Service Company Limited (JPS) is the sole distributor of electricity in Jamaica and has engaged in the generation, transmission and distribution of electricity since 1923. In Trelawny, electricity is supplied by mainly the Jamaica Public Service Company Limited (JPS) and the Rural Electrification Programme (REP), which has been introduced only in a few communities. JPS produces electricity using steam (oil-fired), combustion gas turbines, combined cycle, diesel, hydroelectric, and wind. In Trelawny, the Power Company operates two (2) hydro plants – Rio Bueno A and Rio Bueno B to generate electricity to its grid. The REP is responsible for expanding service in rural areas of the Parish, where the provision of such service would be otherwise be financially unfeasible for JPS. The programme has assisted by erecting poles and strung wires along the roadways for persons to access electricity. However, it was reported that there are numerous areas still in need of electricity.

Energy Conservation and Efficiency. Jamaica's overall energy system is highly dependent on imported fossil fuels, petroleum imports account for over 90 percent of electricity production. Energy conservation has been getting an increased amount of attention, consequently, the country is charting a new path to energy security based on domestic renewable energy sources in order to build an energy system that is socially, economically, and environmentally sustainable. With the phenomenon of global warming, rising fuel prices and the consequent fuel shortages, energy conservation and efficiency becomes a major topic for discussions. In Trelawny, due to the existence of industries, hotels and housing, the demand placed on energy is very high, therefore conserving energy will not only help to conserve resources but also translates into financial savings. Apart from these it also helps us to save money, mitigates the numerous adverse environmental and social impacts associated with energy production and consumption.

Renewable Energy Development. Renewable energy is energy that is generated from natural processes that are continuously replenished. This includes sunlight, geothermal heat, wind, tides, water, and various

forms of biomass. This energy cannot be exhausted and is constantly renewed. With the high dependency on fossil fuels, the local market is becoming more susceptible to world energy market disruptions; as such efforts have to be directed towards affordable and reliable supply as alternative sources of energy. Generally, alternative energy indicates energies that are non-traditional and have low environmental impact, which does not harm the environment; a distinction which separates it from renewable energy which may or may not have significant environmental impact. The forms of renewable energy sources that are available in Trelawny are:

- Fuels (ethanol, biodiesel)
- Electricity (wind, hydro, solar)
- Solids (bagasse, charcoal, woodchips, fuel wood)
- Gases (biogas)

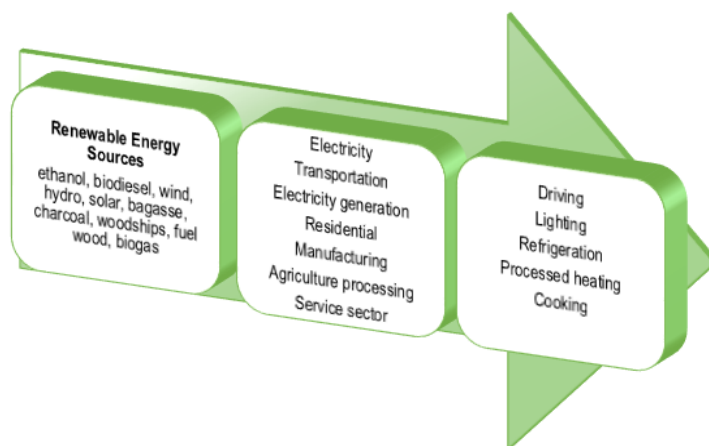


Figure 7 Renewable Energy Sources.

As depicted above in Figure 7, most renewable energy comes either directly or indirectly from the sun. Sunlight, or solar energy, can be used directly for heating and lighting homes and other buildings, for generating electricity, and for hot water heating, solar cooling, and a variety of commercial and industrial uses. In Trelawny, solar power technology is being utilised, as it is considered as a more financially intelligent investment as well as an environmentally conscious decision. Therefore, sourcing renewable and alternative energy sources through available local resources is also pertinent to sustainable living and investments and these endeavours should be given as much support by both government and private organisations.

5.9 Telecommunication Services

Over the last decade, there has been increasing recognition of the importance of access to communication infrastructures and services for economic and social development. The telecommunications sector on the island includes include radio, television, fixed and mobile telephones, and the Internet, all of which continue to rapidly expand. The telecommunications sector is regulated by the Office of Utilities Regulation through the Telecommunications Act and continues to be at the epicentre for growth, innovation, and disruption for virtually any industry.

Overall, there is an efficient and effective communication system in the Parish, with the two (2) major mobile operators being Digicel and Flow. With wireless usage increasing, landlines usage have declined significantly over the years. Mobile devices and related broadband connectivity continue to be more and more embedded in the fabric of society today and they are key in driving the momentum around some key trends such as video streaming, Internet of Things (IoT), and mobile payments. The sector has also become more competitive and vibrant, which has been fostering a robust environment locally, as it drives innovation and increases efficiency.

5.10 Green Building Designs

The growth and development of communities has a large impact on the natural environment. The manufacturing, design, construction, and operation of the buildings in which we live and work are responsible for the consumption of many of our natural resources. The term 'green building', or 'sustainable design', is the practice of increasing the efficiency with which buildings and their sites use energy, water, and materials, and reducing building impacts on human health and the environment over the entire life cycle of the building. Green building concepts extend beyond the walls of buildings and can include site planning, community and land use planning issues as well. It is a holistic approach that looks at all elements of buildings - including design,

Importance of Green Building

Environmental Benefits

- Enhance and protect biodiversity and ecosystems
- Improve air and water quality
- Reduce waste streams
- Conserve and restore natural resources

Economic Benefits

- Reduce operating costs
- Improve occupant productivity
- Enhance asset value and profits
- Optimise life-cycle economic performance

Social Benefits

- Enhance occupant health and comfort
- Improve indoor air quality
- Minimise strain on local utility infrastructure
- Improve overall quality of life

Source: <http://www.wncgbc.org/about/importance-of-green-building>

materials used, construction techniques and practices, energy usage among others. Such design concepts also aim to incorporate sustainability at every step of the building process, from the design phase to construction as well as to demolition.

Sustainable building practices minimise negative impacts to society while emphasising environmental, economic, and community benefits. The main objectives of sustainable designs are to overall reduce, or completely avoid depletion of critical resources like energy, water, and raw materials; prevent environmental degradation caused by facilities and infrastructure throughout their life cycle; and create built environments that are livable, comfortable, safe, and productive. Buildings use resources (energy, water, raw materials, and etc.), generate waste (occupant, construction and demolition), and emit potentially harmful atmospheric emissions. Building owners, designers, and builders face a unique challenge to meet demands for new and renovated facilities that are accessible, secure, healthy, and productive while minimizing any negative impacts on society, the environment, and the economy.

In addition to including sustainable design concepts in new construction, sustainable design advocates commonly encourage retrofitting existing buildings rather than building anew. Retrofitting an existing building can often be more cost-effective than building a new facility. Designing major renovations and retrofits for existing buildings to include sustainable design attributes reduces operation costs and environmental impacts, and can increase building resiliency. The embodied energy of the existing building, a term expressing the cost of resources in both human labour and materials consumed during the building's construction and use, are squandered when the building is allowed to decay or be demolished.

According to Vision 20120 (2014), within Falmouth Historic District, there are many landmark buildings that are in disrepair, even though Falmouth historic architecture has long been recognised as exceptional. Nonetheless, Jamaica National Heritage Trust (JNHT) with assistance from the Heritage Development Review Committee (HDRC), Falmouth Heritage Renewal (FHR) along with other agencies and advocates promote the preservation of national monuments and anything designated as protected national heritage in the Parish. Due to neglect, natural disasters, fire damage, and in some cases looting, a few of the buildings in the town centre have been reduced to their ground floor walls. These are not yet ruins, however. Sturdy brick and coquina stone masonry stand as testaments to Falmouth's traditional workmanship. While restoration or rehabilitation of these structures might not be financially feasible at present, the structures

and curtilages could be put to interim uses that would be economically viable while not precluding opportunities for property restoration in the future.

5.11 Disaster Management

A disaster is an unplanned event - whether natural or technological (man-made), in which the needs of the affected community outweigh the available resources or the community's internal capability to respond. Usually a disaster varies considerably in scope, size, and context. Large-scale disasters with numerous casualties are relatively unusual events. However, disasters are becoming more frequent, and the number of persons affected is also increasing. In Jamaica, the Office of Disaster Preparedness and Emergency Management (ODPEM) has the unique role of providing disaster management functions, along with the Regional and Parish Coordinators. (Appendix 9).

Disaster management encompasses all aspects of planning for and responding to disasters, including the before, during, and after disaster activities. It refers to both the risk and consequences of a disaster. When a disaster strikes, the general population expects government agencies, the private agencies, emergency response agencies, and other agencies to rapidly mobilise to help the injured and the broader community in general. Adequate preparation and planning, as well as provider and agency education and training, have become more relevant following the visibly problematic responses to many disaster events.

A total of fifty (50) official shelters (public schools and community centres) and forty-seven (47) contingency shelters (churches) have been identified for the Parish, to aid in disaster management (Appendix 10). Shelter Inspection is done every 2 years where the last inspection was done in 2014; therefore the next Shelter Inspection will be carried out in 2016. A number of Agencies are involved in the inspection process of these shelters, including the Trelawny Parish Council – Roads and Works Department and Disaster Coordinator, Ministry of Health, JCF and Fire Brigade. There are currently

Types of Disasters

- Natural disasters: include floods, hurricanes, earthquakes and volcano eruptions that have immediate impacts on human health and secondary impacts causing further death and suffering.
- Environmental emergencies: include technological or industrial accidents, usually involving the production, use or transportation of hazardous material, and occur where these materials are produced, used or transported, and forest fires caused by humans.
- Complex emergencies: involve a break-down of authority, looting and attacks on strategic installations, including conflict situations and war.
- Pandemic emergencies: involve a sudden onset of contagious disease that affects health, disrupts services and businesses, brings economic and social costs.

eighty-nine (89) trained Shelter Managers in the Parish, and during emergencies they are equipped with raincoats, water boots and flashlights.

5.11.1 Natural Disasters

Disasters classified as 'natural' are caused by nature or the natural processes of the earth. Such disaster occurs mainly due to a combination of natural and man-made factors. Trelawny has become more vulnerable to natural disasters, especially those classified as climate-related; storms, floods, storms and drought, which are mainly due to developments or changes in the environment as well as concentration of population in town centres. Other threats would include the occurrence of storm surges, landslides and earthquakes.

In 2004, 2005 and 2007 with the passing of hurricanes Ivan, Emily and Dean respectively, the entire Parish was mainly affected by flooding. Hurricane Wilma in 2005 also caused major flooding in the communities of Wakefield and Zion that are located in low-lying areas. Tropical storms in 2008, 2010 and 2012 also flooded different communities in the Parish, which caused damages to the agriculture sector, structures, loss of utility lines, loss of trees and road network. The structures in the urban and rural areas suffered damages in the form of roof leakage and/or loss.



Flooding on Cornwall Street in Falmouth.

Town centres such as Falmouth and Wakefield were significantly affected by high flood waters.

Natural disasters cannot be prevented, but safety measures at all levels can be taken to eliminate or reduce the possibility of mishaps. Communities should have plans to provide guidance in case of a disaster and the Local Planning Authority and other relevant Agencies should collaborate/liaise to assist persons with the basic ways to respond to natural disasters.

Flood and Landslide Prone Communities. The topography of the land, soil type and presence of informal settlements, which are located in low-lying areas and in close proximity to depressions, influence the scope of vulnerability of communities. Table 21 outlines the flood and landslide prone communities in Trelawny.

Table 21 Flood and Landslide Prone Communities in Trelawny.

Flood Prone	Landslide Prone
Salt Marsh	Highgate Hall, Lorrimers
Falmouth	Litchfield
Holland Road, Martha Brae	Allsides, Wait-A-Bit
Bliss Pasture, Wakefield	Burnett Town, Rock Spring
Congo Town, Wakefield	New Hope, Troy
Broad Pass, Friendship	Mack Hill, Clark's Town
Bunker's Hill	Dutch Hill, Albert Town
Rock	
Cooper's Pen	
Duncans	
Bottom Town, Clark's Town	
Lake Bottom, Clark's Town	
Kinloss, Clark's Town	
Long Pond, Clark's Town	
Hyde, Clark's Town	
Street 116, Jackson Town	
Level Bottom, Stewart Town	
Barnstaple	
Jones Town, Duanvale	
Spring Gardens	
Troy	
Fontabelle	
Freeman's Hall	
Rio Bueno	
Dromilly	
Carey Park, Stewart Castle	
Hague	
Coral Spring	
Mahogany Hall	
Hampden	

Source: Parish Disaster Plan for Trelawny

5.11.2 Man-made Disasters

Human alterations to the environment also causes disasters, which are more contained but can also deliver significant impacts on life, property and the economy of an area. These include industrial accidents, transport accidents, chemical, biological and radiological accidents, health epidemics and pollution. Hazardous materials accidents include liquid chemical (toxic) spills and groundwater contamination, which have caused mortality and serious injuries. Structural fires have caused casualties and can cause significant property damage and loss of life. Communities also become vulnerable to threats posed by

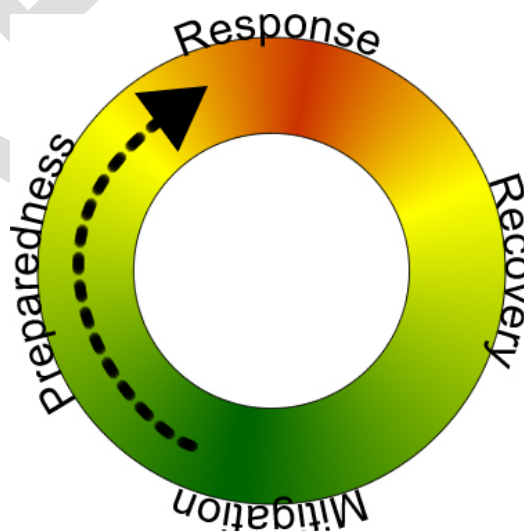
groups who use violence against both people and property. Overall, the impacts of man-made disasters not only have human dimensions, but environmental ones as well. As such, mitigating the effects of disasters are important components in the national efforts to ensure environmental security.

5.11.3 The Comprehensive Disaster Management (CDM) Cycle

The Trelawny Parish Disaster Committee, in its effort to ensure that the Parish is prepared for an adverse event or disaster has incorporated through disaster planning a Comprehensive Disaster Management (CDM) Cycle. The figure illustrates the cyclic process by which the Committee plans for and reduces the impact of disasters, and takes steps to recover after a disaster has occurred. The Office Disaster Preparedness and Emergency Management (ODPEM) has outlined the four (4) phases of the CDM cycle are: mitigation, preparedness, response and recovery¹⁶.

Mitigation. During the mitigation phase structural and non-structural measures are undertaken to limit the adverse impact of natural disasters and man-made (technological) disasters. Management activities in the mitigation phase encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness, as well as hazard vulnerability and risk assessment.

Measures taken during the mitigation phase also address preventing natural or man-made events from giving rise to disasters or any emergency situations, e.g. not allowing your child to have access to matches, gasoline, or kerosene oil.



¹⁶

<http://www.odpem.org.jm/DisastersDoHappen/DisasterManagementinJamaica/TheDisasterManagementProcess/tabid/240/Default.aspx>

Preparedness. During the preparedness phase of the CDM cycle measures are taken to reduce the minimum level possible, of loss in human life and other damage, through the organisation of prompt and efficient actions of response and rehabilitation such as practicing earthquake and fire drills.

Preparedness activities are geared towards minimising disaster damage, enhancing disaster response operations and preparing organisations and individuals to respond. They also involve planning, organising, training, interaction with other organisations and related agencies, resource inventory, allocation and placement, and plan testing. The Disaster Coordinator informed that the following communities have formulated Community Disaster Plans and have established Community Emergency Response Teams (CERT):

- Salt Marsh
- Zion, Martha Brae
- Clark's Town
- Rio Bueno

Response. Actions carried out in a disaster situation with the objective to save life, alleviate suffering and reduce economic losses. The main tool in response is the implementation of plans which were prepared prior to the event. Response activities are post activities geared towards:

- Providing emergency assistance;
- Reducing probability of additional injuries or damage;
- Speeding recovery operations; and
- Returning systems to normal level.

Recovery. In the recovery phase, also referred to as the recovery and rehabilitation phase, activities are geared towards the restoration of basic services and the beginning of the repair of physical, social and economic damage e.g. lifelines, health and communication facilities, as well as utility systems. The recovery phase also includes efforts to reduce disaster risk factors.

5.11.4 Disaster Management and Climate Change

The Intergovernmental Panel on Climate Change (IPCC) defines 'climate change' as *"a change in the state of the climate that can be identified ... by changes in the mean and / or the variability of its properties, and that persists for an extended period, typically decades or longer"*¹⁷. Climate change has the potential to impact the occurrence and management of natural disasters facing Trelawny such as flooding, landslides, the frequency and severity of storms. Climate change affects disaster risks due to increase in weather and climate hazards and through increases in the vulnerability of communities to natural hazards, particularly through ecosystem degradation, reductions in water and food availability, and changes to livelihoods. As such, climate change will add yet another stress to those of environmental degradation and rapid unplanned urban growth, further reducing communities' abilities to cope with even the existing levels of weather hazards.

Due to climate change, the Parish has been experiencing more intense and extensive droughts, particularly in areas where there are reported water shortages. Higher temperatures and decreased precipitation have increased the prevalence of drier conditions as well as contributing to changes in the distribution of droughts. Changes in sea surface temperatures and wind patterns also have been linked to changing drought occurrence.

Widespread changes in extreme temperatures have also been observed, most notably the higher frequency of high temperature days and nights and heat. The coastlines are being eroded, hence damaging major roadways that are located along the coast. The rise in the sea levels has impacted the areas causing coastal flooding e.g. at the Glistening Waters car park, this has been observed. With the changing climate the disaster related effects will become more evident owing to the intrinsic uncertainty in the climate projections, the diverse and rapidly changing nature of community vulnerability, and the random nature of individual extreme events.

In addressing the problem of climate change, mitigation and adaptation strategies are needed to reduce disaster risks. The Parish over the years has established mitigation programmes geared towards the replanting of mangroves to help reduce coastal erosion and rain water harvesting.

¹⁷ IPCC Fourth Assessment Report, Working Group I, Glossary of Terms: http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Annexes.pdf

5.12 Policies and Actions for the Built Environment

The development of the Parish will be guided by the policies and actions outlined and are intended to contribute, enhance and protect the built environment, while at the same time improve the character and quality of life for the residents.

5.12.1 Policies and Actions for Transportation and Circulation

Policies	Actions
<p>Policy BE TC1. The relevant authorities will seek to develop, monitor and maintain a comprehensive road network that provides safety and mobility.</p>	<ul style="list-style-type: none"> a. Encourage investments through public-private partnerships. b. Upgrade and maintain the existing road network. c. Assess the need for new and alternative routes. d. Improve signage, road markings, streetscaping and street furniture along roadways. e. Ensure existing and new developments are well located and designed with sustainable road layout and circulation. f. Increase traffic calming measures. g. Assess the need for the provision of traffic lights.
<p>Policy BE TC2. The relevant authorities will seek to develop an effective non-motorised transportation network.</p>	<ul style="list-style-type: none"> a. Identify areas in need of sidewalks, pathways and bicycle lanes, where possible. b. Identify and repair damaged or sub-standard sidewalks and pathways. c. Improve and install pedestrian crossings. d. Educate and promote the use of non-motorised transportation. e. Ensure infrastructure accommodates the disabled. f. Identify and develop potential primary bicycle routes in town centres.

	<ul style="list-style-type: none"> g. Require bike racks and indoor bike storage facilities for all new developments in town centres. h. Develop and implement an effective bicycle sharing programme.
<p>Policy BE TC3. The relevant authority will ensure adequate parking is provided for motorists and cyclists.</p>	<ul style="list-style-type: none"> a. Ensure the development of parking facilities for commercial and office use. b. Encourage the shared use of parking facilities. c. Establish a centralised and satellite parking system. d. Encourage paid parking in designated areas.
<p>Policy BE TC4. The relevant authorities will seek to promote and increase traffic management and circulation.</p>	<ul style="list-style-type: none"> a. Ensure road facilities accommodate multiple modes of traffic simultaneously wherever possible. b. Provide appropriate and adequate road signs and markings in accordance with established standards. c. Institute appropriate traffic management measures to reduce traffic congestion in critical areas, including intersection redesign, one-way traffic systems, traffic calming and pedestrianisation. d. Schedule a coordinated delivery time of commercial goods and services. e. Ensure transportation centres are established within growth centres. f. Increase enforcement within no parking zones. g. Review the existing designated paid parking locations and make adjustments where necessary. h. Encourage greater use of public transportation system. i. Implement measures to improve road safety. j. Promote carpooling.

5.12.2 Policies and Actions for Water Supply

Policies	Actions
<p>Policy BE WS1. The relevant authorities will seek to protect all watersheds to conserve water resources.</p>	<ul style="list-style-type: none"> a. Evaluate watersheds and identify practices and activities that contribute to degradation. b. Establish corrective guidelines and monitoring strategies to mitigate degradation.
<p>Policy BE WS2. The relevant authorities will seek to promote public involvement and participation in the decision-making process.</p>	<ul style="list-style-type: none"> a. Develop effective mechanisms to deliver appropriate information to public. b. Facilitate the process for inclusion and consultations in the preparation of plans and policies for water resource management. c. Strengthen CBOs, NGOs and government agencies to foster community based monitoring and evaluation for the provision of water. d. Define responsibilities for all stakeholders and strengthen communications in water management to eliminate fragmented and uncoordinated actions and plans to improve linkages to other sectors.
<p>Policy BE WS3. The relevant authorities will seek to ensure the conservation of water.</p>	<ul style="list-style-type: none"> a. Establish a public awareness programme to sensitise consumers on conservation practices and techniques. b. Promote training and use of alternative techniques of water catchment practices. c. Implement measures to ensure multi-purpose use of water resources.
<p>Policy BE WS4. The relevant authorities will seek to improve the accessibility of water supply to all.</p>	<ul style="list-style-type: none"> a. Identify areas in need of the potable water supply and implement a water supply programme. b. Identify and upgrade water supply systems to support implementation of projects and activities to increase agriculture production. c. Promote effective maintenance of infrastructure in need of rehabilitation. d. Utilise appropriate technology and approaches to improve water efficiency. e. Improve the application of climate information to develop and implement drought and flood mitigation measures.

	f. Institute efficient and proportionate water usage and distribution.
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5.12.3 Policies and Actions for Sanitation and Waste Management

Policies	Actions
<p>Policy BE SWM1. The relevant authorities will seek to enforce regulated standards for sustainable waste disposal.</p>	<ul style="list-style-type: none"> a. Review and update regulated standards. b. Establish a fee structure based on the quantity and quality of the discharge by industries, businesses, trades etc. c. Monitor of industries, business etc. operations in the parish against discharge pollution.
<p>Policy BE SWM2. The relevant authorities will seek to collaborate and develop a joint approach for an effective waste management system.</p>	<ul style="list-style-type: none"> a. Identify areas in need of improvements in collection and disposal of waste. b. Improve efficiency in the collection and disposal of waste. c. Strengthen human resource capacity within organisations. d. Increase cooperation with the various sectors to procure funding. e. Promote reduce, reuse and recycle (3R's) of waste. f. Encourage entities to carry out waste management research projects. g. Implement a sanitation and neighbourhood cleanup/maintenance programme. h. Identify and implement applicable advanced technology in waste management to improve efficiency. i. Include the impact of population change on the development of waste management. j. Identify sites for transfer stations. k. Create a database that identifies the facilities and types of chemicals handled and waste produced.
<p>Policy BE SWM3.</p>	<ul style="list-style-type: none"> a. Promote public awareness, programmes and activities on waste management.

<p>The relevant authorities will seek to increase public education regarding waste management.</p>	<p>b. Encourage of public-private sectors partnerships.</p>
<p>Policy BE SWM4. The relevant authorities will seek to develop effective sanitation systems that are economical, sustainable and environmentally friendly.</p>	<p>a. Establish a central sewage system to accommodate the existing and future needs of the population. b. Encourage the continuous monitoring of the quality of waste discharged. c. Encourage developers to consult with relevant authorities in regards to disposing of sewage. d. Strengthen local environmental groups to assist in wastewater management. e. Encourage the use of advanced technology in wastewater management.</p>

5.12.4 Policies and Actions for Energy Supply

Policies	Actions
<p>Policy BE ES1. The relevant authorities will ensure energy is accessible to all.</p>	<p>a. Expand infrastructural development to areas without access to electricity. b. Identify defective infrastructure, conduct timely repair and maintenance. c. Promote the use of alternative energy sources. d. Encourage alternative payment options, for example, Pay As You Go by JPS.</p>
<p>Policy BE ES2. The relevant authorities will seek to improve energy conservation and efficiency.</p>	<p>a. Promote public education and training campaigns for energy users. b. Encourage more suitable use of energy through improved layout and designs of structures. c. Identify, promote and implement energy saving devices. d. Provide incentives for the development and use of innovative technologies. e. Encourage public - private partnerships. f. Develop and implement programmes to</p>

	<p>influence consumer and market behaviour.</p> <p>g. Encourage greater energy efficiency and lower energy costs in the transportation sector.</p>
<p>Policy BE ES3.</p> <p>The relevant authorities will seek to explore and promote renewable energy.</p>	<p>a. Develop and encourage awareness-raising programmes.</p> <p>b. Implement renewable energy projects and activities.</p> <p>c. Encourage greater international collaboration.</p> <p>d. Encourage research at the tertiary level and implement incentives to encourage development of research programmes.</p> <p>e. Promote and undertake mapping of all renewable energy resources.</p> <p>f. Develop Academic Curricula for Energy at secondary level.</p>
<p>Policy BE ES4.</p> <p>The relevant authorities will seek to promote the use of advanced technologies for energy generation.</p>	<p>a. Encourage institutions to undertake research aimed at developing advanced technologies for energy.</p> <p>b. Promote the efficient conversion of waste to energy from solid waste disposal sites.</p>

5.12.5 Policies and Actions for Disaster Management

Policies	Actions
<p>Policy BE DM1.</p> <p>The relevant authorities will seek to build awareness of hazards and disasters among all stakeholders.</p>	<p>a. Develop disaster risk reduction training for different groups of stakeholders.</p> <p>b. Integrate disaster risk reduction in the communities, education system and research community.</p> <p>c. Develop communication and dissemination mechanisms for disaster risk information and early warning etc.</p> <p>d. Conduct simulation exercises.</p> <p>e. Develop a programme to increase awareness of disaster risk reduction and</p>

<p>Policy BE DM2. The relevant authorities will seek to develop mechanisms that integrate disaster risk reduction in development planning.</p>	<p>empower all levels of society.</p> <ol style="list-style-type: none"> a. Conduct baseline assessment and establish baseline information for disaster risk reduction. b. Conduct risk assessment and hazard mapping to identify and zone areas that are susceptible to hazards and disasters. c. Prepare, review and update Parish Disaster Plan and Community Disaster Plans. d. Integrate disaster risk data in the planning approval process. e. Assess the need for relocation of development located in disaster-prone areas.
<p>Policy BE DM3. The relevant authorities will seek to enhance disaster management.</p>	<ol style="list-style-type: none"> a. Promote public-private participation. b. Strengthen and increase capacity and relationships within local communities. c. Encourage partnership with international organisations. d. Develop a disaster fund. e. Enforce actions against developers in breach of building code compliance. f. Strengthen democracy and governance in communities. g. Identify at least one (1) assembly area that can accommodate more than 5,000 persons during major disasters. h. Ensure emergency and contingency shelters are not located in disaster-prone areas.
<p>Policy BE DM4. The relevant authorities will seek to utilise science and technology in the Comprehensive Disaster Management Cycle.</p>	<ol style="list-style-type: none"> a. Identify, source and integrate Information and Communication Technologies (ICT). b. Encourage the use of GIS, social media, mobile and web applications.
<p>Policy BE DM5. The relevant authorities will seek to adopt best</p>	<ol style="list-style-type: none"> a. Develop public awareness programmes on climate change.

practices for climate change adaptation.

- b. Develop sector action plans to assist with the mitigation and adaptation of climate change.
- c. Facilitate population displacement both locally and internationally.

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CHAPTER 6

GOVERNANCE, CIVIC PARTICIPATION AND EMPOWERMENT

TRELAWNY LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond

This chapter includes a description of the approaches to enhance the need for active participatory governance as well as to develop ways to better set the priorities for development within the Parish.

6 GOVERNANCE, CIVIC PARTICIPATION AND EMPOWERMENT

6.1 Local Governance

Governance focuses on the processes by which public policy decisions are made and implemented. It involves the government, public sector, private sector and civil society as well as the interactions, relationships and networks between these sectors, to determine how things are done and how services are provided. At the local level, governance is an important aspect of sustainable development planning, as it informs local policies and strengthens local accountability. Local governance is also seen as an integral part of local development approaches, and has provided a basic rationale for donors' support to local government reforms, decentralisation and local governments' capacity building. While local governance can be affected by decentralisation – the process of dispersing functions, powers, people or things away from central authority – it forms an important element of participatory democracy, therefore reducing the authority of national government over economic policy.

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has."

*-Margaret Mead
Cultural Anthropologist*

Local Governance Assessment

Generally, assessments provide a foundation for evidence based policy making and can empower reformers within local government and civil society to mobilise public opinion for reform. Assessments of local governance may be useful at the national level in order to enhance decentralisation policies, strengthen capacities and compare trends across all communities. The United Nations Development Programme (UNDP) (2000) stated these assessments are undertaken for multiple purposes and reasons:

- To identify potential gaps and constraints in local policy implementation;
- To identify specific capacity development needs and to monitor the results of capacity development efforts;
- To formulate change plans and solicit donor or peer assistance for improving specific aspects of local governance;

- To engage civil society and private sector in local governance; and
- To provide an objective account of achievements of local elected leaders (especially at times of re-elections), and thus building accountability¹⁸.

Therefore, the importance of assessing local governance is needed as it provides important information on issues and challenges specifically related to the local level in order to better facilitate the needs of the stakeholders within the communities.

6.1.1 Local Government Reform and Decentralisation in Jamaica

Local Planning Authorities should be able to answer to their local citizenry and fulfil their obligations through institutionalised mechanisms which require Councils to report to their citizens on their stewardship, and to give citizens the means of ensuring strict accountability and transparency in the Councils operations. Therefore, the need for greater autonomy, flexibility, transparency and acquiring access to independent sources of revenue by the Local Authorities would potentially assist in ensuring their mandates are properly and efficiently fulfilled.

For many years now, the Government of Jamaica has been pursuing the Local Government Reform Programme, which is aimed at fundamentally transforming the Local Government System in the country. This has been the subject of intense deliberation, owing to the fact that local governance additionally involves tackling controversial issues from the basic level and the sharing of power ultimately between the different levels of Government.

The Reform Programme aims to rehabilitate the Local Authorities: “to prepare them to undertake the challenges of the new role which they will now be expected to play in providing effective and dynamic leadership to the community development process, and in local planning and development generally.” (Ministry Paper No: 8/93 Reform of Local Government)

“In pursuing Government's policy of encouraging and facilitating local initiative and empowerment of local communities and citizens, Parish Councils will be expected to provide the coordinating framework and leadership which will bring together all elements of the local community, with technical support agencies, in

¹⁸ A Users' Guide to Measuring Local Governance, UNDP Oslo Governance Centre.

a process of integrated community development which will eliminate much of the waste and inefficiencies which presently occur.” (Ministry Paper No: 8/93 Reform of Local Government)

The GOJ in November 2015 passed three (3) strategic laws, which are the fundamental planks to undergird Local Government Reform in Jamaica. The Bills are the Local Governance Bill; Local Government (Unified Service and Employment) Bill; and the Local Government (Financing and Financial Management) Bill. The Bill provides for establishment of a framework to accommodate the various types of local authorities; expand their mandate to include sustainable development and the maintenance of civic order; create accountability and transparency mechanisms for local authorities; define the role and relationship between the administrative and political organs of local authorities; and empower civil society and communities in the governance process. To date, the pieces of legislation as outlined above are in the approval stage.

6.1.2 Capacity Building at the Trelawny Parish Council

Local governance provides a structural arrangement through which local people and communities can participate in determining the direction of their local needs, issues, challenges and priorities. The process of development is a process of capacity building and at the Local Planning Authority level Trelawny Parish Council focuses on promoting socio-economic and socio-political development, which encourages participation of the local people in determining their development and well-being.



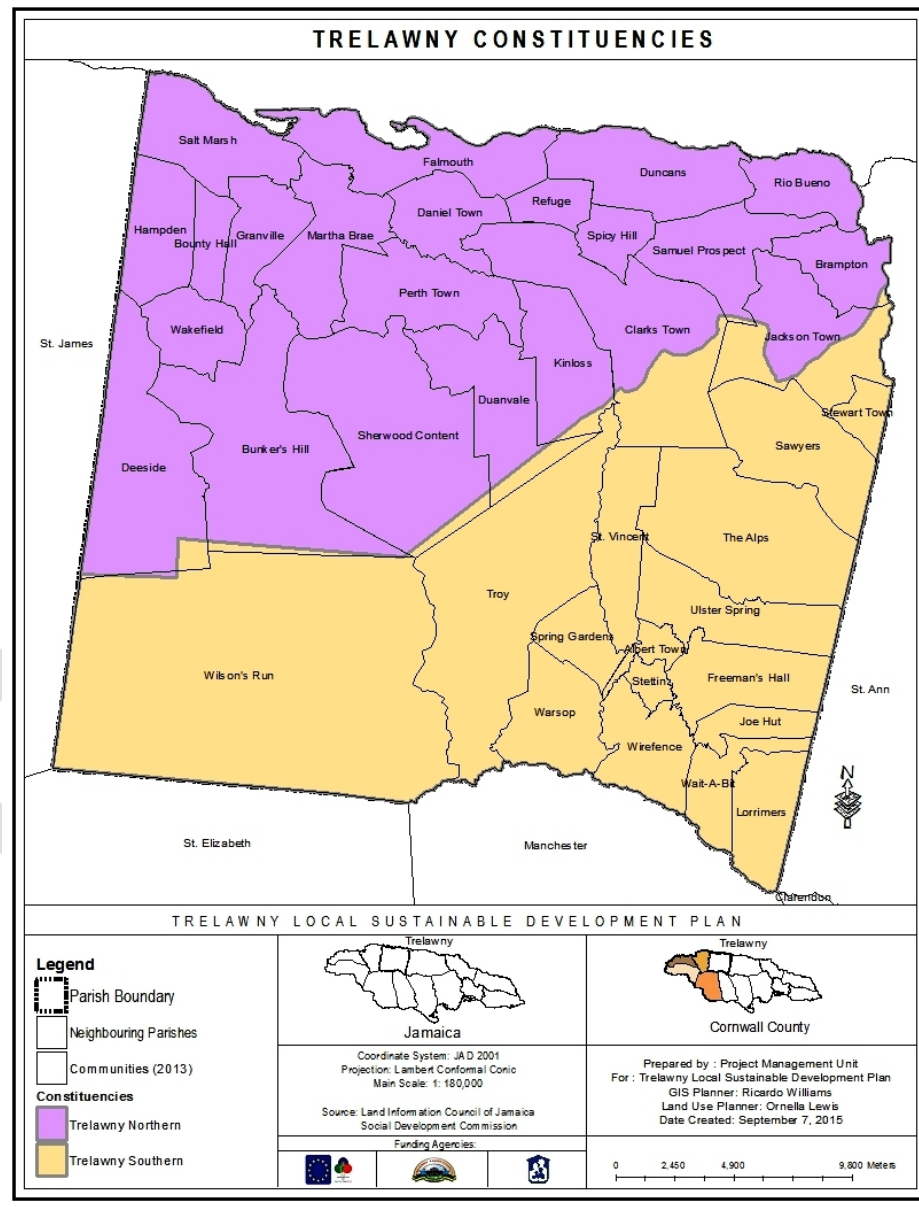
Falmouth Courthouse & Trelawny Parish Council.

The Council has two (2) Arms – Political and Administrative. The Political arm consists of Councillors and is headed by His Worship The Mayor who is the Chairman of the Council and is responsible for determining policies. The Administrative Arm is headed by a Manager who advises and implements the policies of the Council. The Administrative head is also the Secretary to the Council and is referred to as the Secretary/Manager (Appendix 11).

At the Council, the experiences, be it successes or failures have been shared with various agencies and organisations through networking mechanisms. Networking between the TPC and the various Government Agencies and Non-Governmental Organisations has aided in organising and mobilisation, empowered civil

society and community groups enabled the poor and powerless individuals to have a stronger voice in the process of decision-making.

Representational Framework. Within the Jamaican Electoral System to facilitate parliamentary and local representation, the Parish of Trelawny is divided into two (2) constituencies (Map 10); Trelawny Northern and Trelawny Southern. There are nine (9) Parish Council Divisions; five (5) in Trelawny Northern and four (4) in Trelawny Southern, which are depicted in Table 22.



Map 10 Trelawny Constituencies.

Table 22 Constituencies and Parish Council Divisions of Trelawny.

Constituency	Parish Council Divisions
Trelawny Northern	Duncans
	Falmouth
	Martha Brae
	Sherwood Content
	Wakefield
Trelawny Southern	Albert Town
	Lorrimers
	Ulster Spring
	Warsop

Source: Electoral Commission of Jamaica, 2016

Within Trelawny, the major towns are Falmouth, Clark's Town, Duncans, Albert Town and Wakefield; however, Wait-A-Bit and Warsop are both fast growing communities boasting the largest population in the Trelawny Southern constituency.

6.1.3 The Trelawny Parish Development Committee (TPDC)

The National Association of Parish Development Committees (NAPDEC) serve as the united voice behind the messages of democratisation and civil society participation and, either on its own or in partnership with other entities, acts as a bridge across the knowledge and capacity gaps amongst members. The Trelawny Parish Development Committee is a partnership of stakeholders, which comprises of state agencies, private sector, elected political officials, civil society and other groupings, which coordinates and monitors the development processes at the local level. The Ministry of Local Government and Community Development in conjunction with the SDC and NAPDEC continues to assist the TPDC in strengthening its linkages through direct and deliberate action with regards to governance at the local level.

The TPDC was convened to:

- Drive meaningful citizen and community engagement in the scoping, planning and evaluation of local and community development programmes;
- Enhance the participation of civil society and other groups in local governance;
- Provide advice to the Local Planning Authority on long-term, comprehensive and active participatory decision-making strategies.

- Improve the delivery of services for the residents;
- coordinate, plan and oversee local and community development funding;
- Deliver greater efficiency and effectiveness; and
- Assist the Local Planning Authority with local development and community development.

6.2 Civic Participation and Empowerment

The involvement of citizens in local governance is an essential part of democracy. It is very important that communities and citizens participate in local government as participation and empowerment ensures government addresses the real needs of communities in the most appropriate way. The citizens are given the opportunity to actively engage in public spheres, which allows them to become empowered, protected and accountable. This also provides a platform for communities and citizens to peacefully participate in political activities as well as influence government policy and their decision-making system. Civic participation and empowerment assists in building an informed and responsible citizenry with a sense of ownership of government developments, projects and activities. It allows individuals to buy-in and develop partnerships with stakeholders.



Citizens in discussions at a Stakeholders meeting.

To note, civic participation and empowerment in local governance can only be effective when citizens are more informed as they will be better able to understand what the Government is trying to do and what the budget and resource limitations are and how to better inform appropriate decisions.

6.3 Governance for Sustainable Development

Good governance is participatory and is about the processes for making and implementing decisions. The major characteristics include effectiveness and efficiency, accountability and transparency, which is used to promote and ensure that social, economic and political priorities are based on broad consensus at the local level to include all citizens in the decision-making processes. Employing measures of good governance at

the local level ensures that the views of vulnerable groups and minorities are taken into account and are included in decision-making. It also leads to better decisions, helps local government meet its legislative responsibilities and importantly provides an ethical basis for governance. Some of the measures include:

Participation. The residents and stakeholders in the Parish should have the opportunity to actively participate in the process for making decisions. Participation needs to be organised and informed, either directly or through legitimate institutions or representatives such as the Trelawny Parish Development Committee, which represent their interests.

Effectiveness and Efficiency. The concept of effectiveness and efficiency is directed towards following processes and implementing decisions that produce results that meet the agreed objectives, while maintaining sustainable use of the available resources.

Accountability. This is a key requirement of good governance as the Local Planning Authority has an obligation to inform the public and stakeholders of decisions made on their behalf. Not only the Local Planning Authority, but also the private sector and civil society should take responsibility for their decisions.

Governance provides the mechanism through which relations and collaborations between state and people can be generated across different sectors. Some of the fundamental obstacles to sustainable development are also addressed through the measures of good governance. Therefore, incorporating sustainable development in governance introduces accountability, participation and democratic empowerment into decision-making on environmental, socio-economic and political matters.

This new approach of governance for sustainable development would focus on:

- *"Planning for the long-term:* The core of sustainable development is meeting the needs of the present without compromising the ability of future generations to meet their own needs. There is thus a need to develop institutions that promote inter-generational equity. However, the governing institutions, and thus political incentives, in most states, emphasise and encourage a short-term approach. As the High Level Panel on Global Sustainability puts it, "there are few incentives to put [sustainable development] into practice when our policies, politics and institutions disproportionately reward the short-term."

- *Integrating the different dimensions of sustainable development policy:* Sustainable human development requires finding synergies and coherence between what have been largely separate goals under the Millennium Development Goals (MDGs). However, planning institutions and processes in most countries still work along sectoral lines. Balancing the needs of environmental protection and development, in particular, has proved difficult.
- *Innovation and collaboration:* It is widely argued that hierarchical, government-driven approaches to development are unsuitable for the complex, multi-sectoral challenges of sustainable development. The explosive growth in the use of mobile phones is also rapidly opening up new forms of engagement between citizens, state and the private sector and new forms of monitoring and evaluation. These developments put a high premium on the capacity of the public sector to innovate and collaborate with people and businesses - skills many government institutions often lack."¹⁹

With these approaches, people will have a better understanding of governance as an outcome of sustainable development and also provide policy makers with an avenue to transform the sectors by playing an important role in the mediation and decision-making processes.

¹⁹ Governance for Sustainable Development Integrating Governance in the Post-2015 Development Framework March 2014.

6.4 Policies and Actions for Governance, Civic Participation and Empowerment

The development of the Parish will be guided by the policies and actions outlined and are intended to promote and increase governance, civic participation and empowerment, while at the same time improve the character and quality of life for the residents.

Policies	Actions
<p>Policy GCPE1. The relevant authorities will seek to strengthen resource capacity.</p>	<ul style="list-style-type: none"> a. Outline key standards and guidelines for good governance. b. Promote and support education and training opportunities. c. Promote effective communication within organisations and across agencies. d. Seek local and international volunteers to improve efficiency. e. Expand range of activities and compliance to increase revenue. f. Increase governance within growth centres.
<p>Policy GCPE2. The relevant authorities will seek to promote greater transparency and stronger accountability.</p>	<ul style="list-style-type: none"> a. Encourage and promote efficiency in the audit process. b. Enforce sanctions against individuals that engage in unlawful activities. c. Increase awareness of proper procedures and protocols. d. Implement mechanisms for communicating information effectively. e. Engage citizens in decision-making process. f. Improve coordination of current and proposed projects and activities.

CHAPTER 7

IMPLEMENTATION: PUTTING THE PLAN INTO EFFECT

TRELAWNY LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond



This chapter outlines the scope of work which needs to be taken and includes a description of the recommendations, projects and activities that would be implemented after the Trelawny Local Sustainable Development Plan has been adopted.

7 IMPLEMENTATION: GETTING IT DONE!

Implementation is an essential part of the Trelawny Local Sustainable Development Planning Process. The key conditions to the implementation of a successful TLSDP include the presence of human and social capacity as well as administrative capacity at the local level to foster participatory approaches in the decision-making and policy-making processes. (Action plan preparation) The Trelawny Parish Council will manage (oversee) the effective implementation of the development plan.

Implementation Plans/Strategies

The Approval Process

The Natural Environment

The Socio-Cultural Environment

Economic Development and Wealth Creation

The Built Environment

Governance, Civic Participation and Empowerment

CHAPTER 8

MONITORING AND EVALUATION

TRELAWNY LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond

This chapter deals with monitoring and evaluation and consists of the methods used to compare the projects and activities for implementation with what was been outlined in the original Development Plan as well as to judge the execution of the goals and objectives.

8 MONITORING AND EVALUATION

To be decided

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CHAPTER 9

LOCAL DEVELOPMENT PLANNING AREA SPECIFIC PLANS

TRELAWNY LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond



This chapter focuses on the development issues and challenges faced by the specific Local Development Planning Area (LDPA) as well as the community aspirations as discussed in the visioning workshops that were held.

9 LOCAL DEVELOPMENT PLANNING AREA SPECIFIC PLANS

The Local Development Planning Areas are as follows:

1. Albert Town Local Development Planning Area
2. Clark's Town Local Development Planning Area
3. Wakefield Local Development Planning Area
4. Ulster Spring Local Development Planning Area
5. Falmouth Local Development Planning Area
6. Wait-A-Bit Local Development Planning Area
7. Jackson Town Local Development Planning Area
8. Duncans Local Development Planning Area
9. Troy Local Development Planning Area
10. Duanvale Local Development Planning Area

A summary of the major issues, challenges and proposed solutions from the community members, stakeholders and Technical Advisory Committee are listed in Appendix 12.

ALBERT TOWN
LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY
LOCAL SUSTAINABLE
DEVELOPMENT PLAN: 2030 & Beyond



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9.1 ALBERT TOWN LOCAL DEVELOPMENT PLANNING AREA

Contents

1. Overview of Albert Town Local Development Planning Area (LDPA)
 - a. Community Involvement To Date
2. Albert Town Today
 - a. Population
 - b. Current Projects
3. Development Issues and Challenges
 - a. Natural Environment
 - b. Social Environment
 - c. Economic Environment
 - d. Built Environment
4. Community Aspirations
 - a. Natural Environment
 - b. Social Environment
 - c. Economic Environment
 - d. Built Environment
5. Existing Land Use
 1. Overview of Albert Town Local Development Planning Area (LDPA)

Albert Town is the largest town in south-eastern Trelawny. The Albert Town Local Development Planning Area comprises of communities that are situated in the midst of the Cockpit Country and enjoys a cool climate all year round. The main communities within the LDPA of Albert Town are: Stettin, St. Vincent, Spring Gardens and Freemans Hall.

The Local Development Planning Area has many businesses



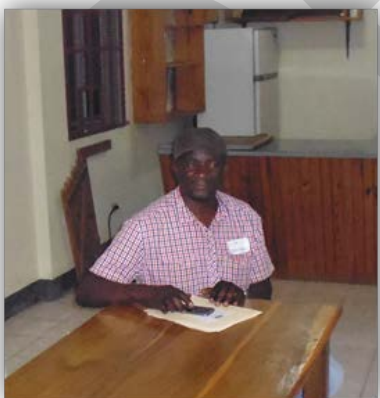
The Town Centre of Albert Town.

and institutions that cater to the needs of communities by providing goods and services. Agriculture has traditionally played a significant role in the economic livelihood of the communities with yam farming being the predominant crop along with other secondary crops such as ground provisions (coco and dasheen), sugar cane, banana, as well as the involvement of livestock rearing. As a central town in Jamaica, the Albert Town LDPA produces about fifty percent (50%) of all the yams exported by the country. In the past, the Southern Trelawny Environmental Agency (STEA) organised an annual Trelawny Yam Festival in the area, which was seen as an income earner for the area. (Source: Social Development Commission, 2010).

However, the communities in the LDPA have struggled to maintain their agricultural way of life, due to the fluctuating prices of yam, high production costs, employment shifts, environmental degradation and urban drift. As a result, other economic activities are required to spur and promote new employment opportunities in the area.

a. Community Involvement To Date

The level of community involvement has been strong over the past decades. Within each community of the LDPA, there are active Community Based Organisations, namely Community Development Committees, Citizens Associations, Police Youth Clubs, Farmers Groups and Parent Teacher's Associations. These organisations, along with stakeholders have undertaken fundraising activities and have implemented various projects that have been beneficial to the area.



Councillor Gillings awaiting the SM&VW.



Sensitisation Meeting and Visioning Workshop - Albert Town LDPA.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a

forum for forging a vision for the development of each community and the Parish on a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Albert Town Today

a. Population

The table below shows the estimated population size for the communities, which forms the Albert Town Local Development Planning Area.

Albert Town Local Development Planning Area	
Communities	Estimated Population Size
Albert Town	1235
Stettin	1155
St. Vincent	634
Spring Gardens	1092
Freemans Hall	554
Total	4670

Source: Social Development Commission, 2010

b. Projects

Some of the projects that have been implemented over the years were land distribution to the poor, the issuing of farm equipment, provision of agricultural loans, construction of the Albert Town Health Centre in Stettin, a garment factory at the community centre, food stamps for children and the elderly. A Western Union facility was opened and the Peoples' Corporative Bank in the area was upgraded. The Micro Investment Development Agency Limited (MIDA) aided in the provision of loans for agricultural and non-agricultural development. Road Rehabilitation of road infrastructure in St. Vincent was done by National Works Agency and the Trelawny Parish Council.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents discussed and prioritised the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The residents within the communities of the LDPA are fully aware of environmental balances and the need to live in harmony with their environment. The Albert Town Local Development Planning Area lies within the Cockpit Country: a vast area that was formed due to limestone, the predominant soil in the area, which does not retain water. Rainwater therefore, percolates downward through cracks or fissures, creating in time a landscape of pits and valleys.

With these natural resources found in the LDPA, the issue of lack of piped water in the households and in businesses has disgruntled the residents as stated the natural resources are being underutilised and wasted that could have been beneficial to them.



Mr. Edwards and Ms. Lewis had deep discussions with members of the Natural Environment Sector.

It was also expressed that there is an issue relating to ownership of property. Many of the residents are without land titles which are a constraint as the need for land titles may be used as an instrument for credit in the creation of wealth and removal of poverty from the citizens of the area.

Another issue which faces the residents in the area is that of waste management. The residents complained about the poor garbage collection system in place to keep the area clean. Sanitation also presents a waste problem as the clay characteristic of the area is unsuitable for the use of pit latrines and absorption pits as a sewage disposal method. This is due to the low infiltration rate; where the pits are expected to fill frequently. With agriculture forming the main economic base for the communities in the LDPA, this has caused vast amount of pressure on the topsoil, causing degradation and erosion of the topsoil.

b. Social Environment

With regards to the Social Environment thematic area, the following sub-headings will be addressed in relation to the Albert Town LDPA. These include; education, health, social services, - housing, governance, crime and social infrastructure as these were considered by the residents as the basic aspects that have an impact within the LDPA.

Education: The residents stated that the cost to access education at all levels is very high thus equipping persons with limited skills training. Some of the contributing factors were lack of parenting support, the need for improvements to the school structures and facilities and a poor and unreliable transportation system, with the public route taxis unwilling to transport students as the fare being charged which to the taxi operators is low.



Councillor Gillings, Mr. Palmer, Ms. Barrett and Mr. Spence along with members of the Social Environment Sector.

Health: Regarding health, there were constraints as the hospitals (in Falmouth, Trelawny and Christiana, Manchester) are located far away from the communities and are inaccessible during severe emergencies. The services being offered at the health centres are limited as there are restrictions on the amount of medications provided as well as some of the health centres in the LDPA are not being utilised effectively. Within the LDPA numerous herbs are available which may be used for medicinal purposes; however some residents are not fully educated about these plants and their benefits. Irregular garbage collection and poor methods of disposal were complaints that may contribute to health issues.

Housing: The community members in the LDPA stated some of them are not aware that in order to access affordable housing solutions, they may apply to the National Housing Trust (NHT) for grants to buy or build houses. The lack of land space allotted for housing and the lack of registered land titles are factors that affect growth within the LDPA. Nonetheless, the housing structures that are built in the area are in good condition.

Social Services: There are numerous churches and schools within the Albert Town LDPA, however the need for more outreach programmes by churches are needed, which could provide opportunities for singers, actors, and dancers among others. The residents suggested the annual Yam Festival usually held in the LDPA be handed over to a Government Agency to better coordinate and enhance the event, as well as the farmers and their associations need to be more organised. Regarding governance, it was highlighted that within the communities there needs to be more integration as such more community groups should be formed to encourage active participation. There also needs to be better representation from the respective political representatives within the LDPA. Decreases in the crime rate have been noted; however there were reports of numerous cases of incest. These criminal activities are sometimes a result of the high levels of adult and youth unemployment in the area as well as there is limited interaction between the police and residents.

Social Infrastructure: Due to an improper and unreliable water supply system, residents lack piped water in their dwellings and businesses despite the natural resources within the area.

c. Economic Environment

The issues and challenges associated with the economic environment in the LDPA are as follows. Firstly, from observation the area has high levels of adult and youth unemployment due to the lack of opportunities for the residents. Lack of academic qualification and illiteracy are also contributing factors to the problem. As also stated in the Natural Environment section above, the residents do not have in their possession titles for their properties, as such being unable to access financial assistance. The land titles could be used as collateral to access loans and other credit.



Members of the Economic Environment Sector dialogued with the facilitator.

The LDPA is known for its hard-working farmers, however, there is no pension plan in place for them to make contributions that would make them eligible for life insurance or a structured retirement plan.

d. Built Environment

The importance of increased water supply in the LDPA cannot be over-emphasised. Majority of the households are without piped water, however a significantly high percentage depends on private catchment for their water supply. These dwellings have access to piped water via drums and tanks in their yards, with the remaining relying on public standpipes.

With regards to mobility, the residents find it more accessible to travel to Christiana in Manchester for shopping and business transactions. There were complaints about the poor road conditions, which makes travel difficult, and decreases the mobility of the citizens in the LDPA. The high cost of taxis is also a deterrent to travel and is as such due to the poor condition of roads in some communities.

The LDPA lacks a few social facilities that would be beneficial to the residents. These include a fire station, structures to house youth clubs and to act as community/entertainment centres, an effective hospital, a resource centre and a sub-office of the Parish Council.

There is also the issue of poor sanitation, with most dwellings using pit latrines, which may lead to groundwater contamination and an influx of nitrogen and phosphorous into the water sources.



Ms. Luton, the facilitator of the Built Environment Sector and the community members.

In terms of power and communication, landlines are still uncommon within most communities, with the majority of the households using cellular phones. Consequently, electricity is available to majority of the households, however street lighting are not yet up to the desired level of residents.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"To enhance the safety of our built environment by fostering efficient use of both natural and human resources to improve our infrastructures which aids in maintaining our natural environment".*

a. Natural Environment

Vision Statement: *"To grow and live in a healthy, pollution free environment and make significant contribution to the natural environment at its best."*

Below the surface of the Cockpit Country are hundreds of rivers, streams and caves. The area is also known for its high degree of biodiversity, and a large variety of flora and fauna, many of which are endemic to Jamaica. It was noted that the landscape, flora and fauna found in area could offer tremendous opportunity for the development of strong ecotourism and research industries that would in turn boost the area's economic development.

In addressing the issue of no land titles, with the implementation of the Land Administration and Management Programme (LAMP), it would assist all owners of land in these areas obtain Certificates of Title for their land and to update the information on existing land titles.

The residents recommended waste management and reduction strategies be implemented, as well as pollution prevention tactics for future implementation to address these challenges of poor sanitation. This may be done through recycling projects in the schools and other organisations.

It was suggested soil conservation methods be employed and encouraged to control soil erosion as well as training sessions for the farmers to guide farming practices and principles. Agricultural produces, for example yam could also be of economic benefit through yam cultivation techniques and with the creation of innovative yam by-products such as yam fruit cake, ice cream, cupcakes and yam drinks.

b. Social Environment

Vision Statement: "Improved health facilities, water supply, roads, housing and a better relationship between the police and community members, fire station and a sustainable environment."

It was suggested by the residents that with the development of programmes specifically geared towards improving the level of education in the schools would be beneficial. Training programmes including life skills, entrepreneur, communication, information technology, leadership, organisational, money management, environmental, tourism and communication maybe also considered.

c. Economic Environment

Vision Statement: "To foster and maintain sustainable economic development of Albert Town LDPA through the wise use of natural and human resources."

Focusing on the economic potential and possibilities of heritage tourism and ecotourism, the area could significantly contribute to economic growth through these ventures. Being an area where farming is the main economic contributor, the need for an agricultural institute would be ideal as the locals would become more education in their field. The residents also suggested a factory be built where by-products from the farming produces may be manufactured, for example yam juice, dasheen flour and chips among others. Many years ago, large productions in the sugar industry contributed to the growth of area, however with the economic problems locally and globally the decline in the sugar industry has drastically impacted the area. It was noted that there are still future possibilities for sugar through transformations and diversifications to the industry. The banana and coffee industries could also be revived as with the proper techniques and methods applied, there are possibilities for growth.

d. Built Environment

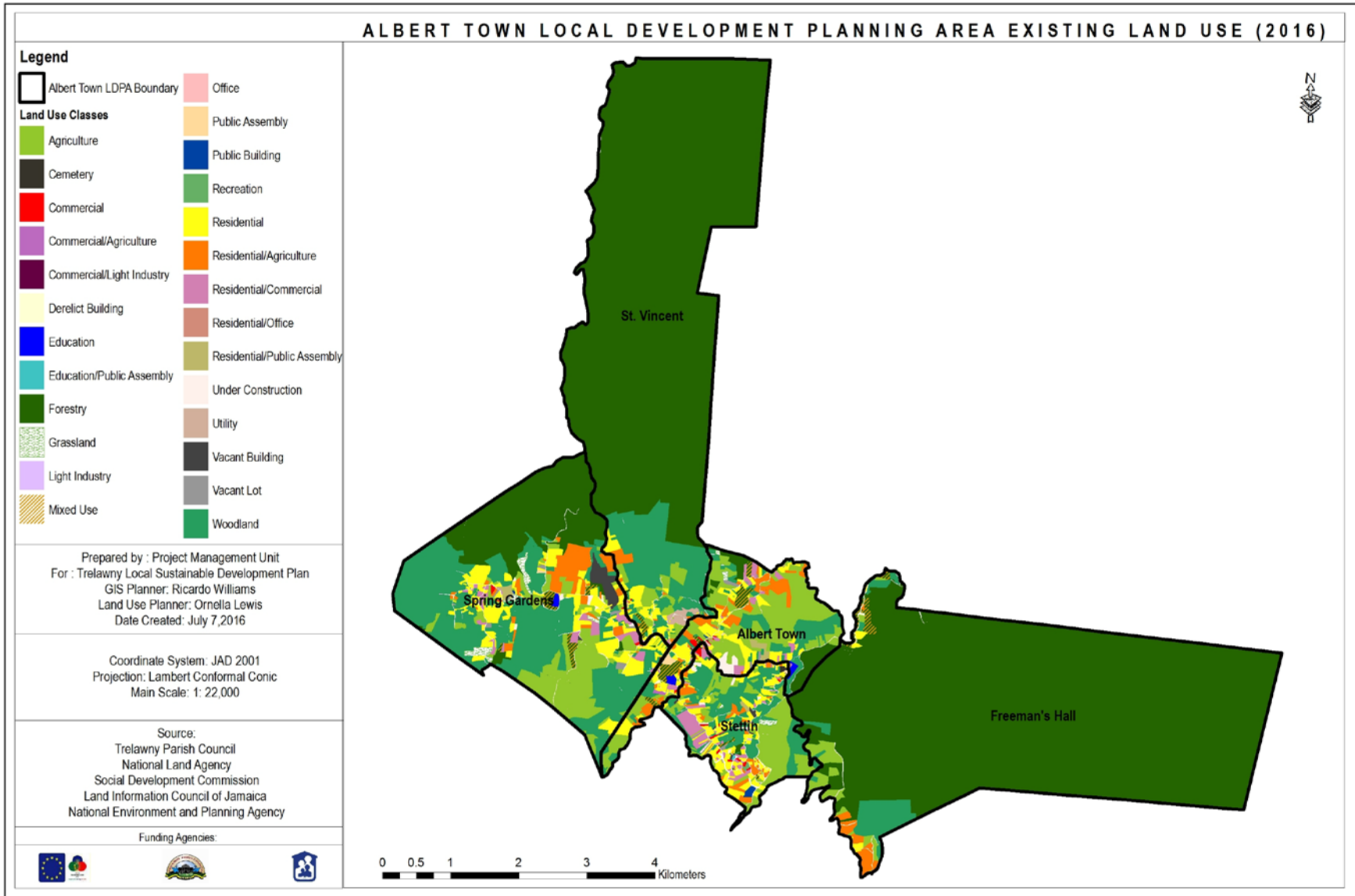
Vision Statement: "Safer structures to enhance the development of the built environment for our schools, community centres, churches, houses, health centres, to make it a safer society."

The residents focused on how to better make improvements to the built environment and they made suggestions as possible opportunities. The rivers and springs present in the area may be used to increase the water supply as many residents complained of not having access to piped water. This would aid in improvements in the irrigation system as the LDPA is known as a farming community.

The introduction of technology relating to methods to aid in water conservation would be beneficial to the residents. It was also noted with the proper construction of structures to be designated as community centres, it would help to have a positive outcome on the education system as well as for businesses when events are being hosted at these facilities.

5. Existing Land Use

This section focuses on the existing land use within the Albert Town Local Development Planning Area and analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying the three (3) elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the "existing and future" use of land of the settlement or region.



Map 11 Albert Town Local Development Planning Area Existing Land Use (2016).

CLARK'S TOWN

LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY

LOCAL SUSTAINABLE

DEVELOPMENT PLAN: 2030 & Beyond



DRAFT

9.2 CLARK'S TOWN LOCAL DEVELOPMENT PLANNING AREA

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5. Existing Land Use

1. Overview of Clark's Town Local Development Planning Area (LDPA)

The Clark's Town Local Development Planning Area is located at the bottom of the foothills of the Cockpit Country and is surrounded by the flat cane lands of the Everglades Sugar Estate. The communities within the planning area include Clark's Town and Kinloss.

The area has many businesses and institutions that cater to the needs of the community by providing goods and services. The major economic activities of the Clark's Town Local Development Planning Area are farming, small businesses and cabinet-making. The major industry is the Everglades Farms (formally Long Pond Sugar Estate), which is seen as the main employer of labour for the communities in the Area.

However, the decline in the sugar industry has caused a scaling down of the workforce on the sugar estates and persons have to seek their livelihood from alternative sources, either from inside or outside of the community and Parish.

a. Community Involvement To Date

The level of community involvement has been strong over the past decades. Within each community of the LDPA, there are active Community Based Organisations, namely Community Development Committees, Citizens Associations, Police Youth/Sports Clubs, Church Groups, Farmers Groups and Parent Teacher's Associations. These organisations along with stakeholders embarked on fundraising activities and implemented various projects that have been beneficial to the area.



The St Michael's Anglican Church in Clarks Town, Trelawny, was built about 1843.

The LDPA is served by eight (8) educational institutions, namely, St. Michael's Basic School, Hyde and Gibraltar Basic School, Congregation of Yahweh Basic School, Kinloss Basic School and Kinloss Primary School Clark's Town Primary and Cedric Titus High School. There are two (2) health care facilities in the community that of Clark's Town Rural Maternity Clinic (RMC) and a privately run Long Pond Clinic.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.



Community members being welcomed by the Secretary/Manager of the Parish Council, Mr. Palmer.

2. Clark's Town Today

a. Population

For the Clark's Town LDPA, the estimated population is five thousand eight hundred and sixty two (5862) persons, 54.6% being females. The estimated population for Kinloss is eight hundred and eleven (811) persons, 57% of which are females.

Clark's Town Local Development Planning Area	
Communities	Estimated Population Size
Clark's Town	5862
Kinloss	811
Total	6673

Source: Social Development Commission, 2010

b. Projects

The following projects have been undertaken in the LDPA:

- The Office of Disaster Preparedness and Emergency Management along with the Canadian International Development Agency embarked on building disaster resilient communities with Clark's Town.
- Also in Clark's Town, HEART Trust/NTA offered community based training.
- The St. Michael's Anglican Church Mother's Union organised a Motherhood Workshop.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where discussed and prioritised the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The Local Development Planning Area of Clark's Town is also a part of the Cockpit Country, which is known for the hundreds of rivers, streams and caves as well as for its high degree of biodiversity, large variety of flora and fauna. There were complaints of some water sources in the area being contaminated from pollutants that are directly or indirectly discharged into water bodies without adequate treatment to remove harmful compounds. On the contrary, during the dry seasons the residents are affected by droughts, resulting in a water shortage. The impacts resulted from the interplay between the natural event (less precipitation than expected) and the demand people place on water supply, and human activities can also exacerbate the impacts of drought.



The Natural Environment Sector was facilitated by Mr. Tucker.

The changes in climate affects average temperatures, therefore increasing the likelihood of weather-related natural disasters. The warmer climate has spawned the occurrences of hurricanes, which have in recent times severely affected the communities' infrastructure and housing within the LDPA.

Among the issues noted, which has severely impacted the environment, is that of informal settlements. Many negative aspects are associated with informal settlements in that it engenders the development of dysfunctional communities, it damages environmental resources and it usually creates public health hazards due to inadequate water quality and poor waste disposal.

With the frequent complaints of deforestation, damages to the quality of land have resulted. The trees are being cut down for many reasons, some of which are related to agriculture by the type of farming practices employed, for example "slash and burn", where the trees are cut down and burnt to provide more room for planting crops and grazing livestock.

b. Social Environment

Within the Social Environment thematic area of the discussions, the communities in the LDPA are hampered by limited employment opportunities especially among adults and youths. There are persons who possess the required qualifications but are not able to find jobs, while on the reverse some persons unfortunately lack the qualifications and/or skills to access these jobs. A complaint about laziness is also an issue as some members simply do not want to work.



Mrs. Ledgister, Mr. Palmer and Councillor Holt and the participants of the Social Environment Sector.

Poor parenting and a break down in the family units, which have been linked to behavioural problems such as delinquency, criminality and academic problems for children, affect the communities. In relation to crime,

the communities are affected by mainly petty crimes, which have fluctuated over the years. These include praedial larceny, other agricultural theft and non-violent crimes, with some of these criminal cases being unsolved.

Having pride in the communities is very important; as this creates possibilities as the residents will be pleased with the level of satisfaction of their achievements. However, in the LDPA, the residents expressed that a lack of civic pride has negatively impacted the possibilities of growth of the area. Also with the lack of a community centre, the level of interaction between residents is minimal.

c. Economic Environment

The Economic Environment of the communities depends on needs, income, wealth and productivity. The residents noted job creation is very low as most of the available jobs are seasonal and are available outside of the communities. The communities of Clark's Town and Kinloss rely mainly on the sugar factory that is located in the area and on farming for economic benefits and opportunities. However, the sugar factory and estate provide seasonal jobs of temporary nature, which places the workers in circumstances of vulnerability and insecurity.



The residents of the LDPA along with Mr. Edwards as their facilitator of the Economic Environment Sector.

Tourism has also been contributing to the economic growth of the area; however attention may be directed towards other sectors that can increase the levels of economic activities. The lack of investment has affected the communities with high levels of unemployment both in adults and youths, as there are limited contracts and work programmes being offered. The LDPA also lacks the facilities for manufacturing, which would assist in diversifying the economy to focus on other fields/aspects to boost economic growth.

d. Built Environment

The issues and challenges faced with regards to the built environment of the LDPA were expressed by residents. Firstly, the current cemetery which serves the communities has exceeded its capacity as such; the construction of a new cemetery will be needed. Within the LDPA there is a community centre that is not being utilised by the residents as there are complaints of inadequate facilities. To facilitate interaction and activities mention was made to the need for recreational space especially for the youth as this would encourage community participation and integration.



Members of the Built Environment Sector, with Ms. Luton as the facilitator of the group.

The poor road conditions within some of the communities are seen as an on-going issue that is mainly due to little or no road maintenance by the relevant authorities. Along some of the major roadways, the absence of street lights poses a challenge to motorists and pedestrians at nights, which has contributed to an increase in criminal activities. The lack of a proper garbage disposal site creates a threat to the residents and causes environmental effects, for example, soil contamination.

They noted the current Post Office located in Clark's Town, which serves the communities needs to be relocated as the building is structurally unsuitable.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"To develop communities that are clean, safe and environmentally responsible, that foster skilled workers and job creation to enhance the physical spaces to live, work, play and grow together".*

a. Natural Environment

Vision Statement: *"An environmentally educated community working together to maintain and preserve a clean, safe and natural environment."*

Within the LDPA are several lakes and ponds such as Dutty Pond, Ossie Pond, Percy Pond, Lake Bottom and Barbeque Bottom. However, they are not being fully utilised due to poor maintenance. Barbeque bottom is located in the community of Kinloss and is a bottom less pond, which is sometimes used for fishing and is visited by tourists as an attraction. It was proposed the remaining ponds and lakes be cleaned and properly maintained for Aquaculture (fish farming) as it is a sustainable method that poses a low risk to the environment and could also provide jobs in operations and ancillary services.

The other natural resources could be used as attractions for both tourists and the local residents, where boat rides and other activities may be offered. Some of the available lands that are idle may be developed and used for agriculture as well as for bauxite mining, while adhering to the guiding standards, principles and regulations. With the vast forest areas, some of the tress maybe used for lumber as well as for the construction of hiking trails and other attractions, which would also provide employment.

In areas that have been severely affected by deforestation due to agricultural activities among others, measures and policies need to be put in place to address the issue. A series of rules and regulations could be employed to curb the felling of trees; and the respective personnel should be urged to plant trees in the vicinity where they were cut down. The cutting must be replaced by planting young trees to replace the older ones that were cut.

b. Social Environment

Vision Statement: *"To create a society that speaks to the holistic development of the total man."*

The landscape, culture and ecology of the LDPA offer an ideal location to present the opportunity of developing ecotourism and sustainable attractions to promote community participation and integration as

well as economic gain. The CBOs and community groups from the communities would also assist the residents by promoting awareness of their roles and responsibilities as a means of keeping them informed and updated. This would also be a medium to encourage investors to the area, inspire entrepreneurship among youths and to aid in parental guidance and education.

The available lands could be developed for the construction of housing, community parks and other social facilities. The construction of training facilities would foster skills training and development among the youths and adults while also promoting the need for internship programmes.

In order to improve the civic pride it was suggested story boards be strategically placed that provide a description of the communities' values and for residents to be reminded of its importance. Organised competitions maybe initiated for example: Most Improved Streets or Most Improved Schools competitions.

c. Economic Environment

Vision Statement: *"A community that has investments, job creation and skilled workers."*

The LDPA comprises of small scale business operations such as supermarkets, shops, restaurants and bars among others. However, the economy has been struggling as there have been reports of decline in sales; has resulted in a decline in the income received by households. Suggestions by the residents focused on the need for local businesses to develop new income generating initiatives outside of the sugar industry, with the availability of agricultural lands. The area has a rich heritage and such ventures could provide employment for the youths as well as to better develop their skills and knowledge base.

There is need for a more strong and vibrant manufacturing sector especially as it relates to garment manufacturing. Cotton is an important cash crop that is widely grown and utilised in the area; the scale of the production could be increased for export earnings to contribute to the socio-economic development of the area. The area could benefit from a diversified economy that focuses on carpentry, plumbing, electrical installation and craft.

With the implementation of community investment initiatives, this would have a positive impact on the economic environment, as it would provide individuals and organisations with tools and skills to improve the quality of life for themselves, their families and their communities. For many, community investing is the pathway to homeownership, job creation and small business development.

d. Built Environment

Vision Statement: *“Developing our spaces, to create communities to live, work, play and grow.”*

In addressing some of the issues pertaining to the Built Environment, it was suggested a new cemetery be constructed that would be appropriate with the ideal site being located to that of the present one with limited capacity. The proposed location which is about 3.6576 metres away from existing cemetery is presently undeveloped and has no immediate purpose.

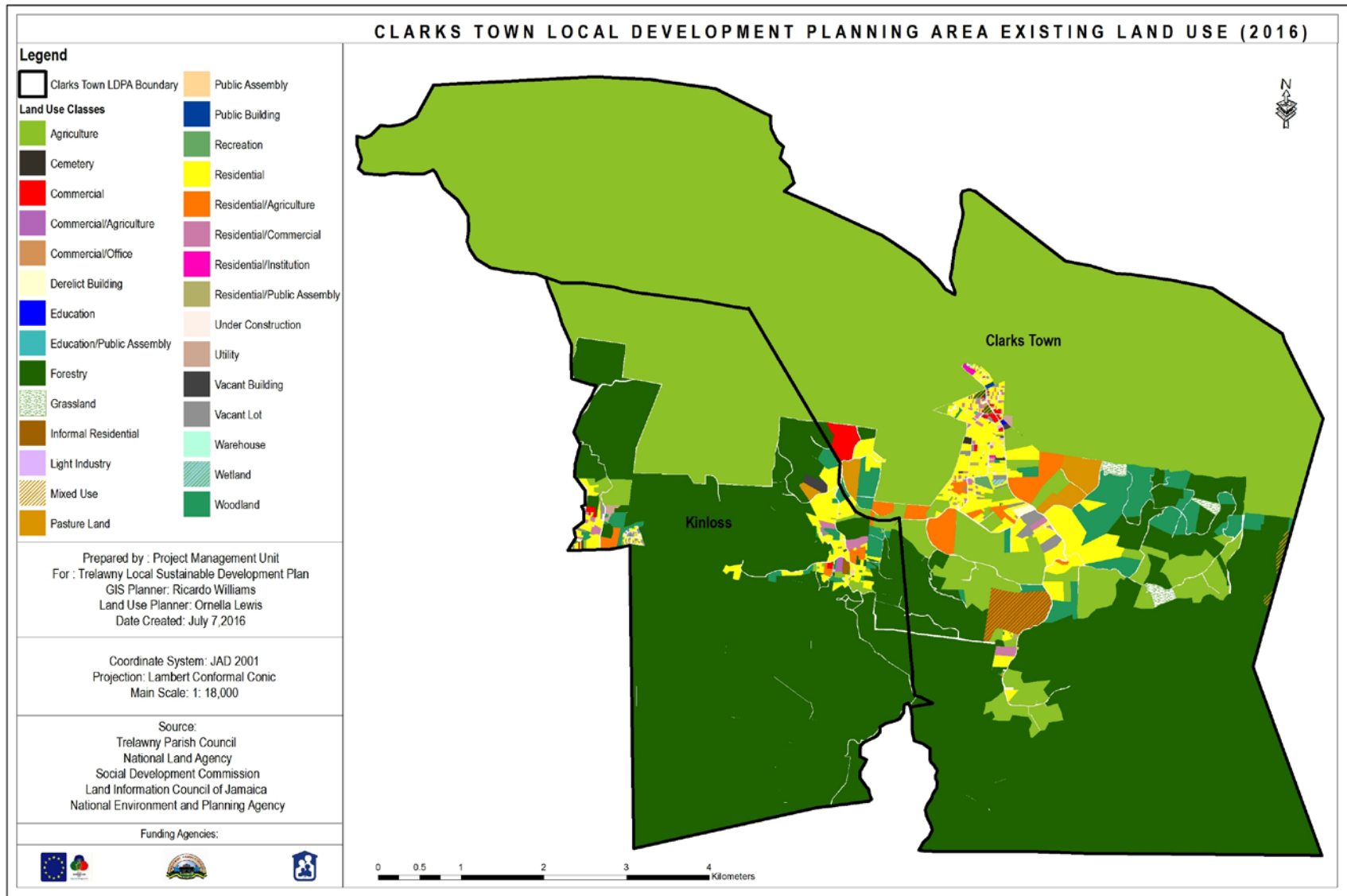
Fortunately, a community centre is located in the LDPA that is accessible. Nonetheless, for it to be considered a gathering place, an events venue or a destination for kids and adults be done to improve the facility. Presently, the building boasts a functional layout, and its size adequately meets the needs of the communities who will be using it. It was also noted that the addition of new bathroom facilities that will be accessible from outside would be beneficial.

With regards to the poor road conditions and lack of street lights, contacts could be made through letters sent to the respective Member of Parliament, the Councillors and the Parish Council. It was emphasised both the citizens of the communities and the Government need to work together to better solve the issues and challenges faced. Regarding poor garbage collection, a proper disposal site would be needed as the garbage collection process is inconsistent and ineffective.

A library was recently constructed in the area which provides access to huge resources of information and knowledge. Due to the poor condition of the building that houses the current post office, it was suggested the facility be located to the property where the library sits, as it is more convenient and structurally safe.

5. Existing Land Use

This section focuses on the existing land use within the Clark's Town Local Development Planning Area and analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying the three (3) elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the “existing and future” use of land of the settlement or region.



Map 12 Clark's Town Local Development Planning Area Existing Land Use (2016).

WAKEFIELD

LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY

LOCAL SUSTAINABLE
DEVELOPMENT PLAN: 2030 & Beyond



9.3 WAKEFIELD LOCAL DEVELOPMENT PLANNING AREA

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1. Overview of the Wakefield Local Development Planning Area (LDPA)

The Wakefield Local Development Planning Area is made up of various communities, which include Bounty Hall, Bunkers Hill, Deeside, Hampden and Wakefield. Majority of these communities are nestled in the Queen of Spain Valley which is also located in the Cockpit Country.

This area boasts the progressive town of Wakefield which has been developing over the years. The area has a Police Station, a People's Cooperative Bank, Food Market, Supermarket and numerous churches and schools. The main economic activity taking place is farming as it located in one of the sugar belt areas of Trelawny and hosts the Hampden Sugar Estates. The other economic activities in this Local

Development Planning Area include pot fishing, craft and cabinet making and tourism along with small business enterprises. The Good Hope Hotel, Orange Farm and Allied Farms are also located in the area.

a. Community Involvement To Date

The communities within the Wakefield Local Development Planning Area have been very involved in the planning, organisation and development of the area. This was done through involvement of many active Community Based Organisations that are located within the Area. These include Church Groups, Parent Teachers' Associations, Youth Clubs, Sports Clubs, Citizens Associations, Culture Clubs, and Farmers' Associations.

Some of the developments that have taken place with the assistance of these Community Based Organisations are: 1. the renovation of the community centre in Bounty Hall with funding from Red Stripe Jamaica; 2. the Southern Trelawny Environmental Agency (STEA) and the Community Development Committee established the Ecotourism Project in Bunker's Hill; 3. the establishment of the Hastings Primary School Sick Bay by the Parent Teachers' Association; and 4. the renovation of the Deeside Community Centre and the establishment of a Farmer's Corporation by the Jamaica Agricultural Society

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Local Sustainable Development Plan.



The Secretary/Manager Mr. Palmer and the Director of Planning Ms. Wellington. Councillor Bartley of the Division.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Wakefield Today

a. Population

The table below shows the estimated population size for the communities, which forms the Wakefield Local Development Planning Area.

Wakefield Local Development Planning Area	
Communities	Estimated Population Size
Wakefield	3899
Bounty Hall	2977
Bunkers Hill	1610
Deeside	3001
Hampden	514
Total	12,001

Source: Social Development Commission, 2010

b. Projects

The following projects have been undertaken by the LDPA:

- The European Union sponsored the Bunker's Hill Food Preservation Project as well as the Land and preservation measures to combat climate change in Bunker's Hill.
- The Best Community Competition was organised by the Digicel Foundation, Tourism Enhancement Fund along with Culture, Health, Arts, Sports and Education (CHASE) Fund.
- A multipurpose court was constructed with assistance from the Constituency Development Fund.
- The Tankweld Group sponsored the refurbishing of Cottage Primary School and constructed a canteen building and play area for Unity Basic School.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents were able to discuss and prioritise the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The natural environment, according to the residents may be described as all living and non-living things that are naturally on the Earth or as an environment that encompasses the interaction of all living species. The main issue faced is land pollution that is mainly caused by continuous improper disposal of garbage, which has resulted in the blockage of drains. The residents expressed the various agencies need to effectively play their role in cleaning and maintaining the drains while the residents need to practice proper garbage disposal methods.



Mr. Edwards and the members of the Natural Environment Sector group of the Visioning workshop.

In addition, whenever it rains the water that is stored in the drains becomes stagnant with the garbage and debris and the stench associated is sometimes unbearable for the residents. The stagnant water also encourages the breeding of mosquitoes and this poses a health issue for the residents in the area

The other form of land pollution is from the canes that are left along the roadways after the cane trucks pass through the area. The trucks are overloaded with canes as a result when they pass through the areas the canes fall off the trucks on the roads. The fallen canes are not removed and remain on the roadways which for the residents is very unsightly.

b. Social Environment

The residents expressed there are many social issues that plague the communities. They also agreed the non-payment of property taxes are some of the reasons why these issues are not being properly addressed. Majority of these issues were related to infrastructural development in the LDPA.

The poor road conditions in the communities is one of the issues that needs to be addressed. The residents expressed the elected Political Representatives may lobby with partnering agencies to source funding to resurface the roads in the communities. Additionally, there is the urgent need for proper street lighting in the communities. Some of the street lights are to be replaced while some are needed in other areas. This would allow the residents to feel more secure as poor policing is also experienced in some communities.



Community members who participated in the Social Environment Sector group along with Mr. Williams, the facilitator.

There are no community centres for the residents to utilise for recreational events activities in their communities. As a result, they have to use community centres in other communities and sometimes it is not feasible. There is also the need to revamp the Youth Club in the Bounty Hall community as a youth club. A youth club was established previously, but it has since been inactive.

The library located in Wakefield needs to be upgraded, as a larger building is needed to host more persons and a wider array of resources. In addition, more functional computers are needed for students to complete their assignments and for other residents with the desire to access these facilities.

The residents in Deeside expressed there is no access to postal services and as such one is needed. With a structure in the community it would be less tedious and very cost effective, especially for the senior citizens to collect their mails and other social programmes benefit.

c. Economic Environment

In the Economic Environment group the residents expressed a lot needs to be done as it related to the economic development of the LDPA. One issue raised is the lack of skills training opportunities for the residents to become certified. As a result, the residents are not able to access jobs even if it is outside the area and they are not able to branch out and try different occupations as they are not trained and certified. To note, many young persons within the community are unemployable as they are illiterate.



Residents of the LDPA along with Mr. Lawrence also member, who facilitated the Economic Environment Sector group. There is also the lack of employment which leads to brain drain. The trained and certified persons in the communities emigrate to other towns, Parishes or countries in order to access jobs. This has impacted the community as it is losing its human resource that should help build the community and contribute to its growth.

There are lands available in the communities but the owners are unwilling to lease such lands. There are persons who are interested in farming however, they do not have access to the land and are interested in leasing such land. There is the lack of investors to create partnerships with to develop the area and provide jobs.

d. Built Environment

The roads and drains in the LDPA are said to be in poor conditions and are not consistently maintained. The drains are blocked and needs to be cleared as this also damages the road whenever it rains. The overgrown trees along the roadways need to be cleared and consistently bushed and the owners of the heavily forested lands should ensure their properties are cleared. There is also the need for more streetlights along the roads to make it safer to traverse during the nights.

The community centres in the LDPA need to be refurbished and upgraded. The residents suggested they be used for educational purposes by the youths and adults in the communities. They could offer basic reading skills, skills training and other community events and activities. The branch library located in Wakefield also needs to be upgraded to offer more services to meet the needs of the community members. The postal services in Deeside also need to be reinstated, as the residents from this community have to be travelling to other communities to access this service.



Ms. Luton and the residents who were grouped in the Built Environment Sector for the workshop.

The police officers are unable to effectively perform their duties due to the shortage of resources at the Police Stations. The residents expressed the need for more police patrol vehicles for the work more efficiently and effectively.

The residents also complained about the inconsistent garbage collection schedule by National Solid Waste Management Authority. The trucks do not regularly collect the garbage and this impacts the community in a negative way. Sometimes there is an influx of garbage at certain points and some residents also burn their garbage. However, both practices are harmful to the environment.

Residents also suggested community urinals be placed at various junctures in the communities. These may be located in the town squares or other areas, especially if there is no sanitary convenience available. In addition, facilities for the disabled in the communities may be introduced at strategic points in the communities. For example, ramps can be placed at the public buildings, institutions and other areas in Wakefield for persons to easily access the services offered at these locations.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"To provide safe and sustainable infrastructure, while enhancing the social and economic life of the communities".*

a. Natural Environment

Vision Statement: *"A clean environment does not flood but is fruitful."*

The natural environment thematic area is focused on the natural resources in the LDPA. In order to mitigate the pollution problem the residents in the communities are facing some suggestions were made. One is the National Solid Waste Management Authority should schedule regular visits to the communities for the garbage collection and cleaning up the canes that are scattered on the roads. They should also provide secure skips and drums to be placed at strategic locations.

There must also be frequent cleaning of the drains and regular scheduled garbage collection to reduce mosquito breeding and flooding caused by blocked drains. The residents also expressed they would unite and put more effort into keeping the communities clean. They could coordinate a clean-up day and encourage persons to monitor certain areas to ensure the garbage does not accumulate and becomes unsightly. In addition, requests could be made to the Ministry of Health to have frequent fogging in the communities to reduce the amount of mosquitoes.

b. Social Environment

Vision Statement: *"To develop a safe, united community with citizens having access to social services and being able to utilise our cultural and social amenities to enhance our community."*

The residents made some suggestions as to how they could combat the social issues faced in their different communities. One such suggestion is to establish a food processing factory. This factory would produce juices, jams and liquors from the wide range of fruits that are available in the communities. This

would help to decrease the level of unemployment in the area while residents could also be encouraged to be involved in farming and animal rearing on their private lots.

A training centre could be established where residents would be trained in areas such as dress making, shoe making, plumbing, carpentry and other areas. It was suggested the community centres could be used. In addition, farmers who engage mostly in agrarian could focus on the rearing pigs, goats, cows and other animals.

The natural resources in the communities could be developed and used to promote the area. One such example is the waterfalls at the river head in Deeside that could be used as a tourist attraction for both locals and tourists. The cultural groups in the communities could be used for entertainment at these attractions. This could generate funds and partnerships that could be used to help to fix the roads and upgrade the other facilities that the community needs.

c. Economic Environment

Vision Statement: "To produce goods and services for ourselves and for future generations."

The residents outlined that there is a wide variety of fruits in the area and these could be used to generate income. Breadfruit and Pineapple for example could be used to make chips, wine, liquor and other products. Ginger could also be planted for local sale and also for export. Residents also expressed that the Old Milk Factory located near the Muschette High School could be renovated and used as a Food Processing Plant.

The Trelawny Parish Council could facilitate the leasing of government owned lands to the residents who are interested in starting small businesses or do some farming. Basic ground provisions and other foods could be planted and sold at the Wakefield Market which would prevent residents from travelling to Falmouth or Montego Bay. Additionally, lending agencies such as Peoples Cooperative Banks, Jamaica Social Investment Funds, Jamaica National Small Business Loans or private investors could be approached for capital.

d. Built Environment

Vision Statement: *"To make provision for all necessary infrastructure to be in place to enhance the social and economic life of the community."*

The residents in the Wakefield LDPA agreed the roads in all the community's needs to be fixed. An effective road network would result in less wear and tear on vehicles and farmers would have better roads to transport their goods. The suggestion was made the National Works Agency and the Trelawny Parish Council to visit the communities to assess the roads and implement ways it could be fixed. They could also seek funding from partnering agencies.

A training centre could be built or an existing building refurbished in the area to help the resident become trained. Contact could be made with HEART Trust/NTA and Jamaica Foundation for Lifelong Learning (JFLL) for these persons to be certified from an accredited institution. Funding could be accumulated from agencies such as JSIF and Chase Fund to facilitate this.

There is the need for Postal Services in Deeside and Dromilly. This could be achieved by identifying a building that could be refurbished or land where a structure could be built. The residents could also contribute to the manual labour of this structure, with assistance being sourced from funding agencies or through fund raising activities.

Small industries could be created using existing structures that are available even if they are in need refurbishing. These industries could include a Pepper Processing Plant, or a factory that uses the fruits in season to make for example jams, jellies, juices and chutneys. These industries would contribute to the structural development of the communities and also provide employment for residents within these communities.

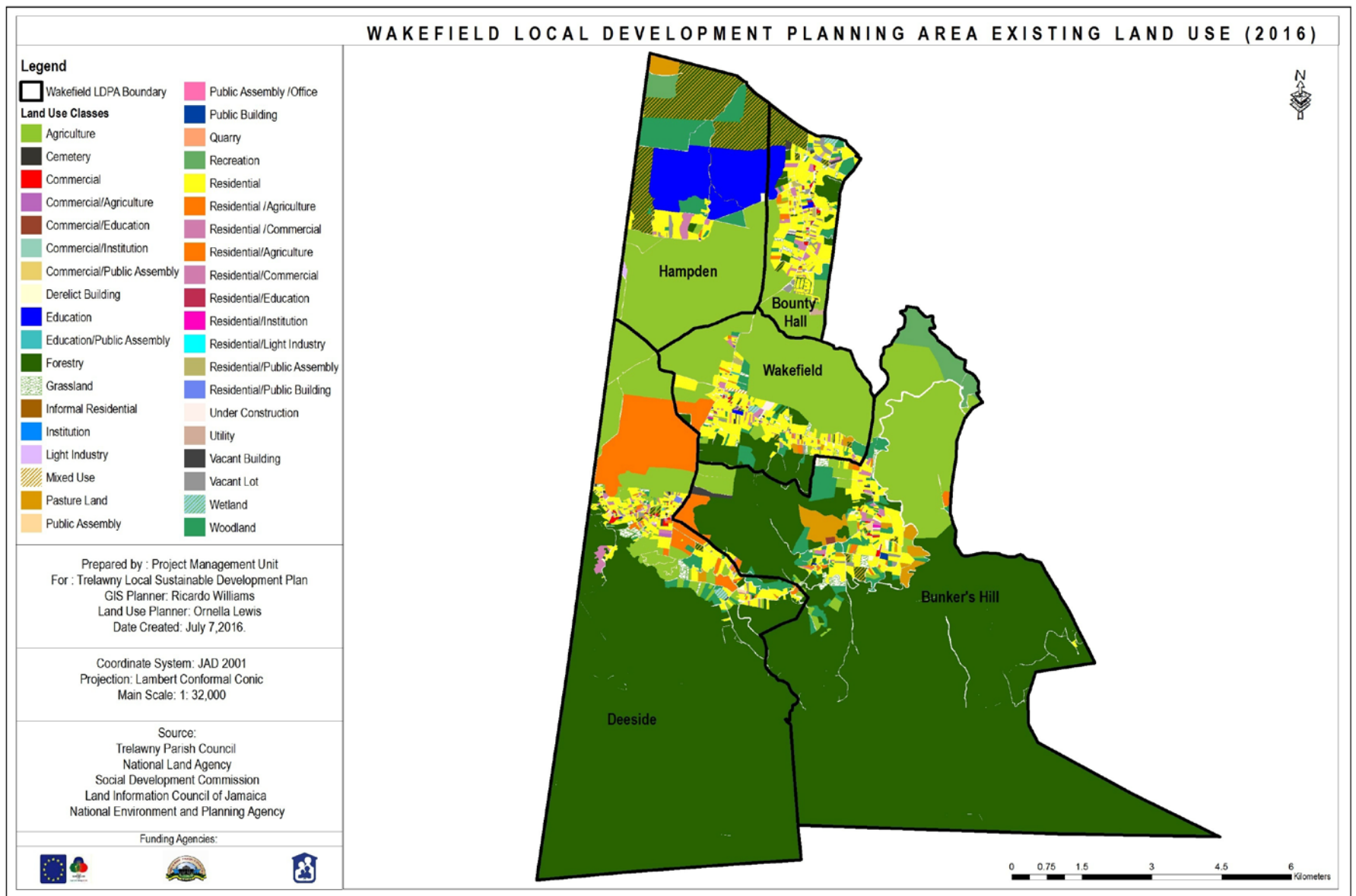
In order to improve the collection of garbage in the LDPA, residents suggested garbage skips be placed at strategic points in the communities. In addition, a regularised garbage collection schedule is needed from NSWMA.

5. Existing Land Use

This section focuses on the existing land use within the Wakefield Local Development Planning Area analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying three elements of land settlement which are: character, pattern

and distribution, after which recommendations may be made to govern and preserve the “existing and future” use of land of the settlement or region.

DRAFT



Map 13 Wakefield Local Development Planning Area Existing Land Use (2016).

ULSTER SPRING
LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY
LOCAL SUSTAINABLE
DEVELOPMENT PLAN: 2030 & Beyond



DRAFT

9.4 ULSTER SPRING LOCAL DEVELOPMENT PLANNING AREA

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5. Existing Land Use

1. Overview of Ulster Spring Local Development Planning Area (LDPA)

The Ulster Spring LDPA is nestled within the Cockpit Country in Southern Trelawny and is made up of karsts limestone geological features. As a result, it has many natural features including caves, mountains, valleys, springs, rivers and lakes. The main communities include Ulster Spring, Alps and Sawyers.

Ulster Spring was once considered to be the main town in Southern Trelawny as it boasts various churches, schools, a Post Office, a Police Station and a Courthouse along with a Health Centre. However, as time progressed other towns developed and residents started seeking employment outside of the area, reducing its population. This LDPA's main economic activity is farming as it is located in the Cockpit

Country which produces mainly yam as the cash crop. Other economic activities which are done include fishing and small business enterprises.

c. Community Involvement To Date

The Ulster Spring LDPA has a relatively strong support from the residents who are a part of the communities. They assisted in the implementation of various projects to further develop the area. These Community Based Organisations includes Community Development Committees, Parent Teacher's Associations, Church Youth Groups, RADA/PMO Groups, Sports Clubs, Youth Clubs and Citizens Associations.

One project that has been accomplished with the assistance of one or more of these Community Based Organisations is the establishment of the Alps Herbal Garden Attraction in the Alps Community. It offers information on the different herbs found in the community and a tour of the community's natural resources. This project was sponsored by the Alps Community Development Committee (CDC) and Southern Trelawny Environmental Agency (STEA). Another project the Ulster Spring Water Project, was formulated which installed black water tanks at Sterling Hall through the assistance of the Member of Parliament Mrs. Marissa Dalrymple-Philibert through the CDF.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Local Sustainable Development Plan.



Welcome was done by Ms. Wellington and Ms. Lewis greeted the residents. Councillor Foster gave the vote of thanks.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Ulster Spring Today

a. Population

The table below shows the estimated population size for the communities, which forms the Ulster Spring Local Development Planning Area.

Ulster Spring Local Development Planning Area	
Communities	Estimated Population Size
Ulster Spring	1260
Sawyers	950
Alps	464
Total	2674

Source: Social Development Commission, 2010

b. Projects

The following projects have been undertaken in the LDPA:

- Through the Constituency Development Fund, a water project was organised for the citizens of Sterling Hall District.
- Southern Trelawny Environmental Agency (STEA) and the local CDC organised the Alps Herbal Garden Tourist Attraction.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents were able to discuss and prioritise the issues and challenges of the

area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The residents of the Ulster Spring LDPA described the natural environment as anything original to the surroundings. They expressed there are various factors that impacts the natural environment in the different communities. One such factor is the shortage of water in households and businesses as the natural supply of water is being underutilised. The improper disposal of garbage into these natural resources pose a threat as it makes the water unhygienic for consumption. In addition, there is the issue of improper drainage system which, channels polluted water into the natural supply of water.



Mr. Edwards, the facilitator of the Natural Environment Sector group along with the presenters.

The flora and fauna of the Cockpit Country are severely affected by the slash and burn practices and the cutting down of trees for yam sticks by the farmers. These contribute to the loss in biodiversity as areas are exploited at all times. It was further disclosed lack of opportunities in these communities have led to the capturing of young birds and other species of animals for economic benefits. The birds, specifically the parrots, are endemic to the Cockpit Country.

b. Social Environment

The social challenges faced by the residents in the Ulster Spring LDPA varied. The first challenge shared by the residents is the high levels of unemployment within the communities. The reason stated was the

business enterprises in the community are small and therefore has limited employment capacity. In addition, many of the residents are without a skill and there are no skills training facility available in the LDPA.

There are no community centres available in the LDPA. A community centre could be used as a computer lab, meeting space, or to host school programs, church functions and other events. The residents noted the community centres that were built in other areas are misused and improperly managed, thus it might be a challenge for the community to receive a structure.



Members of the Social Environment Sector group with Mr. Williams the facilitator and a resident as the presenter.

The residents expressed there are limited social spaces available in the communities for recreation. There is a playfield in the community of Ulster Spring but it is in a poor condition as the grass is always unkempt and some areas of the field is a part of a wetland. As a result, flooding is experienced when it rains heavily. The communities of Alps and Sawyers are without playfields.

There is also the need for a Fire Station or a Sub-Station in the LDPA or within close proximity in Southern Trelawny. Residents expressed the nearest Fire Station to service the area is located in Falmouth, Trelawny or Christiana, Manchester. Due to the distance of these Fire Stations it would take at least an hour for the service units to arrive at the scene of the fire emergency.

Poor parenting among residents in the community is said to be another issue. The residents noted this is caused by the numerous cases of teenage pregnancy in the communities and the parents, especially mothers, are young and inexperienced. Additionally, there is a high level of single parent households and this provides limited supervision for the children.

c. Economic Environment

The issues and challenges connected to the economic environment in the Ulster Spring LDPA are numerous. The first and most important issue is the lack of employment among the residents. Many are unemployed and therefore have no sustainable means of providing for themselves and their family. The main economic activity taking place in the Ulster Spring LDPA is farming. However, not everyone is interested in farming and there are limited options to choose from. This therefore leads to the other issue faced - brain drain. All due to the limited employment opportunities that are available within the communities, therefore skilled persons have to migrate to seek employment elsewhere.

Some of the roads in the communities are inaccessible, especially those leading to the farmlands. This is due to poor maintenance of roads that once existed, which has resulted in the farmers finding it gruesome to traverse to and from their fields. There is also the lack of social amenities in the LDPA. This therefore hinders economic development as it discourages external investors.



Ms. Poyser led the discussions in the Economic Environment Sector group.

The residents also expressed there is a lack of cooperation among the residents in the communities. Individuals or groups have proposed ideas and activities that could have benefited the communities, however due to the lack of unity and corporation these plans have been unsuccessful.

There is the genuine lack of collaterals to access the services offered by financial institutions. They expressed if they are interested in operating a small business and need a loan it is difficult for them to acquire it. This is due to the requirements needed to access these services.

d. Built Environment

The residents of the Ulster Spring LDPA face many challenges in regards to the built environment as there is the lack of many social amenities. There is no Postal Service in the community of Ulster Spring, as a result, the residents have to travel to different communities to collect their mails, PATH benefits, pensions and other benefits. This has proven to be difficult, especially for the senior citizens as some of them do not have the taxi fare and the physical strength to travel to these areas.

There is also the issue of an unreliable water supply system in the communities within the LDPA. Residents complained some of them have access to potable water and at times the supply is very inconsistent. The community of Sawyers is without piped water, however a catchment tank is located in the community that the residents use to access water. This water however, has to be boiled and treated properly before it can be consumed.



The residents who were a part of the Built Environment along with Ms. Luton and the presenter.

The residents expressed playing fields are needed at the schools. They noted if the schools have an area that may be used as a field then the community members would be able to access to it when school is out of session. The residents in the community of Sawyers use the playing field that is located at the primary school but they would like to have additional recreational space for the community. This space could be used to host football matches and other fund raising events and activities.

The roads in the communities are in a poor condition. It was noted when the National Water Commission repairs pipelines along the roadways, trenches are left that are not repaired in a timely manner. In addition, the drains are not properly maintained and cleaned, which are blocked with debris. As a result, whenever it rains, the water is redirected onto the roads and deteriorates them.

There is a shortage of facilities to assist the physically challenged. They expressed a Basic School was recently built in the area and none of these facilities were put in place. Ramps could be built for students/residents who are physically challenged in order for them to have easy access to agencies and institutions as needed.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"To create unified communities that provide job creation and foster social and economic development while maintaining and properly utilising all vital natural resources".*

a. Natural Environment

Vision Statement: "A community in which citizens work together and are action oriented to maintain and properly use all vital natural resources".

The residents expressed their pride in living in and around the Cockpit Country with its natural resources. To mitigate the issue of a water shortage, a suggestion was made for the current water system/reservoir to be upgraded, sanitised and maintained so that the residents can have access to water. Additionally, there was an appeal for public education, enforcement and recycling to decrease the level of pollution of the natural water sources.

The flora and fauna of the Cockpit Country is in need of protection. The residents recommended public education programmes be used to decrease the level of exploitation. Mention was made of the positive contribution by the Windsor Research Centre and the many benefits that may be derived from proper education, research and marketing of the region. The residents proposed the Cockpit Country be advertised as a Tourist Attraction and this would be beneficial to the community, the Parish and the country. This would also decrease the threat of deforestation, soil degradation, loss of bio-diversity and the prospects of bauxite mining. Dr Pauline Foster-Grant, the Councillor for the Ulster Spring Division, reassured the residents that the mining of bauxite in the Cockpit Country is unwelcome as it will only take away from the grandeur that exists.

The Tourist Attraction could also include site seeing and stop-over tours which could reap economic benefits. The natural caves in the communities are also an asset and tours could be offered about the historical significance of the areas.

Councillor for the Albert Town Division, Mr. Lloyd Gillings informed residents that RADA was once approached to provide sticks made from plastic and other materials as an alternative to the cutting down of the trees. However, informing the public of the relevance of the Cockpit Country and reforestation is key. Documenting, researching and livelihood projects as encouraged by the Ulster Spring Women's Group as ways to get involved and share information and awareness. Some projects included; bee keeping/aviary, pepper planting, and reforestation. These projects can positively impact the community and if they are sustainable other areas could be encouraged and the negative activities discouraged.

In addition to these aspirations, the residents expressed they could engage proactive environmental agencies in developing action oriented plans to preserve the Cockpit Country and its natural resources. This would require their actions and guidance as it relates to certain rules and regulations and following up on proposals made.

b. Social Environment

Vision Statement: *"To create a united community that fosters social and economic development."*

The residents of the Ulster Spring LDPA are aware that in order to reduce the challenges with unemployment, the health centre in Ulster Spring could be upgraded to a hospital. This could provide employment for residents within the communities. Entrepreneurship could also be encouraged for persons to venture towards various small business enterprises. Additionally, skills centres could be established or an increase in the variety of courses offered. The residents suggested courses such as catering and housekeeping be done in Ulster Spring at the Methodist Training Centre as the building once offered the service but is in need of repairs. The Alps Primary and Infant School, which will be closed in September 2016, could be used as a food processing plant that specialises in fruits and ground provisions or as a training centre that offers Mechanical Engineering affiliated courses.

As it relates to the community centre, residents suggested a possible location- the old Public Works building that is located at Ulster Spring be used. This building could be renovated and the necessary

equipment put in place. Due to the fact that previous centres in other areas were misused, the residents noted in order to attract the interest of the funding agencies, a detailed proposal should be developed on how the facility will be used and managed.

The residents identified few plots of lands that could be used as social spaces in the communities. The residents of Alps currently play games on a plot of land that is located across from the Alps New Testament Church of God. However, the community is in need of a more established and functional playfield. In the community of Sawyers, the land beside the Sawyers Basic School that is believed to be State Owned or Port Kaiser owned may be acquired to facilitate the community playfield.

There is an urgent need for a Fire Station/Sub Station in the Ulster Spring LDPA. To address this issue, the residents in the LDPA suggested a station be placed in the area. The old Parish Council structure that is located behind the Library in Ulster Spring could be the location for this service. However, this building need to be renovated.

The issue of poor parenting in the communities may be alleviated with the help of parenting workshops/seminars being hosted in each district within the different communities. This would allow for a greater interaction among the residents and presenters. In addition, the churches may be encouraged to become more involved in facilitating counselling sessions to parents and children who are encountering problems or referrals be made to professional counsellors.

c. Economic Environment

Vision Statement: "To create infrastructure for training, and job creation, through community based organisations to build a better tomorrow".

Unemployment is a challenge that plagues every community. The residents noted the promotion of self-employment may help to decrease the high levels of unemployment in the Ulster Spring LDPA. Persons can learn and practice the art of entrepreneurship, which would provide employment for themselves as well as others. The main source of income for the community is agriculture and more persons could be encouraged to experiment with different types of farming as there are lands available for leasing.

The residents are aware that proper representation is needed from Trade Unions and other agencies. If this is in place then the prices for produce could be stabilised and markets could be created for these products.

Community Based Organisations may seek assistance from funding agencies such as CHASE Fund, Jamaica Social Investment Fund and other agencies to assist with repairing the roads in poor condition. The residents who are interested in entrepreneurship but find it hard to access loans from financial institutions can apply to other funding agencies who offer loans and grants for assistance.

d. Built Environment

Vision Statement: *“United we stand, divided we fall, build together to achieve a better sustainable environment for one and all.”*

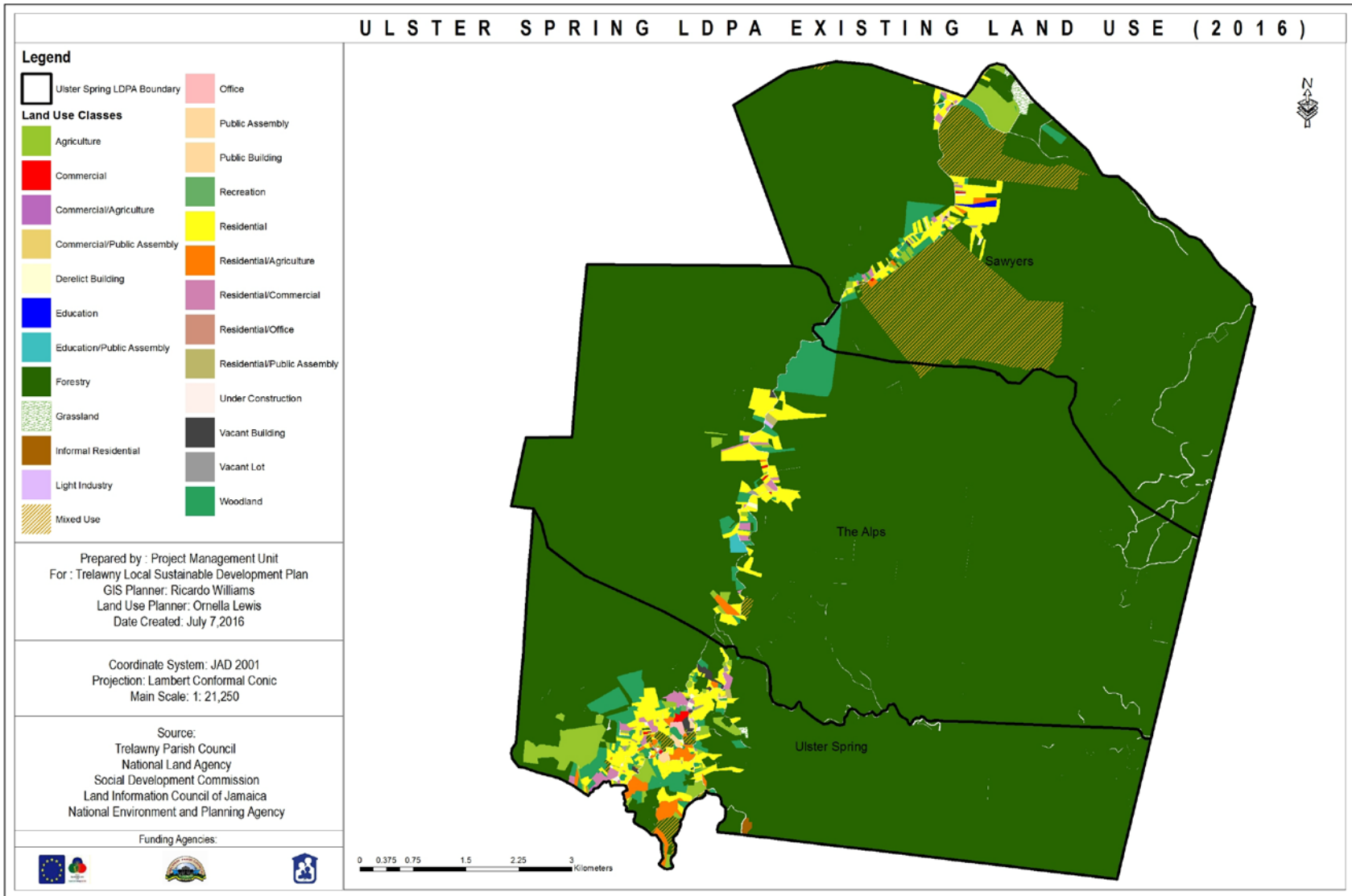
The residents suggested in order to address the water supply issue faced, they could acquire plastic water tanks, drums and a proper water catchment to harvest rain water. Water can be stored in clean buckets and plastic containers to be used during dry seasons. The Government also offers assistance in subsidies to purchase black tanks so persons should seek information about the process and make an application. The residents could also ensure they properly manage and maintain the water supply systems.

The residents suggested they contact funding entities such as Digicel Foundation to establish playfields in the different communities as they are associated with improving sports facilities and activities. Contact may be made with the Member of Parliament to assist in acquiring funds from the Constituency Development Fund.

The roads in the communities are in urgent need of repairs. The residents decided they could unite and seek assistance from the Member of Parliament, Councillors and Caretakers for materials to temporarily fix the road surfaces. National Water Commission could also be contacted to find out the progress of getting the roads resurfaced after their projects have been completed.

5. Existing Land Use

This section focuses on the existing land use within the Albert Town Local Development Planning Area analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying three elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the “existing and future” use of land of the settlement or region.



Map 14 Ulster Spring Local Development Planning Area Existing Land Use (2016).

FALMOUTH

LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY

LOCAL SUSTAINABLE

DEVELOPMENT PLAN: 2030 & Beyond



9.5 FALMOUTH LOCAL DEVELOPMENT PLANNING AREA

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 - d. Built Environment

1. Overview of Falmouth Local Development Planning Area (LDPA)

The Falmouth LDPA is located in the North Western section of the Parish of Trelawny and hosts the chief and capital town. It has a total of nine districts and two major housing developments. Formerly, the town of Falmouth was considered one of the leading sugar producing towns in the island but is now controlled mainly by tourism and a few other sectors. The Tourism Sector plays an important part as it serves as a main thoroughfare between two (2) other Tourism Hubs; Ocho Rios and Montego Bay. The town is considered one of Jamaica's Tourism Mecca due to the recently established Falmouth Historic Cruise Port.



The Trelawny Parish Courthouse in Falmouth.



Pedestrianised area in Water Square.

Falmouth is considered one of the Caribbean's best preserved historic towns as it still hosts historic Georgian architecture buildings and has many historic sites. This therefore adds to the rich variety of styles of the built environment. The natural environment is also very diverse as it is the home of many species of flora and fauna whose habitation is in the mangroves.

The Falmouth LDPA is the home of Trelawny's Multipurpose Stadium known as the Greenfield Stadium which was established in 2007. This venue hosted the opening ceremony of the 2007 ICC Cricket World Cup along with other cricket matches and the Jamaica Jazz and Blues Festival. The famous Outameni Experience is one of the attractions that was operational within the LDPA. In addition, it has three (3) of Trelawny's largest housing developments; Florence Hall Village, Stonebrook Vista and Stonebrook Estate.

a. Community Involvement To Date

The Falmouth LDPA is one which has many Community Based Organisations that are actively involved in the development of the area. They have lobbied with partnering and implemented various projects. Some of these include Youth Groups, Citizens Associations, Parent Teacher's Associations, Service Clubs, Non-Governmental Organisations, Support and Volunteer Groups, Neighbourhood Watches and Benevolent Societies.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the

Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.



A few members of the Trelawny Parish Council.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Falmouth Today

a. Population

The table below shows the estimated population size for the communities, which forms the Falmouth Local Development Planning Area.

Falmouth Local Development Planning Area	
Communities	Estimated Population Size
Falmouth	9812

Source: Social Development Commission, 2010

b. Projects

The Falmouth Gardens Citizens Association with funding from Kingston Restoration Company (KRC) embarked on a project in 2010 to tile the classrooms and office space at the Falmouth Gardens Basic School. Assistance was sought from the Environmental Foundation of Jamaica to fence a green space located in Falmouth Gardens. The Trelawny Basket and Things Association undertook a project to empower a total of 250 persons through Art and Craft with funding from the Jamaica National Building Society in 2008.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents discussed and prioritised the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The natural environment is recognised as a fundamental asset and its protection is essential to our continued health, high quality of life, and future development. The elements of the natural resources; air, water, soils, plant and animal life, agricultural lands, forests, geologic features, and scenic areas should be protected from degradation. There are various issues that affect the natural environment of Falmouth. One such issue continuous flooding in majority of the communities. The residents outlined whenever it rains heavily, the water run-offs from Wakefield and other communities that are situated on a higher elevation is channeled into all the communities in and around Falmouth. In addition, several streets in Falmouth become flooded within a short period, especially along Cornwall and Tharpe Street.

There is the practice of improper garbage disposal which leads to high levels of land pollution. This happens in all the communities but especially in Falmouth in the gutters and drag line and at the White Bridge where the Martha Brae River meets the Caribbean Sea. This is an additional cause of the flooding that happens in these areas as the buildup of garbage blocks the drains and culverts. In some instances the poor garbage collection schedule contributes to pollution in the town.



The Natural Environment Sector group of the Visioning Workshop.

Dumping of the wetlands within the Race Course area is a pressing issue. The residents explained several years ago they were told to refrain from land reclamation of the wetlands but all effort has proven futile. Residents have complained they need to construct their homes and businesses as such there are no alternatives in selecting another location. Another issue is the destruction of the mangroves especially in Falmouth where they are being cleared and the land reclaimed for the continuous development of informal settlements. The residents expressed they are aware of the importance of the mangroves as they not only help in preventing soil erosion but also provide additional benefits for the natural environment. In that they provide breeding and nursery for a variety of marine animals and purify the water by absorbing impurities and harmful substances and help us to breathe a clean air by absorbing pollutants in the air.

There have been instances of overfishing along the shores. It was expressed that the fishermen in the area engage in illicit and harmful fishing practices and fail to adhere to the many guidelines which govern fishing. The fish population is being affected and this has disrupted the ecosystem. Another issue is the erosion of the coastline that is situated along the Rock main road which has been eroding for many years and residents are fearful of the possible hazards.

b. Social Environment

There are various social issues that are faced by the residents in Falmouth. One such issue is crime and violence as there have been increases in criminal activities such as robbery and murder in the area. Limited employment opportunities within the LDPA is an issue that plagues most of the residents as some of them are trained and certified but their skills are not being utilised.



The Social Environment Sector group expressed their issues and challenges within the LDPA.

The town is a Parish capital there could be more infrastructures and structures available to prevent the residents from traversing to St. James or neighbouring Parishes. There is the need for recreational spaces, proper parking and supermarkets in the town. Residents expressed they would love to have access to fast food franchises as they could also assist in offering scholarships, sporting activities and entertainment.

The residents complained the social services offered are very poor and are sometimes not accessible. Problems are uncouneted problems when trying to collect their PATH benefits from the Post Office at sometimes at the Hospital and Health Centre in Falmouth. The Fire Station is also located in Falmouth town centre but the residents expressed the response time is very poor and slow in the past and much damage have occurred at the scene of fires and other emergencies.

Lack of unity is also an issue that the residents face. They stated if there was more corporation among themselves the area would have been more developed and progressive. There is also the lack of support from business owners in the town of Falmouth. Majority of the business owners are not concerned with the affairs of the town and are not willing to make significant investment. The residents in the LDPA complained about the high levels of teenage pregnancy, which is seen as a result of improper guidance, lack of attention and poverty. This is linked to the next issue which is that of poor parenting. Majority of the parents in today's society are young and inexperienced and have different priorities. Therefore, they are not fully aware and fully capable of raising children, which leads to high youth delinquency and poor youth involvement in the area.

c. Economic Environment

The issues and challenges connected to the economic environment in the Falmouth LDPA are numerous. The first issue that was expressed is that of the loss of employment in the fishing industry. As a result of environmental degradation caused by recent development along the coasts. One such development was the expansion of the Royalton Hotel in Coopers Pen. This has led to a significant decrease in the fish population and as a result, the fisher folks who used to depend on fishing from these areas have to find alternatives.



The Economic Environment Sector group discussed the visions for the LDPA with Councillor Wilkinson of the Division. There is also lack of employment opportunities for residents which is as a result of the lack of a vibrant productive sector especially in the town of Falmouth centre. The residents noted for a capital town, Falmouth is lacking a variety of productivity and development which could provide employment and generate income for the Parish. In addition, it could also decrease the levels of brain drain that the area faces.

The LDPA lacks adequate infrastructures and structures to attract investment in the town. The residents expressed the need for some beautification projects to enhance the Georgian style architecture visible in the historic town. In addition, some of the infrastructures and commercial spaces need expansion and upgrading. There are limited supermarkets and few designated recreational spaces available. There is also the issue of improper garbage disposal in the town. On some days the town is filled with garbage at most corners as there are a minimal amount of drums and skips provided. This is seen as a hindrance in attracting internal and external investors into the town.

Parking in the town is a major issue. There are no designated parking spaces as such persons find it inconvenient to do business in the town. The Trelawny Parish Council provides limited permit parking at a cost of fifty (50) dollars per hour. The commuters especially demand the town be fully developed with proper, safe and effective parking spaces.

Majority of the residents in Falmouth work outside of the town and Parish, mainly in neighbouring Montego Bay and Ocho Rios. As a result, they tend to do their transactions in these areas, which generate income in these other Parishes and not in Trelawny. One reason for this is food and services are more expensive in Falmouth than in these other towns and there is the access to some relevant businesses and adequate parking are made available.

There is a culture of dependency that is dominant in the LDPA and was explained in two-folds, as some residents are solely dependent on tourism as their only source of income. Majority of the residents were dependent on the establishment of the Cruise Pier to reap benefits and to their disappointment they now feel neglected and cheated.

The town of Falmouth has a Heart Trust/NTA Vocational Training Centre unlike many towns in Trelawny. However, there is an issue as residents expressed some of the training is irrelevant in regards to the demand within the job market. They expressed majority of the training is geared towards the hotel industry and should be diverted to incorporate other sectors. The other issue is that there are too many challenges faced in starting businesses. They noted the financial institutions requirements are unrealistic to access small business loans and there are too many processes associated.

d. Built Environment

The residents of the Falmouth LDPA explained the built environment speaks to infrastructures, buildings, construction and man-made things. They agreed there are various challenges as it relates to the built environment. One such challenge is the poor road conditions in all communities. These roads have a lot of potholes and are in urgent need of resurfacing as patching only makes the roads conditions worse.

The drainage system in the LDPA is poorly maintained, especially in the town centre of Falmouth. They are blocked with garbage, bush and other debris and therefore contribute to the flooding of the town whenever it rains. In addition, the drains are open and therefore expose the residents to accidents and to the stench

that the blockage produces. The mangroves also contribute to the stench that is a result of decomposing organic matter.

The residents in Cooper's Pen complained about the construction of the hotel along the coast that is destroying the mangroves. They are also faced with the issue of informal settlements that needs to be regularised along with poor housing structures in Coopers Pen. The district of Retreat Heights has been experiencing consistent water leaks along the roadways and the residents expressed that representatives from the National Water Commission have made visits to the area and assessed the damage but nothing has been done.

The town of Falmouth and its surroundings are in need of an effective garbage collection schedule from the NSWMA, as the current schedule is inconsistent and unreliable. There also needs to be garbage skips at designated areas in the town. The residents shared it is disturbing and unsightly to see and smell the garbage piled up in the town especially in the early mornings. Consideration needs to be given to the fact that the town is frequently visited by tourists from the Cruise Ships and the garbage has been discouraging them from exploring in the town.



The Mayor Councillor Wilkinson and the Secretary/Manager Mr. Palmer participated in the Built Environment group.

There is a lack of facilities to accommodate the physically challenged persons in the area. There is need for ramps and lifts to be placed at various areas especially at the places of interest in the town, thus providing access to these essential services.

The residents expressed there is a lack of recreational facilities and activities in the town to entertain both the residents and visitors. There is an urgent need for these facilities as residents have to travel to other Parishes to access recreational activities. In addition, there are vacant lots that are overgrown with shrubs and is a threat as it encourages criminal activities and acts as a habitat for rodents.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"To create peaceful, educated and economically developed communities for today's and tomorrow's generations."*

a. Natural Environment

Vision Statement: "To live in a beautiful, healthy and non-toxic environment where our children and grand children will learn to appreciate, enjoy it, to take care of it and not take it for granted."

In order to address the issue of flooding, some suggestions were made by the residents. Firstly, there needs to be proper water channeling and drainage systems in all communities. All the new housing developments should be organised with proper drainage facilities to alleviate the occurrences of flooding. Water channels and drains must be carefully maintained and cleaned on a regular basis. Additionally, land terracing and reforestation could also be introduced for residents who reside on a slopes and hilly areas.

Pollution was also an issue that the residents faced and one solution is the enforcement of strict laws where persons who are caught disposing garbage improperly are heavily fined. This fine could also be increased and enforcement officers be placed to monitor activities. Another suggestion was the waste be used to generate income. A recycling plant could be established and the recyclable waste be collected at a central location and transported to the plant. These products may be used for different purposes, for example, the recycled tires could be used to decorate kindergarten schools and day care facilities and as planters for flowers.

In order to minimise the reclamation (dumping) of lands, partnerships may be formed with the Police, Trelawny Parish Council and the National Environment and Planning Agency. Community policing may be implemented by the Parish Council along with the Police to monitor the affected areas and ensure that it does not continue. Public education must be used to reform the mindset of the residents so that they can be informed on the effects of dumping and how they can help to address it.

The National Environment and Planning Agency could embark on a campaign through workshops and seminars to educate the fisher folks on ways to reduce over fishing and the effects of it. Additionally, the relevant authorities should impose penalties on those who fail to adhere to the laws and regulations.

The erosion of the coastline located in Rock community is an issue that needs to be mitigated. The residents suggested that rehabilitation or some remedial work could be undertaken to stem the challenge and prevent any long term impacts that may be encountered. The Mayor of Falmouth Councillor Garth Wilkinson explained the Trelawny Parish Council is currently awaiting the allocation the necessary to commence some work in the said area.

b. Social Environment

Vision Statement: *"To create peaceful, educated communities embraced with tranquility and unity with affordable housing and social services in order to improve opportunities."*

The residents in the Falmouth LDPA are aware of ways to decrease the occurrences of crime and violence in the area. Community policing should be encouraged and the presence of the Police needs to be felt in the area and their intervention is needed at all times as required. Workshops may also be arranged to motivate and encourage the youths to become more involved and refrain from engaging in criminal activities. More employment opportunities are also needed in the area so that persons may be able to have a source of income. There is also the need for more street lights in all areas in the LDPA as the streets are dark and residents are at risk and are targeted.

Unemployment is one of the major issues the residents face and as a result, majority of the residents work outside of the Parish. They residents expressed in order to increase the level of employment in Falmouth, factories may be established to help provide employment. Another suggestion was that various agencies and schools could host job fairs in the communities to provide persons with information on career choices and the qualifications needed and where they can access it. Entrepreneurship can be encouraged as there are persons who have ideas about starting their own business but need guidance. There could also be different skills training centres in the town that offers different skills from HEART Trust/NTA. A suggestion was made to use the building that is opposite from the University of Technology, Jamaica office. This

centre could provide training in electrical, plumbing, mechanic, graphic and clothing designs and cosmetology.

Majority of the families who reside in Falmouth are single parent families and that is said to be the main reason for the high levels of poor parenting. The residents suggested workshops and counselling sessions could be organised by agencies such as Social Development Commission, Child Development Agency along with local Community Based Organisations. These could involve mentorship programs where older parents could guide the younger ones. Parents could be educated about child care and how they could react to situations that involve children, especially teenagers.

c. Economic Environment

Vision Statement: "Falmouth to be the leading town in economic development, creating wealth by using its natural and human resources to maximise its potential."

The economic environment of Falmouth may be improved if certain steps are taken. One step is an organised craft market could be established in the town. Presently, one is at the Falmouth Pier but is restricted to persons who have access to visit. It was expressed that some of the fishermen are also Artisans as such for persons who have lost their major economic gain could benefit from this venture. In addition, those individuals who are dependent on tourism could also benefit. Attractions could also be identified and marketed so that more persons would be interested in visiting the town. These would allow for an influx of tourists to reap other economic benefits.

The town of Falmouth has the potential to attract external investors if the major authorities such as the Trelawny Parish Council takes some initiative. One such initiative is that the town of Falmouth could be used as a resort town and reap more benefits from the Cruise Pier. The location of the town could also be used as an advantage as it is situated between two major resort towns which are Montego Bay and Ocho Rios. Additional hotels could be established in close proximity and therefore provide employment along with the other investments. In addition, the growth in population from the new housing developments could also be used as a factor in attracting investment. The town could be rebranded and basic infrastructures such as parking and recreational spaces among others be established.

As it relates to training, the residents suggested higher certification from institutions could be offered. The University of Technology, Jamaica has an extension in the town, therefore other tertiary institutions could have campuses or extensions as well. This would offer a wider variety of training and certification for persons. Additionally, those who are working could attend evening classes and upgrade their qualifications.

d. Built Environment

Vision Statement: "Improving history, capturing the future."

In order to address the issue of poor road conditions in Falmouth, the residents suggested the National Works Agency, the Trelawny Parish Council and developers could lobby among the citizens to get the road fixed. The citizens in the different areas could offer their labour to fix the road if the material are provided by stakeholders. The drains and culverts should also be carefully built to accommodate water from heavy rains without flooding the roads. Additionally, there needs to be proper maintenance of these infrastructures by both the residents and the stakeholders.

As it relates to the improper drainage system in the town of Falmouth, residents suggested these drains be covered. The relevant agencies such as the Trelawny Parish Council, National Works Agency, Urban Development Corporation and others could be contacted. In addition, the town centre needs to be consistently washed and cleaned to rid the stench that is plaguing the town. The National Solid Waste Management Authority could be contacted to ensure this is done effectively and efficiently.

The destruction of the mangroves in the Cooper's Pen area is an issue that needs some attention as the natural environment is being affected. The residents suggested that they could lobby with the National Environment and Planning Agency and the Trelawny Parish Council to intervene as they are responsible for development control in the Parish. The Southern Trelawny Environmental Agency (STEA) could create more awareness as to inform residents about the purpose of the natural flora and fauna and the environmental impacts of destroying them.

The residents also decided there is a need to educate persons about proper garbage disposal methods and the effects of improper garbage disposal. In addition, the National Solid Waste Management Authority could propose an effective schedule so that residents are abreast of changes and updates.

A suggestion was made to renovate the Victoria Park that is located on Rodney Street to facilitate more interaction among adults and youths. A sports centre with a gym could also be constructed for individuals who are sports oriented. A museum could also be established at one of the buildings that are already in the town as Falmouth is known for its history. Another suggestion was made to create a mini park across the Pier where shoppers could rest, persons take could a stroll or just sit and watch the cruise ships and enjoy the scenes of the town.

Salt Marsh - Falmouth Local Development Planning Area Extension

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1. Overview of Salt Marsh Falmouth Local Development Planning Area (LDPA) Extension

The communities of Flamingo, Davis Pen, Wiltshire, Greenside and Salt Marsh within the Salt Marsh Falmouth Local Development Planning Area Extension are located along the coast on the outskirts of Falmouth town centre. A part of the North Coast Highway runs through and alongside the communities,

which provides easy access to the neighbouring Parishes of St. James and St. Ann. The communities are a part of the Salt Marsh Bay that has low topography with low elevations.

a. Community Involvement To Date

The level of community involvement has been strong over the past decades. Within each community of the LDPA, there are active Community Based Organisations, namely Community Development Committees, Citizens Associations, Police Youth/Sports Clubs, Church Groups, Farmers Groups and Parent Teacher's Associations. These organisations along with stakeholders have undertaken fundraising activities and have implemented various projects that have been beneficial to the area.

In February 2010, the Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.



Councillor Service for the Division had discussions with the community members. Ms. Lewis and Ms. Poyser.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Salt Marsh Today

a. Population

For the Salt Marsh Falmouth LDPA, the estimated population is one thousand one hundred and fifty-five (1155) persons. The table below shows the estimated population size for the communities, which forms the Salt Marsh Falmouth LDPA Extension.

Salt Marsh - Falmouth Local Development Planning Area Extension	
Communities	Estimated Population Size
Salt Marsh	1155
Total	1155

Source: Social Development Commission, 2010

b. Projects

The following projects were undertaken in the community:

- Signage for community was installed by the Salt Marsh Community Club.
- The Salt Marsh Parent Teachers' Association organised the fencing project for the Salt Marsh Primary School.
- The Member of Parliament and Artisans came together and constructed the Salt Marsh Craft Village.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents discussed and prioritised the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

From the discussions, the residents complained dumping is one the main issues affecting the natural environment sector within Salt Marsh and its neighbouring communities. It was noted the residents

themselves are disposing their garbage along the old main road, which is located along the coast. These include construction waste and debris, defunct appliances and machinery all of which the standard garbage truck is unable to dispose of due to limited capacity. There are also inconsistencies in the schedule of the garbage collections, which has no doubt propelled the residents to improperly dispose of their garbage in unsuitable locations. However, these unsanitary practices encourage air and water pollution along with the infestation of insects and rodents, which also affects the residents.

The residents are experiencing air pollution, which is due to the burning of coal for household purposes and for sale as well as the burning of garbage. Many of the households engage in animal rearing and there are odour complaints from the livestock and poultry farms as the stench at times is unbearable. There were complaints about the Jamaica Aggregates Plant also located in the community which contributes to the pollution as it releases toxic and dangerous gases that is hazardous to the residents.



Mr. Edwards and members of the Natural Environment Sector.

With the increased demand for fire coal, the residents are cutting down the trees for the burning of wood as well as for yam sticks thus deforestation is rapidly taking place. In some areas of the communities, the trees shrubs are being cut down for beautification projects and for home security reasons.

The community is located in the Martha Brae Watershed and as such the mangroves are being destroyed to facilitate construction and other activities thus the natural habitat is being destroyed. This has seriously impacted the natural environment as the area has become more susceptible to flooding and other natural disasters. With the coastal area being in close proximity to the area, the beaches are affected by erosion and pollution due to the improper disposal of garbage.

Persons who reside within close proximity to the sea are affected by sewage which drains along the shore as well as when the beaches are being visited by persons, due to lack of toilet facilities the waste is

disposed of on the beaches. The gullies in the LDPA are not cleaned on a regular basis as a result they are blocked with debris and garbage and whenever it rains heavily the garbage pollutes the communities and ends up along the shoreline of the beach.

b. Social Environment

The Social Environment refers to the immediate physical and social setting in which people live or in which something happens or develops. Within the LDPA and as noted throughout the Parish, the main issue is of unemployment among adults and youth. This is mainly due to the global economic crisis which has severely limited the job opportunities locally and nationally as well as lack of investments by residents; those in the public and private sectors. Some of the required skills and knowledge that are required in order for youths and adults to access job opportunities are lacking among the residents, therefore contributing to high levels of unemployment.

The residents explained that there are little or no social spaces in the communities, such as the communities lack parks, few or no entertainment facilities or community centres for the young people. This creates disunity amongst community members, with a few wanting to engage and participate in community activities and programmes.



The members of the Social Environment Sector and Mr. Williams as the facilitator.

Some of the community members are also at odds with each other mainly because of the economic levels, that is, in Flamingo and Wiltshire more are returning residents and in Salt Marsh and Davis Pen there are local residents. Hence, the issues and challenges faced by the residents from Salt Marsh and Davis Pen residents are quite different from those expressed by the Flamingo and Wiltshire residents. This has also contributed to disunity among the residents.

The primary school in Salt Marsh gets little support from the community and its members as such many parents and guardians send their children to schools in neighbouring communities. The school's infrastructure is also in dire need of upgrading and proper maintenance. Additionally, it was reported the students' performances are low, even though there have been few improvements recently.

As expressed by the citizens, there have been reports of high incidences of robbery and break-ins in the LDPA on the unoccupied lots. Other issues included the following: high levels of teenage pregnancy especially in the Salt Marsh and Davis Pen area; the response time from the Fire Department and Police is usually very lengthy and fire hydrants are needed throughout the communities; in Salt Marsh and Davis Pen there is need for affordable housing solutions and residents also claimed there is a lack of representation from the Member of Parliament.

c. Economic Environment

Among the issues and challenges that were discussed, high levels of unemployment were seen as a major issue among adults and youths. The limited availability of job opportunities is one of the main contributing factors, even though few persons choose to remain unemployed rather than take jobs that are available. There is also lack of real growth within the economy as it is not able to meet the demand due to rise in population; as such people are becoming jobless among other factors.



Ms. Poyser took note of the issues and challenges faced in the Economic Environment Sector.

There is a growing demand for skills among youths and a greater demand for education. Within the LDPA, a high percentage of youths that are unskilled was noted and this is an issue the communities are faced with. Today the job market demands increasing skill levels and knowledge as many jobs that were once considered unskilled labour now demand semi- or mid-skill labour.

The issue with garbage is being experienced throughout the Parish. The unreliable garbage collection by the NSWMA has been severely affecting the residents as well as in some areas of the LDPA the garbage is not collected. The residents have therefore been improperly disposing their garbage in the gullies and along the coastal areas, which contributes to pollution and contamination of the natural resources. It therefore has negatively impacted the economic possibilities for the area as investors and tourists are not interested in participating in ventures that would increase economic growth of the area.

Illiteracy among adults and youths increase present and future socio-economic vulnerability. These persons face serious employment issues, due to their low level of knowledge and expertise. This is attributable to lack of formal schooling, difficult living conditions, including poverty and learning disabilities such as dyslexia etc. Additionally, some of the illiterate persons in the LDPA have little awareness of their rights and duties and may be inclined to accept low-quality employment jobs.

d. Built Environment

The main issue facing the communities in this thematic area is that of poor and deplorable road conditions. The residents complained about the huge potholes and broken pipes along both the main and parochial roads, which make it very difficult to commute. Potholes cause significant damage to a car's suspension system and/or tires if the driver fails to avoid them. These issues are severely being experienced along the main roads in the districts of Salt Marsh, Davis Penn, Wiltshire, Greenside and Flamingo as well as in the remaining districts in the LDPA. The road network is not being properly maintained by the relevant authorities as well as there are limitations of road construction.



Ms. Luton along with Councillor Service and the participants of the Built Environment Sector.

Improper garbage disposal in the LDPA is seen as an eyesore as well as it poses a serious threat to the environment. Along with the unreliable garbage collection system of the NSWMA, residents are left with

uncollected waste that clogs the drains and gullies causing flooding during heavy rains. There are also limited among of garbage receptacles within the communities that contribute to problem.

The lack of community centres and playing fields for the residents in the communities of Scarlett Hall, Flamingo and Comfort Hall have left the members struggling. These facilities are seen as vital in the LDPA so that all children, young people and adults may be encouraged to engage in games and sport. Access to these facilities not only help to promote a more healthy lifestyle, but they also serve as a focal point to build community and team spirit, and give people a greater sense of personal pride, tolerance, and appreciation of the local environment.

The residents have an issue with the highway and its adjoining roads within the LDPA as the design and construction is considered to be not completely safe. A few of the road conditions; lack of appropriate road markings, confusing, damaged or missing signs, overly bright lights or lack of night-time lighting, lack of traffic signals or poorly placed signals and blind curves and poorly banked roads, contribute to car accidents and other road fatalities.

Electricity is used not only for lighting and household purposes, but it also promotes wealth creation. However, electricity has not been supplied to the homes in the community of New Town, which is a limitation as some of their activities are restricted to daylight hours.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"To create an environment that is clean and environmentally aware, an educated workforce with safe and structurally sound infrastructures for our children and elderly".*

a. Natural Environment

Vision Statement: *"An environment that is clean, with children that are environmentally aware, educated and properly monitored."*

Regarding the illegal dumping of garbage and other waste along the roadways and coastal areas, the residents suggested they all come together and form a civic group. This civic group would assist in public awareness activities where those individuals who are engaging in dumping will become more informed of the consequences of their actions on the natural environment. It was also requested that when such reports about the issues encountered are made to the relevant authorities they act swiftly to address them.

Public awareness was seen as the solution to the issue of air pollution, where the individuals become more informed of the harms of burning their waste and coals. Regarding the businesses in the area who are contributing to air pollution, it was suggested they be relocated as it is difficult for the residents to remain in the area amongst all the pollution.

As a suggestion by the residents, it is time to undertake the replanting of trees and mangroves that were cut down for coal burning as this would help to retain top soil and control erosion within the area. Through reforestation projects, the watershed along the Martha Brae River would be restored as well as the wildlife and natural habitat would be conserved for endangered and threatened species. Therefore, with the replanting of the trees and mangroves in the long term would aid in mitigating climate change.

The area is in need of a proper central sewage system to control how sewage is disposed of, as well as proper toilet facilities should be in place to facilitate the patrons who are utilising the beach and coastal areas. Regarding the blocked gullies, it was suggested that the relevant authorities regularly clean and maintain the gullies and other drainage areas especially before the rainy seasons begin. It is also the responsibility of the residents to properly dispose of their garbage in a sustainable manner and not in the gullies.

b. Social Environment

Vision Statement: *"An educated, united and peaceful LDPA working together, to achieve social and economic well-being."*

In addressing the issue of unemployment, it was suggested social programmes be implemented to inform residents on how to take advantage of the resources that already exist within the communities. For example the HEART Trust/NTA and the Jamaica Foundation for life Long Learning (JFLL), as social and technical skills are said to be lacking.

At Scarlett Hall there is an ideal piece of property that could be developed into a bird sanctuary which would offer employment opportunities to local residents and also serve as a tourist attraction. Residents may also lobby for the development of the beaches in Wiltshire and Scarlett Hall as these areas have the potential for such attractions, and it would also help to provide employment for local residents. It must be noted that for such developments a license must be granted along with a full time life guard. Additionally, residents would have to volunteer to clean and maintain the bathroom facilities and host fund raising events to help with the financial aspects.

With the lack of open spaces, firstly the residents have to identify and utilise the spaces that are already in existence within the Local Development Planning Area. One such location is the Salt Marsh Primary School which has a parent room as maintenance and utilities have to be considered. This facility could also be utilised as a community centre. There is also need for a central amphitheatre that could host concerts, wedding and other social events. Other social facilities such as gazebos and ice-cream shops would be essential.

The Salt Marsh Primary School's infrastructure needs to be upgraded and this may be done as a Labour Day project due to the fact that Government funds are understandably low and the Political Representatives have limited funds. Residents may also seek sponsorships from local businesses as well as the groups who normally fund these annually events.

Importantly, parents must see themselves as stakeholders who should contribute to uplifting the school and its community. The Past Students' Associations and active community groups may also undertake projects to help in this regard. Public education and awareness are means to educate parents on how their involvement could help to alleviate the challenges faced by the school. As it relates to the students' performances, after school programs may be implemented to help the weaker students and a home work centre with programmes could also be set up.

c. Economic Environment

Vision Statement: *"An enlightened, educated work force existing in a clean and safe community especially for our children and elderly."*

The focus of the discussion was directed on how to increase employment or decrease unemployment in the LDPA. Due to the fact that the LDPA is located along the coast that boasts beautiful and scenic beaches, it was suggested that the beaches and coastal areas be developed to accommodate activities and projects that would boost economic growth. It would be beneficial to encourage both local and international investors to participate in micro businesses and entrepreneurship opportunities. It was suggested residents capitalise on attracting a portion of the tourism market that is being offered by the newly developed Cruise Pier in Falmouth, as well as a craft market may be constructed in the area.

Regarding the issue of unskilled youths, additional training facilities and programmes need to be offered by the HEART Trust/NTA that would offer specific courses that are in demand within the job market. With the improper disposal of garbage, the NSWMA and Parish Council need to be contacted to help address this issue. The schedule for garbage collection has to be properly maintained and monitored by the respective agency as well as additional garbage receptacles need to be strategically located and properly secured to prevent them from being stolen and vandalised. The social and community groups in the communities may also establish committees to maintain and follow-up on these activities.

The Ministry of Education has implemented a few programmes which are targeted at eradicating illiteracy. However, within the LDPA some of the residents do not have access to such programmes as such it was suggested JFLL establish an extension of their facility as well as the churches and social groups could participate and make an input.

Overall, it is the view of the residents that the lack of leadership is one of the major problem within the communities which has created a nonchalant attitude towards community development especially among the youths. It was suggested that employing the services of community members who have an avid interest in community development, be utilised to engineer opportunities for enhancement and growth.

d. Built Environment

Vision Statement: *"To build safe, clean, accessible and structurally sound infrastructure."*

In addressing the issue of poor and deplorable road conditions, contact should be made with the NWA and Parish Council as they are the agencies responsible for the construction and maintenance of road

networks. The residents along with the social groups in the LDPA could also organise activities and projects to fix the roads as well as to follow-up with the Agencies regarding this issue.

As suggested, the NSWMA should regularise their garbage collection schedule to facilitate the communities as well as to provide an effective system. With public awareness activities geared towards informing the residents of the impacts of improper garbage collection, would be beneficial. The relevant authorities should also impose penalties for such acts that degrade the environment.

The communities without a community centre or playing fields may utilise the schools and churches to host their meetings and activities, until a structure is constructed or secured. When these facilities are in place, (with the residents help and ongoing advice), social and community groups would be able to generate enough future funding to keep their community playing fields and buildings in good condition so they can be used more often. This would ensure they remain a focal point for community sport and community spirit that would benefit potentially thousands of children and adults in the LDPA for years to come.

In many instances road markings along the highways and road ways are as important as road signs, as they offer information about the roads being travelled and the actions drivers should or should not be taking. There is a wide variety of materials available for such markings and these include paints, cold applied plastics, thermoplastic, self-adhesive tapes, and raised pavement markers often using special glass beads (retroreflective beads) to improve night-time visibility. Retroreflective road markings bounce light from a vehicle's headlights back towards the vehicle and the driver's eyes, meaning that signs and markings appear brighter and easier to see and read. As such, the NWA should be contacted and the other agencies involved in the road construction to address this issue.

Regarding the issue of no electricity, it was suggested contact be made with the respective Political Representatives (Member of Parliament and Councillor) to provide funding from the allotted Constituency Development Fund (CDF) and to continue dialog with National Energy Solutions formerly Rural Electrification Programme (REP) for communities such as New Town that is without proper electrical infrastructure. It was also encouraged that community members have a working relationship with the Councillor for the Division.

Granville – Falmouth Local Development Planning Area Extension

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1. Overview of Granville – Falmouth Local Development Planning Area (LDPA)

The Granville community is an extension of the Falmouth Local Development Planning Area and consists of communities such as Daniel Town, Martha Brae and Granville. It is located on the outskirts of Falmouth, the capital town of the Parish. The terrain of these communities is mostly undulating with natural features such as gullies, wells, ponds, caves and forested areas, and boasts the Martha Brae River - the main river in the Parish. The main economic activities in this area include farming, small business enterprises and tourism. Martha Brae is well known for its recreational activity “Rafting on the Martha Brae River”. Two high schools namely William Knibb Memorial and Holland High School are located in the community along with Infant and Primary Schools, churches, factories and other infrastructures.

a. Community Involvement To Date

There are various Community Based Organisations in the community, which helps to keep the residents actively involved in the improvement of the area. However, many of them have been dormant over the years. Some of the active ones include Youth and Football Clubs, Citizens Associations, Church Groups and Parent Teacher's Associations.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able achieve in twenty (20) years' time.

2. Granville Today

a. Population

The table below shows the estimated population size for the communities, which forms the Falmouth Local Development Planning Area.

Granville – Falmouth Local Development Planning Area Extension	
Communities	Estimated Population Size
Granville	1554
Martha Brae	2087
Daniel Town	781
Total	4422

Source: Social Development Commission, 2010

b. Projects

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents discussed and prioritised the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The natural environment is described by the residents as one that includes all living and non-living things that occurs naturally on the earth's surface. It incorporates the interaction of all living and non-living things. Deforestation is said to be one of the many challenges that affects the natural environment of Granville. This is the clearing of forested areas for farming practices and for the construction of housing solutions. One effect of this practice is there is an alteration in the breathing cycle as oxygen will be reduced and carbon dioxide increased. The trees in the environment produces oxygen for human consumption while absorbing the carbon dioxide that humans exhale. When they are destroyed the carbon dioxide imbalance will help to alter the climatic pattern of the region and increase global warming, which the residents are encountering. Another effect is there is a loss in the biodiversity of plants and animals and their habitats when the trees are destroyed.



Residents of the Natural Environment group at the Visioning workshop. Ms. Wellington and Ms. Lewis shared a laugh.

The practice of coal burning in the area is another challenge that the residents face. This is done for economic practices as residents burn the coal to sell as an alternate energy to gas. One effect of coal burning is it increases air pollution with the smog that is emitted into the atmosphere and causes an increase in the carbon dioxide and other harmful gases which also contributes to global warming. Another

effect is it pollutes the natural water bodies with the pollutants from the burning and cooling process. Coal burning also has health risks as it causes respiratory illnesses such as asthma and bronchitis.

The area also suffers from severe flooding which is caused by blocked drains in the community and poor farming practices. Additionally, surface run off along with silts from other communities that are situated on higher elevations are washed into the communities and block the roads and drains. This is a major problem in the District of Zion which is prone to flooding due to its location. The main road leading from Granville to Martha Brae also tends to accommodate the settling of water after heavy periods of rain. The residents expressed they are aware flooding can replenish nutrients to the soil over a period of time but one negative effect of it is that it results in the damage to infrastructures such as roads and bridges. Another impact of flooding on the area is a loss of vegetation especially for farmers who depends on farming for a living.

Soil erosion is also a challenge the residents faced, where the top soil is worn and is caused mainly by deforestation and poor farming practices. One effect of soil erosion is it removes the top soil where the rich nutrients are stored which are vital for the sustenance of plant life. The quality, structure and texture of the soil could also be affected.

b. Social Environment

The residents were concerned about the lack of piped water especially in the district of Texas in Daniel Town. It is said there are existing pipelines available but they are in need of repairs in order for the pumps to transfer water into these areas. Additionally, when there are broken pipes in the areas that have access to piped water, the NWC takes a long time to repair them and the water is wasted. The water pressure in some areas is very low and sometimes the water pumps do not work well. This limits the amount of water the residents have access to.

Unemployment is a major issue that faces majority of the residents in the communities. There is a lack of job opportunities even for the individuals who are trained and qualified. As a result, many of them seek jobs in other countries, Parishes and communities that contributes to brain drain. There are also high levels of teenage pregnancy which they noted stems from the issue of poor parenting. The residents also complained there is a lack of representation from the Political Representative for the area which has left many of the residents disgruntled.



Participants of the Social Environment group were engaged in vibrant discussions.

There is a lack of unity within the communities which the residents observed is due to the lack of respect for each other. This is said to be a prevalent issue in the Daniel Town area. The residents noted that there is a genuine lack of interest and motivation especially among the young persons in the area. Additionally, previous community meetings were held by other organisations and no results were brought forth from them. This has left many of the members unwilling to attend and participate in community activities and events. There have also been reported incidences of petty crimes such as break-ins and hold-ups in some of the communities. The residents explained when this happens mainly in areas with inadequate and malfunctioning streetlights. They also expressed when such cases are reported the response time of the Police is very in effective.

The community centres in Granville and Daniel Town are being underutilised due to the lack of social and entertainment activities. The community centre in Granville is in need of maintenance and repairs as it has been vandalised on numerous occasions. The youth clubs are also dormant and there are many young persons in these areas to facilitate a vibrant youth club. However, due to poor leadership along with the lack of unity, integration and respect, the past youth clubs have failed. The playing fields in the communities are also in need of upgrading. The residents expressed the Granville area is known for its involvement in sporting activities; cricket and football, therefore a better playing field would be beneficial to them.

c. Economic Environment

The economic environment of Granville is one that experiences many challenges. The major challenge they face is that of high levels of unemployment. The residents were concerned that majority of the young

persons within the community are sitting idly as they have nothing to keep them active. The communities are at an ideal location which is in close proximity to the capital towns of Falmouth and Montego Bay, as such the area has potential for growth. However, there are a few job opportunities in the Parish, hence majority of the residents either migrate or work in the neighbouring Parishes of St. James and St. Ann.

According to the residents, the area lacks economic activities. They argued recreational activities such as sports could be used as an income generator for small organisations and entrepreneurs. There is also a lack of business enterprises as well as a lack of vibrant productive sector in the area. There is said to be a dire for more local shops, stores and other small businesses in the area, especially in the communities of Granville, Zion, Green Park and Martha Brae. They noted that these will attract more income and provide employment for some of the unemployed residents. It will also uplift the area and attract external investors.



Ms. Poyser facilitated the Economic Environment group along with Councillor Service for the Division.

The Parish of Trelawny is affected by illiteracy and the residents in Granville are aware that this area is largely populated with persons who are illiterate and this is an issue that needs some attention. This was noted as one of the main reasons why so many of the residents are unemployed as they are not equipped with the required qualifications. Additionally, there is a lack of certification opportunities for the skilled persons within the communities, as some are currently employed and unable to further their education. Some of these residents believe that they would be able to earn more income if they receive higher certification.

d. Built Environment

The roads in the communities are in deplorable conditions, especially the main roads in Granville and Daniel Town that are in urgent need of repairs. It was said the road leading to the Granville Place of Safety is one of the worst roads in the area and it can provides limitations in the ability of emergency units to

access the facility and the communities. The residents expressed these roads are in need of total resurfacing as the insufficient patching in the short term is not effective. The roadways are also in need of bushing as there are overgrown trees and shrubs narrowing the roadways and limiting access. This poses a security issue for the residents as the areas where there is overgrowth are usually very dark.



Community members contributed their visions during the discussions of the Built Environment group.

Improper drainage system is an issue that affects most communities in the Parish. The residents expressed blocked culverts and drains is an especially when it rains as it leads to flooding of the roads. Broken pipes along the main and parochial roads is also an issue that the residents would like to be addressed urgently. For the residents a basic amenity such as water, which is lacking in many areas should not be wasted. As the leakage from the pipes also contribute to the poor road conditions.

The garbage collection system by the National Solid Waste Management Authority (NSWMA) is one that is very unreliable and inefficient. The residents expressed the schedule is irregular and changes very often. As a result, some of the garbage is not collected as those without drums prefer to take out the garbage on the collection day to hinder it from being scattered by animals. There is also a lack of skips and garbage receptacles in the area. They suggested if these were available they could dispose of their garbage in them and the truck collects it from there. This is said to be one of the reasons for the large instances of illegal dumping in the area.

There are various infrastructures in the communities that are in need of repairs. It was said the equipment from the community centre have been stolen and destroyed so it is in need of some repairs. The Granville Primary School is also in need of repairs and new classrooms as the school currently has a limited capacity. It was also noted that there are two bridges in the Daniel Town area that are in urgent need of attention as they are on the verge of collapsing. This has made it unsafe for motorists and pedestrians to

traverse and children in the community have to use it on a daily basis. Additionally, this area is without a postal agency as such a building is needed to host this important facility. The Martha Brae Cemetery is in need of upgrading and expansion to increase its capacity.

The town of Falmouth has limited capacity and space for development as it is surrounded mainly by wetlands. As a result, it needs to be expanded to incorporate the plans for the Greater Falmouth Redevelopment Plan which was spearheaded by the Urban Development Corporation and other agencies. This includes the relocation of the commercial services in the town to a central and more accessible location.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"A clean and green, united and progressive community that is economically stable, with sustainable infrastructures."*

a. Natural Environment

Vision Statement: "A clean and green, fertile and free of flooding and a fruitful environment."

Deforestation is a major problem that affects the natural environment of communities. The residents aspired in order for this issue to be altered there needs to be careful monitoring of the forested areas to reduce large amount of clearing. The cutting down of trees should also be balanced by the replanting of the same kind and amount of trees that were destroyed. Proper enforcement should also be in place by the relevant environmental agencies and those who are in violation of the laws should be charged. Residents could also be educated on the importance of trees and how destroying they will affect the current and future generation.

Coal burning needs to be controlled. One step that could be taken is to advice the relevant environmental agencies of these activities and where they are occurring in order to implement sanctions to eliminate it and enforce them. The replanting of trees is another step that could be taken as they are being destroyed for

coal burning. This would lessen the impact of global warming. Another step that could be taken is to assist the residents in finding alternative sources of income to coal burning such as the rearing of animals among others.

In order to address the issue of flooding in Granville the residents suggested community work days be organised to clean the drains and culverts that are blocked. This could be done on a regular basis or near to and during the rainy seasons. Methods to control soil erosion could also be developed. Terracing and reforestation projects could be done in these areas to control the amount of silt that is washed away when it rains.

The final issue that the residents faced in the natural environment was soil erosion. In order to control it they suggested that the community could implement a "Plant a Tree" project. This could counter the deforestation that helps to loosen the soil and contribute to soil erosion. Additionally, better farming practices could be introduced and reinforced to farmers through educational programmes. Agricultural agencies such as RADA could have workshops to show these farmers way they could farm to prevent soil erosion.

b. Social Environment

Vision Statement: *"A united supportive community having access to social amenities with vibrant Youth Groups."*

The residents noted that with the implementation of the following solutions, they can assist in eliminating the social challenges which they face. Daniel Town is without piped water and the suggestion was made to fix the pipelines and pumps that serves the districts in this community. Councillor Phillip Service for the Division Daniel Town needs a proper and reliable connection to the major water supply system. A meeting could be arranged with the NWC to address all the water issues and challenges faced. A letter could be written by the Community Based Organisations and signed by the residents and the Councillor to arrange this and frequent follow-ups made. Additionally, the possibility exist where a water plan might be presented by Rural Water Supply in the near future to address the water problems.

In order to increase the level of unity among the residents it was suggested a result-oriented approach must be taken. The politicians have a great influence on the lives of the residents and they need to unite

with the communities in order to ensure the future plans for the Parish are successful and implemented. Health fairs and sports competitions could be used as a method to integrate communities. One of each could be held in different communities and invite all the other communities to participate. Business owners and private investors could be approached to source sponsorship for these events and activities.

The community centres that have been closed as they have been underutilised and it was requested they be reopened and the one in Granville should be repaired. The Political Representatives in collaboration with the Community Based Organisations could seek funding from funding agencies to offset the cost of the repairs. Community leadership workshops could be held and motivational speakers invited to present on the importance and benefits of youth groups in communities. Sporting competitions could also be held and the different youth clubs from the Parish invited. This would foster integration among the communities and encourage the revitalisation of dormant clubs.

c. Economic Environment

Vision Statement: *"A united, safe and progressive community that is economically stable."*

High levels of unemployment is a major economic challenge the residents encounter. In order to address this issue, the residents made a few suggestions. One such was that the high schools could encourage and assist graduates in applying to universities, colleges, training centres and other tertiary institutions immediately after leaving high school. Entrepreneurship must also be encouraged. Financial institutions could visit the communities and inform residents on how they are able to access grants from agencies and how they can effectively use these grants. They could also seek funding from government agencies to start their small businesses. Councillor for the Martha Brae Division, Phillip Service emphasised the residents must think outside the box and utilise existing resources. They should venture into different activities other than farming and corner shops establishment. A resident suggested he make proposals for a Solar Water Heater assembling plant in the area as this will provide employment opportunities.

To generate income from recreational activities it was suggested that Community Based Organisations such as the Sport Clubs could host matches and involve teams from within the Parish to enter. A fee could be charged upon entry and persons invited to set up booths to sell items. The lack of business enterprises within the area is one issue that could be solved if public education is undertaken to inform the residents of

loans and grants that are available to start businesses. They should also be informed on how to access small business loans from institutions such as Jamaica National and Access Financial Services that offer affordable interest rates. Proper monitoring of these services must be undertaken as sometimes persons access loans but fail to adhere to the rules and regulations of the institutions.

The residents also gave suggestions on how to control the issue of illiteracy and the lack of certification. It was proposed that the educated community members could volunteer to assist the other residents in improving their basic reading and reasoning skills as some of them are reluctant to attend the Jamaica Foundation for Lifelong Learning (JFLL). The current community centre could be upgraded to accommodate this venture. HEART Trust/NTA offers on the job training and certification as such residents and their employees may be encouraged to contact the agency on how best they can receive their certification while working. A resident suggested the skilled persons in the communities teach the younger generations some of the skills that they have acquired.

d. Built Environment

Vision Statement: *"To focus on providing better and sustainable infrastructures and other structures to facilitate the expansion of the Greater Falmouth Development Area".*

The poor road conditions in the communities are in need of repairs. The residents suggested the elected Political Representatives for the area lobby on behalf of the residents to source funding to resurface the roads. The National Water Commission and the National Works Agency should also be contacted and a meeting held to discuss the digging up of the road for pipe repairs. The residents also explained they are aware that working together and raising funds to fix and maintain the roads will help to address this issue.

The Political Representatives and community groups could again lobby for roads to be properly bushed and the drains cleaned in the community. The NWA could also be contacted to find out if these infrastructures could be repaired and in what time frame. The residents could arrange work days to clean the drains and culverts to help to reduce the flooding. Dialogue could also be made with the National Water Commission to fix the broken pipes and all the leaks in all the areas.

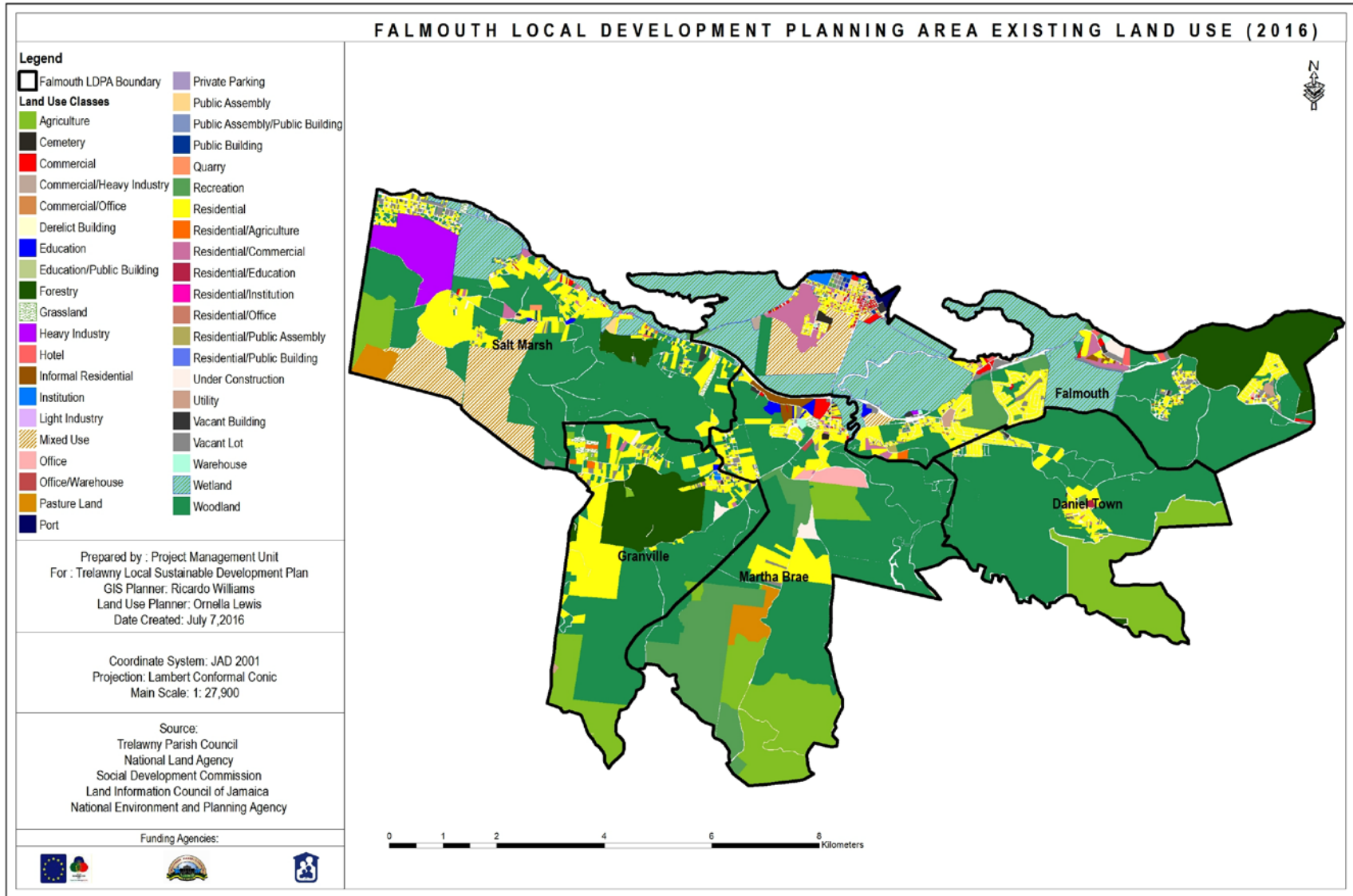
The National Solid Waste Management Authority is the agency with responsibility for the collection of garbage so they could be contacted to solve the issue. They could provide a collection schedule so the residents can be informed of the days when the garbage will be collected in those communities. However, if there has been a change in the schedule then contact should be made to the Councillor or a community group to inform the other residents of the changes. Garbage receptacles could also be requested from the NSWMA to be placed at designated points in each community.

In order to repair the various infrastructures some steps would have to be taken. The Member of Parliament could be contacted to source financial assistance from the Constituency Development Fund to upgrade the playing fields and the community centre in the area. Effective maintenance of these structures must be done in order to prevent them being degraded. The Past Students' Association along with the Parent Teachers' Association from the Granville Primary School could host a fundraiser to assist with the repairs to the school and to construct new classrooms. The Trelawny Parish Council along with NWA could be contacted to undertake to the broken bridges in the Daniel Town area.

In order to facilitate the Greater Falmouth Redevelopment Plan, the residents suggested a few relocations could be done. They suggested the town of Falmouth be expanded to other communities that are not surrounded by wetlands. These could include the surrounding inland communities Martha Brae and Daniel Town. This would prevent further dumping of the wetlands to accommodate the construction of buildings.

5. Existing Land Use

This section focuses on the existing land use within the Falmouth Local Development Planning Area Extension analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying three elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the "existing and future" use of land of the settlement or region.



Map 15 Falmouth Local Development Planning Area Existing Land Use (2016).

WAIT-A-BIT

LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY

LOCAL SUSTAINABLE

DEVELOPMENT PLAN: 2030 & Beyond



9.6 WAIT-A-BIT LOCAL DEVELOPMENT PLANNING AREA

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1. Overview of Wait-A-Bit Local Development Planning Area (LDPA)

The communities within the Wait-A-Bit Local Development Planning Area are located on the edge of the Cockpit Country and is considered to be the major gateway to the Cockpit Country yam producing belt. The area borrows its namesake from the wait-a-bit thorn, a plant said to have been brought to Jamaica by African slaves. In addition to the town's unique name, the area is beautiful and green, serene with hilly views of the Southern Trelawny countryside.

The main economic activity within the LDPA is farming and the area is known for its beautiful rivers and fertile soil which results in lush vegetation, a wide variety of fruit trees and the cultivation of many different

crops. The main settlements within the area are; Wait-A-Bit, Wirefence, Joe Hut and Lorrimers and overall the communities are very safe with very low crime rates.



A scenic view of the terrain in the Wait-A-Bit LDPA.

a. Community Involvement To Date

The level of community involvement has been strong over the past decades. Within each community of the LDPA, there are active Community Based Organisations, namely Community Development Committees, Citizens Associations, Police Youth/Sports Clubs, Church Groups, Farmers Groups and Parent Teacher's Associations. These organisations along with stakeholders have undertaken fundraising activities and have implemented various projects that have been beneficial to the area.



The community members of the Wait-A-Bit LDPA are in attendance.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Wait-A-Bit Today

b. Population

For the Wait-A-Bit LDPA, the estimated population is nine thousand two hundred and thirty-nine (9239) persons. The table below shows the estimated population size for the communities, which forms the Wait-A-Bit LDPA.

Wait-A-Bit Local Development Planning Area	
Communities	Estimated Population Size
Wait-A-Bit	3793
Wirefence	697
Joe Hut	771
Lorrimers	3978
Total	9239

Source: Social Development Commission, 2010

b. Projects

The Wait-A-Bit Youth Club has carried out various community projects most of which have been centred on the basic and primary schools. Projects implemented include painting, clean up days, a sign for the basic school, back to school fairs among others. In the Wirefence community, the Sweat Hill /Thompson Town Water Improvement Project was done which facilitated the expansion of reservoir. The Lowe River Primary and Junior High school embarked on a farming project and student welfare project.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents were able to discuss and prioritise the issues and challenges of the

area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The Natural Environment is everything in the environment that is not man-made, including living and non-living things. At the workshop the residents expressed the issues and challenges faced which included the following:

- There is no proper land management system in place in the Lowe River area. Majority of the land is owned by the Government and is leased to the citizens. Some of the lands in the area are affected by deforestation and land clearing, which pose a threat to biodiversity. The poor land management issues have an effect on the carbon cycle as well as the effect of climate change on the tropical ecosystems.



Mr. Edwards, as the facilitator along with the members of Natural Environment Sector group.

- The resources are not fully utilised in the area by the citizens. In order to survive in today's society, residents should make use of our natural resources and it was noted, numerous lands are available, which possess lush forested areas, rivers and natural springs. Also, there is the beautiful warm tropical climate that is generally good all year round.
- The practice of unsustainable farming practices by the citizens has been negatively impacting the area, as when practiced without care, these practices present the greatest threat to species and ecosystems. Examples of these improper practices are slash and burn, which cause deforestation, soil erosion and degradation and addition of toxins to the rivers and springs causing contamination and pollution.

- A stated by the residents, the burning of garbage is a major problem as it is not being collected and this has left the citizens with no alternative. This situation causes problems such as soil contamination, surface water contamination, air pollution which contributes to health defects and issues.

b. Social Environment

One of the main issues the residents face is associated with water. It was argued there is no piped water in the districts of Joe Hut and Green Town. In Litchfield and Wait-A-Bit the pipes are laid but there is no water. The reason for this is the pump by the dam at Green Town has been out of service and the reservoir at Litchfield needs to be cleaned and repaired.

As noted throughout the Parish, the communities in the LDPA are also experiencing high levels of unemployment due to numerous factors. Firstly, job opportunities are limited. As was stated within the area there is no processing plant to manufacture by-products of yam and other ground produce, which are cultivated on a very large scale and could possibly contribute to economic growth. The absence of a skills training facility poses a challenge as some of the youths and adults in the area with the ability and drive to work are not properly certified therefore, they are not able to find suitable employment opportunities.

The citizens who engage in farming activities, are been severely affected by praedial larceny. As such, they are not pleased with the Rural Agricultural Development Authority (RADA) as they are not doing enough is not done to increase public awareness and implement penalties.



The community members of Social Environment Sector group along with Mr. Williams and Councillor Patmore.

Not having access to a fire station, fire hydrants and hospital in the Southern Trelawny area is a major challenge for the residents, as during emergencies these services have to be provided by the neighbouring Parish of Manchester. Within the area there are no libraries, no parks nor community centres, which limit interaction and community involvement. The current Post Office in Wait-A-Bit lacks an assistant to the Clerk as it serves numerous surrounding communities and its structure needs to be upgraded.

c. Economic Environment

Within the Economic Thematic Area unemployment among youth and adults is seen as the main issue. This is due to lack of available jobs in the area, as well as some who are qualified are not able to find suitable jobs, which meets their qualifications. On the other hand, some persons are equipped with a job but there were complaints of receiving limited salary.

The overall country and its communities are losing intelligent and technically skilled labour through migration, which is termed as 'brain drain'. With the limited jobs available, these persons have relocated to apply their knowledge and skills in an environment that is more favourable. Also with only a few jobs available in the Parish, person have to search for job opportunities outside of the Parish which is challenging.



Councillor Patmore and Ms. Poyser with members of the Economic Environment Sector group.

The lack of a skills training facility that would provide and empower learners with technical skills is a challenge. Many unemployed persons in the communities have acquired the basic education but lack sufficient skills and certification to access jobs. The lack of quality trainers and training institutes has stifled growth, as was noted a skill shortage is evident in every sector of the economy.

The high costs associated with the production of crops affects the farming communities, as the prices that farmers receive for their commodities and other products depend on supply and demand factors. In the LDPA the total loss encountered due to praedial larceny and other farm theft is undetermined. However, this an issue that has been affecting all the residents for many years now.

d. Built Environment

In the LDPA, the residents stated the main challenge they are facing is that of not having water in their pipes. This was also discussed above in the Social Environment Thematic Area. Other issues were discussed, included the need for a public cemetery as the residents resort to backyard burials which requires permission from the Local Planning Authority.

The lack of farm roads and the deplorable road conditions is severely affecting life in the communities of the LDPA by increasing operating costs for the farmers. This has lowered production and productivity levels as the farmers are unable to access their farms, which has resulted in the high costs of transport.

Regarding poor garbage collection, there were complaints of the process being unreliable as most times the garbage is not collected. This actually encourages rodents and other pests to infest the area as well this has potential of exposing persons to related diseases.

With the lack of telephone lines in the LDPA, persons are unable to access the internet, thus limiting the ways in which they are able to communicate and interact. The current community centre has been leased and now operates as a yam house, this the residents are not satisfied with as they would like to have an active community centre where persons can interact and attend or host events. In the community of Mocho, street lights are needed.



The residents of the Wait-A-Bit LDPA discussed the issues faced in the Built Environment Sector.

Being a farming community, with the main produce being yam along with other ground provisions, the lack of a factory or an agroprocessing plant is a challenge. In cases where the ground produce are in abundance and have not been sold, they could be used to create and manufacture by-products.

The residents expressed a commercial centre is needed in the area as in order to access those services, they have to travel to the neighbouring Parish of Manchester, which is sometimes not convenient. An ATM Machine or a commercial bank or a post office would also be needed.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"To live in a united, safe and healthy environment that fosters economic stability and provides sustainable infrastructure to live, work, do business and raise families".*

a. Natural Environment

Vision Statement: *"To live in a clean environment with good water source, trees, a wide range of land for farming and population control.*

The need for a proper sustainable land management system would be vital as this would help to minimise land degradation, rehabilitate degraded areas and ensure the optimal use of land resources for the benefit of present and future generations. Some examples of approaches to sustainably manage land are; soil and water conservation, natural resources management, integrated ecosystem management and a holistic approach to achieving productive and healthy ecosystems. These sustainable methods would ensure the causes of deforestation, degradation and corrective measures are identified.

Natural resources are very important for a stable economy and social development. The extraction and utilisation of natural resources, and the making of decisions concerning their use, are inhibited because technology, systems and procedures for extracting and utilising resources are not equitably distributed nor does their development respond to need. The constraints that impede sufficient utilisation of local natural resources: technological; markets and marketing (including commercial power and the response of industrialised economies); and external (such as infrastructure and long-term effects). However, in utilising

the natural resources present in the LDPA, the residents would contribute efficiently and effectively to improving the livelihoods of farmers and the residents, while at the same time the environment will be sustained to provide services for the benefit of society.

When farming operations are sustainably managed, they may help preserve and restore critical habitats, protect watersheds, and improve soil health and water quality. Therefore, public campaigns with the aim of educating the farmers and citizens about the effects and dangers of improper farming practices are encouraged. Also with the revitalisation of the live yam stick programme and the continuation of the tree planting programme, the negative impacts on the environment may be reduced.

Burning household garbage creates pollution that is dangerous to human health and contaminates the air, water, and soil. To address this issue, residents requested NSWMA develop a regular garbage collection schedule that would encourage a reduction in the burning of garbage. Also, wherever there are local garbage recycling services available, these methods should be explored as well as ways to reduce the amount of waste by the use of compost or buy items with less packaging.

b. Social Environment

Vision Statement: *"For the Wait-A-Bit LDPA to be a safe, healthy and united place to live, to work, do business and raise families."*

In addressing the lack of piped water issue in the LDPA, Councillor Patmore for the division has already installed a water supply system in the community of Lowe River. The process of installing the water pipes into homes was started to access the precious commodity, however, this project needs to be done on a larger to incorporate all the households may be assisted within the LDPA.

The issue of unemployment among the youths and adults need to be addressed in a sustainable manner in order for the LDPA to move forward. The need for a yam processing plant to manufacture by-products from yam and other fresh ground produce could be beneficial to the LDPA. The yam tubers may be processed into several by-products such as the yam flour, which is enjoyed in many parts of the island. Industrial processing and utilisation of yam includes starch, poultry and livestock feed, and production of yam flour.

The establishment of a skills training facility in the LDPA to equip young people and adults with the skill sets to improve and increase their knowledge and capability levels is needed. The focus could be on areas

of electrical installation, mechanics, home economics, information technology and carpentry (wood work). Such a facility should offer added opportunities to provide meaningful employment for the vast majority of those seeking employment, along with gradual adjustments to the skill sets of the unemployed to suit the needs of the labour demand.

The residents requested RADA become more involved to increase public awareness and implement penalties regarding the high levels of praedial larceny. Some of the farmers in the area do not have updated information on how to grow plants and vegetables efficiently and economically. Improving their knowledge of new techniques and technologies, in addition to providing them with physical resources necessary for implementation, could dramatically increase the farmers' level of productivity.

Not having fire hydrants and a fire station in Trelawny Southern are a challenge as demographic changes and widespread fire incidences indicate that a fire station is needed and could be ideally located in the Albert Town area. The fire hydrants will have to be strategically placed in the different communities. The need for the reopening of the Ulster Spring Hospital was expressed by all the residents or an upgrade of the Health Centre in Wait-A-Bit. The request for a facility to register deaths in the area, could be located on the premises of the Albert Town Post Office which is a central location in the south of the Parish. An individual could be employed to register the deaths and alleviate the stress that this causes on the poor.

c. Economic Environment

Vision Statement: "To develop a safe community which fosters economic stability through access to employment, basic infrastructure and training opportunities."

Some of the residents stated in order to curb the issue of unemployment, focus maybe directed towards self-employment opportunities that would contribute to economic growth. For example, the selling of hand-made crafts or in strengthening of existing partnerships and scouting new partnerships is a plus.

A skills training facility would be beneficial, however the relevant authorities would have to act as a catalyst in skill development by providing viability gap funding to enterprises, companies and organisations that provide skills training. The courses offered would have to be revised and directed towards programmes that are needed in the work force.

Limited research has been done on the issue of praedial larceny and its effects on producers and their livelihoods, food and nutrition security and the rural economy. Effective decision making requires a full understanding of its nature and the extent of its impact, in order to enable better design of programmes aimed at tackling the problem and mitigating against the impacts on producers and their communities. However, the establishment of community neighbourhood watches and a praedial larceny prevention unit in collaboration with the Ministry of Industry, Commerce, Agriculture and Fisheries would be valuable.

d. Built Environment

Vision Statement: *"A clean and safe environment with sustainable buildings and good infrastructure."*

As noted above, work has begun to address the issue of have not having piped water in the households in the LDPA. It was also suggested the Political Representatives engage in dialogue with the Parish Council and NWC on behalf of the citizens in making provisions to supply water to the area. With a funeral parlour in the area, a public cemetery could be constructed on Silver Street in Allsides as the location is central to all the communities and the land would be ideal for burial ground. The type of cemetery would have to be considered as the design should reflect the needs of the citizens while maintaining a sustainable design. It should also reflect the diversity of cultural practices surrounding death and how it changes over time. The need for the construction of farm roads as well as the need for road improvements to be done on the existing roads was expressed by the residents. Contact needs to be made with the Parish Council to undertake engineering works, road repairs and other infrastructure works. By allowing the roads to become more accessible, this would help to pave the way for strengthening the social and economic foundation needed to help farmers to increase or enhance their productivity and market participation.

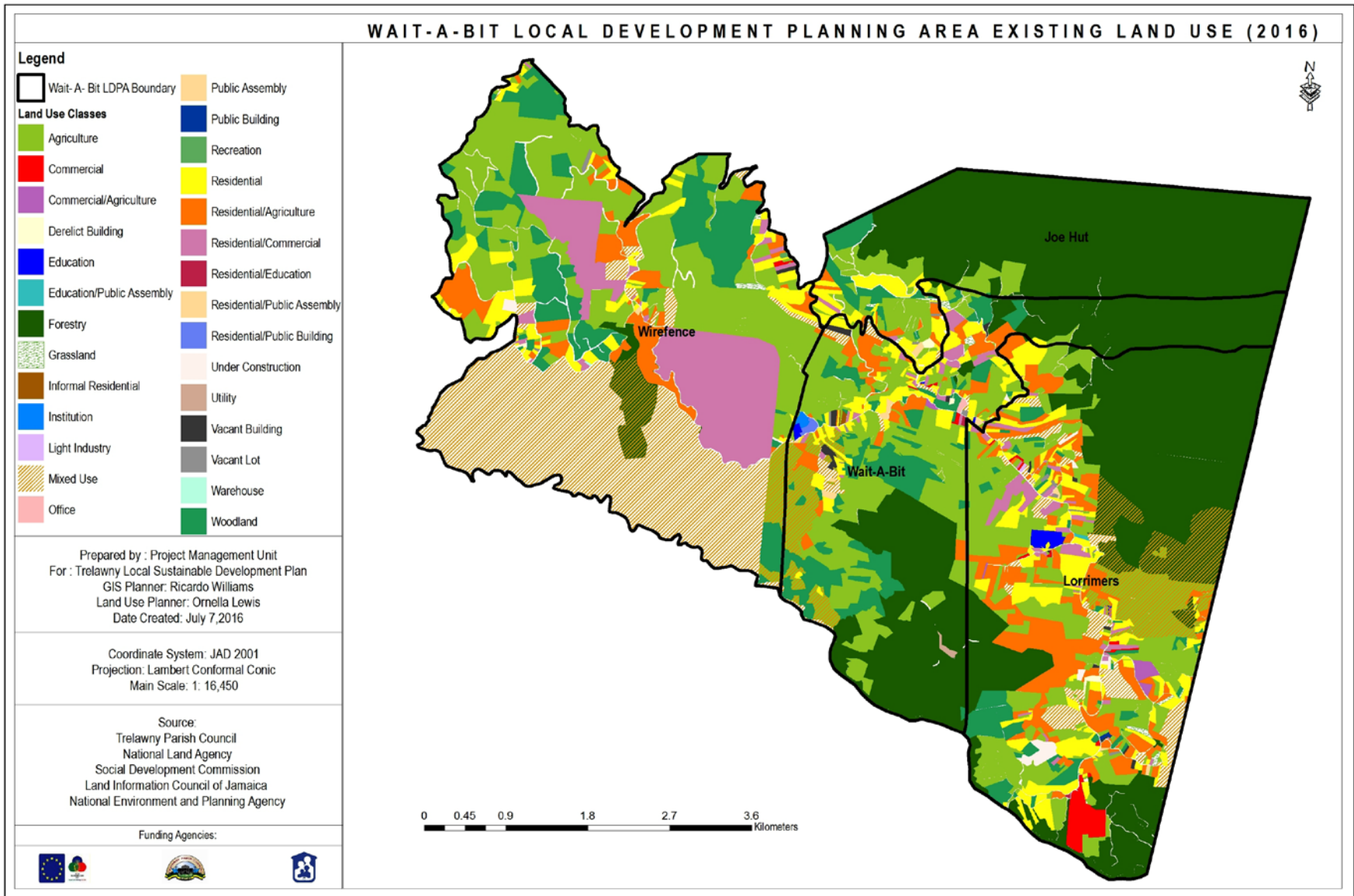
Regarding the unreliable garbage collection system, the citizens themselves made the suggestion that holes be dug to dispose of bio-degradable waste and a request be made to the NSWMA for them to regularise the schedule for the collection of garbage. Also additional garbage skips maybe placed at strategic locations for better storage.

To address the issue of lack of telephone lines, it would be ideal to perform a survey to find out the number of persons who require this service, after which the citizens could then lobby to the respective communication networks to make such installations.

The construction of a commercial centre is desired by the citizens and as on proposed, Mr. Clinton who is a member of the community is willing to use his property for such a project as this would encourage more businesses in the area. For example, it could include a commercial bank, ATM and a post office which are all in demand in the area.

5. Existing Land Use

This section looks at the existing land use within the Wait-A-Bit Local Development Planning Area analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying three elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the “existing and future” use of land of the settlement or region.



Map 16 Wait-A-Bit Local Development Planning Area Existing Land Use (2016).

JACKSON TOWN
LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY
LOCAL SUSTAINABLE
DEVELOPMENT PLAN: 2030 & Beyond



DRAFT

9.7 JACKSON TOWN LOCAL DEVELOPMENT PLANNING AREA

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1. Overview of Jackson Town Local Development Planning Area (LDPA)

The communities within the Jackson Town Local Development Planning Area are located in the North Easterly section of the Parish. They are; Jackson Town, Stewart Town and Brampton. Within these communities are two (2) Type I health centres and eight (8) educational institutions, which provide education at the Basic, Primary and All-Age levels. There is no major industry or commercial hub in this community so persons travel to the neighbouring Brown Town (St. Ann), or travel to Falmouth or Clark's Town to satisfy their business needs. The communities are served by an Inland Revenue Department located in Jackson Town.

a. Community Involvement To Date

The level of community involvement has been strong over the past decades. Within each community of the LDPA, there are active Community Based Organisations, namely Community Development Committees, Citizens Associations, Police Youth/Sports Clubs, Church Groups, Farmers Groups and Parent Teacher's Associations. These organisations along with stakeholders that have undertaken fundraising activities and have implemented various projects that have been beneficial to the area.



The prayer done by Mr. Palmer.



Councillor White gave the vote of thanks.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Jackson Town Today

a. Population

For the Jackson Town LDPA, the estimated population is four thousand four hundred and twenty-seven (4427) persons. The table below shows the estimated population size for the communities, which forms the Jackson Town LDPA.

Jackson Town Local Development Planning Area	
Communities	Estimated Population Size
Jackson Town	2761
Stewart Town	962
Brampton	704
Total	4427

Source: Social Development Commission, 2010

b. Projects

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents were able to discuss and prioritise the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The issue of lack of piped water in the homes and businesses was raised by the residents. It was reported some areas do not have access to piped water while other areas have access to a minimal amount of water at varying times. This is due to the limited capability of the pumping station that supplies water to the pipes.

During the discussions it was expressed that pollution is being experienced in all communities, as garbage is being disposed of in gullies, ponds, sinkholes and along the streets. These natural resources lack basic protections, therefore making them vulnerable to pollution from human activities.



Discussions about the Natural Environment Sector were discussed with Mr. Edwards as the facilitator.

Due to the natural terrain of the LDPA, during rainy seasons, flooding occurs in the communities of Barnstaple, Jackson Town and Stewart Town. This is partly due to inadequate design of drainage channels and structures as well as inadequate maintenance of drainage facilities, which causes blockage by debris brought by flood waters. It should also be noted, human activities are a contributing factor, which damage the environment, for example, deforestation and poor garbage disposal, which increase the risk of flooding.

The infestation of mosquitoes has heightened fears of residents in the LDPA, which is directly linked to illegal garbage disposal practices into a pond located in Pond Side and into sink holes throughout the communities.

The residents had an issue with the frequent occurrence of uncontrolled animals especially goats, which trespass on their residential lands and destroyed the fencing and ate farm produces and other plants.

b. Social Environment

It is not easy bringing people together. Agendas, egos, politics, power struggles, negativity, poor leadership, mismanagement, complaining, and a lack of vision, focus and purpose all prevent communities from uniting and performing at their highest level. The lack of unity among community members in LDPA was observed as there are negative forces and factors, which hamper organisation, teamwork, unity and success.



Mr. Williams and Ms. Wellington acted as facilitators for the Social Environment Sector.

The high levels of youth unemployment were seen as a priority issue as some youths within the communities lack the basic knowledge in reading and writing thus making them less skilled and less qualified. However, those who possess the skills are faced with limitations as these are low level skills. This issue may be seen as a contributing factor to idleness among unattached youths.

As was also noted in the Natural Environment section, the communities are faced with the lack of water in the pipes as well as the absence of pipes in other sections of the communities. Conversely, whenever the water pump is active and there is water in the pipes, the pressure is usually very low and sometimes the water quality is very poor.

Praedial larceny has been affecting some of the residents and continues to be one of the greatest deterrents to investments in agriculture. The lack of a fire station and a community park were also discussed.

c. Economic Environment

The residents defined the 'Economic Environment' as a tool to help people live better lives. The major challenge being faced is the lack of job opportunities among youths and adults. There were complaints of not enough business places in the communities to provide employment especially for the youths. Also, there is an increase in gambling amongst youths and adults along with many adults who are involved in other illegal activities.

The community farmers are being constantly affected by praedial larceny. On numerous occasions, their farm animals and produce were stolen and this continues to be a nuisance to the residents. It also poses a threat to their livelihood.

The residents noted the HEART Trust/NTA institute that is located in the neighbouring LDPA is very beneficial, however they found the programmes offered to be inadequate. The programmes currently being offered are not aligned with the desires of the youths and of the labour force and as such many are left unskilled. The residents are also having a challenge acquiring funds for transport to the HEART Trust/NTA Vocational Training Centre in Falmouth where a wider variety of programmes are offered.



Discussions of the Economic Environment Sector, with Ms. Poyser and Ms. Wellington as the facilitators.

A significant development challenge being faced in the economic environment is lack of funding for entrepreneurs to develop and maintain their own businesses. The lack of innovation is also a factor as this stifles the prospects for growth and development, which in turn rebounds on the quality of job creation.

d. Built Environment

Issues regarding the Built Environment of the LDPA were discussed. The residents complained of the poor road conditions especially along the main roads. From observations there are huge potholes in the roads which leads to accidents as well as wear and tear and other damages on the motor vehicles.

The lack of proper street lighting along East Street and within some of the districts has affected the residents as this causes increases in criminal activities. In some areas the light poles are present, however they are without functioning bulbs.

The absence of sidewalks and pedestrian crossings along the main roads was noted as one of the priority issues within the communities. The scarcity of sidewalks and pedestrian crossings puts the pedestrians at

risk as they complained that while walking, due to limited space the traffic is too close to them and they have to walk in mud and bushes whenever it rains.



Discussions facilitated by Ms. Luton of the Built Environment Sector. Ms. Lewis and Ms. Poyser welcoming residents.

Water as a basic need is lacking in Jackson Town. The citizens pointed out, currently there is no water in the pipes as well as there are no stand pipes in the communities of the LDPA. Those who have access to water in their pipes, complained of the irregular water supply received at very low pressure.

The citizens are not expected to throw garbage on the streets, nonetheless, accumulated garbage along the streets is an issue due to the poor garbage disposal habits of the residents and the irregular garbage collection system. This is also due to the absence of garbage receptacles that causes the infestation of insects and rodents and poses a health risk as well.

The citizens expressed there is a housing problem as the cost to rent accommodation in the area is very expensive and the design of the structures are not sustainable and are not structurally safe.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: "To develop unified communities with reliable, efficient, secure and accessible amenities and infrastructures geared towards economic opportunities, growth and development".

a. Natural Environment

Vision Statement: *"A community which is clean, fruitful, safe and a healthy environment."*

A system of sustainable development must be capable of yielding a flow of resources for use by people, but that flow must be maintainable over the long-term. Additionally, sustainable development is the management of renewable resources for the good of the entire human and natural community. Built into this concept is an awareness of the animal and plant life of the surrounding environment of the LDPA, as well as inorganic components such as water and the atmosphere.

In addressing the issue of having little or no access to piped water, the types of pipes which have been laid for water provision are metal and are in dire need of repair or they should be replaced by NWC. The current water pump that serves the areas is very small and has limited capability as the pump motor frequently overheats and burns out the pump. A bigger pump is needed to adequately supply piped water to all the communities. On previous occasions, the residents suggested to the NWC that water supply be rotated at intervals as well as the residents should be encouraged to collect and store water for dry periods.

In regard to the frequency of illegal dumping which leads to pollution, public education must be undertaken by the relevant authorities. Residents must be made aware of the repercussions of such activities. The collection of garbage must not be confined to the main streets but also along side streets such as East Street, as well as garbage skips may be placed at target areas for garbage collection.

To reduce the flooding that is experienced by most of the communities in the LDPA, the drains need to be cleaned on a regular basis to reduce and alleviate the issue of flooding in the affected communities.

The trespassing of animals on residential lands is a nuisance. Residents need to follow the correct procedures in dealing with this particular challenge and as suggested such matters must be reported to the Police and the instructions should be adhered to that will be given by the Police.

To address the issue of mosquito infestation in the communities, an intervention from the Trelawny Parish Council and The National Environment and Planning Agency (NEPA) is needed to educate the residents on the negative impacts of poor garbage disposal practices and to engage them in best practices on how to properly dispose their garbage. The open lots found in the area need to be bushed and properly maintained by the owners so as to lessen breeding sites for mosquitoes.

b. Social Environment

Vision Statement: *"A united educated community with access to economic opportunity."*

Unity in the LDPA is a vital element for success, as discord and conflict may lead to lower levels of morale and productivity. When the community members are able to work together in a collaborative manner, it creates better community dynamics, encourages people to participate and be involved in activities. By engaging the communities through workshops and intervention programmes, people could learn about morals and values and how they influence you as an individual.

In addressing the youth unemployment issue, it was suggested a significant proportion of the youth population needs to be gainfully employed and occupied at all times. By this, persons would no longer be engaged in negative activities that hinder the community's development. The residents would like to include Jamaican Foundation for Lifelong Learning (JFLL) in addressing the literacy levels by involving the young people in farming (animal rearing and farming) as a means of employment.

The existing water supply infrastructure needs to be replaced as well as new pipes need to be laid by the relevant authorities. The residents noted the previous water source was the Darnet River that was efficient and functional, however the source is now located at Barnstaple river which has been malfunctioning.

c. Economic Environment

Vision Statement: *"A society with access to job opportunities while focusing on economic growth and development."*

With the lack of job opportunities in the LDPA, the residents proposed, with the construction of factory – agroprocessing, such facility would lessen the issue as manufacturing is seen as a plus for the economy. It should be the intention of the residents to seek employment for the youths in the community by developing a job bank and having employment fairs in the community. Fund raising events and activities may be undertaken to assist young people who have difficulty travelling to Falmouth to access skills training, while also keeping in mind that a skills training centre would be essential in the LDPA. The residents noted that with an increase in pastoral farming, there would be a demand for livestock in the area.

A neighbourhood watch programme by Corporal Wallace of the Police Department was previously implemented to curb the issue of praedial larceny in the communities. The residents, however expressed this programme needs to be revisited and reinstated in the communities as it made a difference in the

frequency of cases. Public awareness would be impactful from the Jamaica Constabulary force (JCF) as this information would make residents aware of policies and procedures of the JCF regarding crime preventions and community safety.

The current programmes offered by HEART Trust/NTA are geared towards stimulating economic growth and job creation. However, the residents are in need of additional programmes that are specifically geared towards the demands of the labour force. In addressing this issue, residents must be mindful that programmes must be sustainable at the off-site locations. Many factors are taken into consideration when new programmes are to be introduced. In essence community persons must therefore lobby with the representatives of the institution and other stakeholders for them to implement new programmes that would benefit the communities.

Not being able to access funding to boost economic growth is a deterrent. During the discussions held at the Visioning Workshop, some of the community members suggested contact be made with local banks for example, Jamaica National Building Society among others. Residents would be able to access loans for small businesses through these institutions as the Development Bank of Jamaica (DBJ) encourages loans through Approved Financial Institutions (AFIs) such as the banks. The Government of Jamaica also has funding for micro economic development and this can be accessed by potential entrepreneurs.

d. Built Environment

Vision Statement: *"Having access to reliable and efficient utilities as well as safe and secure infrastructures."*

In addressing the issue of poor road conditions, the residents themselves suggested they all come together and have a work day to fix the bad roads. It would be their intention to see sponsorship from stakeholders in supplying the materials and equipment needed to undertake such venture. They also intend to contact NWA and the Parish Council in providing assistance.

Regarding the lack of proper street lighting, at the Visioning Workshop, the citizens were made aware of the current issue the Local Planning Authority is facing concerning the provision of street lighting for the overall Parish. They were informed, as soon as property taxes are paid by property owners, it would help them acquire effective street lights throughout the districts.

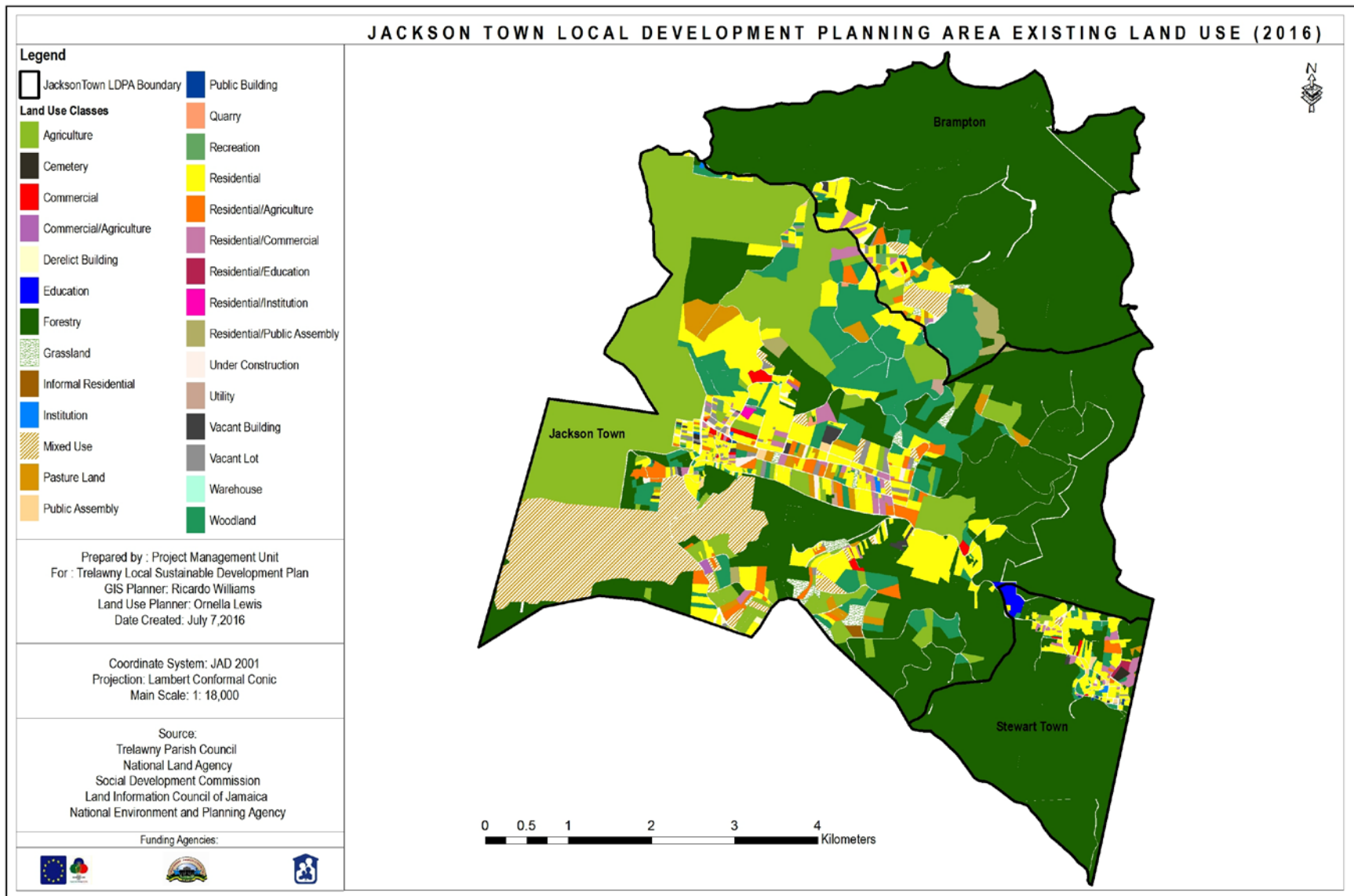
The construction of sidewalks and installation of pedestrian crossings needs to be a priority for the main roads within the community of Jackson Town and surrounding areas. With the implementation of such projects this would increase pedestrian safety, comfort and the overall protection of daily commuters.

The citizens expressed the water pump at the pumping station in the LDPA should be properly maintained and regulated by NWC in order for them to access water or the installation of a new pump is needed with the capacity to distribute water consistently without becoming defective.

With regards to the housing problem, the implementation of affordable and sustainable housing solutions by the Government of Jamaica would be a good initiative to help address the issue of high rent costs. The NSWMA needs to be contacted to tackle the issue of the irregular garbage collection in the communities and the citizens need public awareness about the effects of poor garbage disposal habits. It was also suggested more garbage receptacles be strategically located to encourage proper garbage disposal.

5. Existing Land Use

This section focuses on the existing land use within the Jackson Town Local Development Planning Area analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying three elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the “existing and future” use of land of the settlement or region.



Map 17 Jackson Town Local Development Planning Area Existing Land Use (2016).

DUNCANS
LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY
LOCAL SUSTAINABLE
DEVELOPMENT PLAN: 2030 & Beyond



DRAFT

9.8 DUNCANS LOCAL DEVELOPMENT PLANNING AREA

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 1. **Overview of Duncans Local Development Planning Area (LDPA)**

The Duncans Local Development Planning Area is located in the North Easterly section of the Parish of Trelawny. The communities are located 15 km to 25 km away from the Parish capital, Falmouth. It includes communities such as Duncans, Spicy Hill, Refuge, Samuel Prospect and Rio Bueno.

This area has one commercial hub the town of Duncans which has historical value. The main economic activity in the area is farming, however some areas are involved in fishing, tourism, construction and hospitality. There are a number of schools and churches along with small business places in the area. A Tertiary Institution namely Fairweather Theological Institute is in the LDPA. The terrain of the communities is mostly hilly and undulating. Some natural features include natural features of the area gullies, sinkholes,

forest, caves, beaches, rivers, ponds, and mineral water. The climatic condition generally is dry, windy, humid, cool or even rainy but this mostly happens in the Rio Bueno community. Additionally, this community hosts the Rio Bueno Harbour, which is said to be the deepest Harbour in Jamaica.



The Town Centre of Duncans.

a. Community Involvement To Date

The communities within the LDPA of Duncans have been involved in its development over the years. This is due to the active Community Based Organisations that are within each community which includes Parent Teachers' Associations, Youth Clubs, Citizens Associations, Church Groups, Community Development Committees, Sports Clubs and Police Youth Clubs. These Community Based Organisations play an integral part in sourcing funding to complete community projects.

Various projects have been implemented in the Duncans LDPA over the years. One such project was the reconstruction of the Duncans Health Centre by JSIF through the Hurricane Dean Recovery Loan and was sponsored by the Western Regional Health Authority. The Refuge Community Centre and Basic School were also refurbished with sponsorship from the Refuge community Club. Tankweld Metals assisted with the renovation of some schools and the improvement of facilities at the Rio Bueno Health Centre.



Councillor White, Mr. Palmer and Ms. Wellington answering the concerns from the residents. Members of the PMU – TLSDP assisting the residents.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured that such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Duncans Today

a. Population

The table below shows the estimated population size for the communities, which forms the Duncans Local Development Planning Area.

Duncans Local Development Planning Area	
Communities	Estimated Population Size
Duncans	3475
Refuge	475
Spicy Hill	1497
Samuel Prospect	954
Rio Bueno	1821
Total	8222

Source: Social Development Commission, 2010

b. Projects

The Duncans Health Centre was constructed by the Western Regional Health Authority with assistance from Jamaica Social Investment Fund (JSIF). The Refuge Community Club organised the refurbishing of the local community centre and Refuge Basic School. Tankweld Group facilitated the refurbishing of the Rio Bueno Health Centre.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents discussed and prioritised the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The natural environment was described by the residents as 'anything living or non-living that is not man-made'. The residents expressed the issues and challenges they face with the natural environment. One such challenge is the overgrown trees on numerous properties along the roadways in the communities. This pose a threat as they are infested with rodents which are harmful to health of the residents. The overgrowth can also encourage criminal activities as criminals can hide in them and pounce upon residents as they pass by. The overgrown trees are also a hazard to the Jamaica Public Service power lines as the limbs are encroaching on the wires.



Mr. Edwards, steered the Natural Environment Sector group discussions. The Presenter updated the residents.

The improper disposal of garbage is an issue that has been plaguing the residents of the Duncans LDPA for years now and has been causing several problems in the schools. A garbage skip has been placed in front of the school and as a result the entrance to the school is filled with garbage when the truck does not come to collect it. The garbage is unsightly and the smell is pungent when it has been left uncollected over a certain period of time. The collection schedule is also an issue as the truck does not come on a regular basis.

Pollution is also an issue the residents face that is as a result of improper garbage disposal practices. There are not enough skips and drums available, especially in the town of Duncans and as a result residents dump their garbage in unsuitable locations in the town.

There have been cases of flooding especially in Rodney Bottom. The district's gully that has been flooding whenever there is heavy or long periods of rain as the gully is used as a dump for some residents. Additionally, whenever it rains, the garbage from the town of Duncans and other surrounding areas is washed into the gully and blocks it.

b. Social Environment

High levels of unemployment is a social issue the residents in the Duncans LDPA face. The area is mainly dependent on tourism as there are hotels and guesthouses nearby as such persons mainly work in the hotel industry. However, there is need for a vibrant productive sector as there is a lack of opportunities and investments. More skills training opportunities in the area are needed for persons to be certified in order to seek jobs in other industries or become entrepreneurs.



The facilitator, Mr. Williams and the residents of the LDPA expressed their visions for the Social Environment.

A community centre, with adequate bathroom facilities could be constructed on the site of the playing field in Duncans, with the relevant CBOs involved in its' maintenance. Previous youth clubs were lacking proper organisational structure and effective management. They expressed SDC had initiatives and formed clubs but due to limited personnel they became dormant.

There is a reliable water system in the area, however the residents expressed NWC do not repair the broken pipes in the area on time. This has led to the deterioration of the main roads in the area as the

constant flow of water from leaks destroys the surface and creates potholes. Some of drains along the main road are also blocked with garbage and debris and needs to be cleaned. Along the roadways are overgrown trees and shrubs that impede efficient travel for pedestrians and motorists alike. Streetlights are also needed in all communities as the roads are dark and unsafe to traverse at nights.

c. Economic Environment

One of the challenges faced in this thematic area is high levels of unemployment due to the lack of job opportunities. The residents noted this has led to brain drain in the communities as the skilled and trained personnel migrate to find jobs in other areas. There is also a lack of entrepreneurial skills as persons are not motivated to take risks and develop their ideas. Additionally, there are many obstructions to starting a business especially from financial institutions.



Ms. Poyser along with the presenter of the Economic Environment Sector group.

The town of Duncans, which is one of the major towns in the Parish, lacks investment ideas and opportunities, as such local and international investments are needed. The residents expressed the town is in need of infrastructural development and beautification projects along with effective marketing to attract external investors.

The roads in the LDPA are in poor condition and this has contributed to the economic challenges the residents face. The transportation costs are very expensive as taxi drivers have to take into consideration the wear and tear and other damages on their motor vehicles, especially when transporting heavy weights.

Despite Duncans being considered a vibrant town in Trelawny, there is no access to financial institutions in the town such as major banks or other financial institutions. The residents have to travel to Falmouth in

order to access these services and this defeat the purpose of having a major town if residents still have to travel to other towns to for business transactions.

There is limited access to skills training in the area; however the courses offered are limited and are sometimes not relevant to what the residents demand. Therefore, residents have to travel to Falmouth and other areas to access the training they require.

d. Built Environment

In the town of Duncans, the residents complained there are insufficient public sanitary facilities, which forces persons and visitors to resort to the streets and behind buildings. A facility was constructed; however there are no equipment and the structure is in need of renovation and it was suggested a charge be attached for use. Sufficient garbage skips and drums are lacking in the town. As a result persons dispose of their garbage along the streets and in unsuitable locations. The provision of adequate garbage receptacles would therefore encourage persons to practice proper garbage disposal techniques.

Poor conditions of the roads are an issue that all the communities in the Duncans LDPA face. The residents expressed the parochial roads that are controlled by the Parish Council are in urgent need of repair. Additionally, there are no drains in the area, which also affects the roads as the surface water has no path to run off whenever it rains.

The National Water Commission standpipes in some communities are damaged and as a result the water is being wasted from leakages. This issue needs attention as water is a basic necessity and should be conserved.



Discussions within the Built Environment Sector group was chaired by Ms. Luton and the presenter.

The area is in need of recreational spaces and facilities geared towards keeping the adults and youths in the communities active. Additionally, there are no play areas and limited recreational facilities are available at the Duncans Primary School. The children play at the front of the school yard and that is not conducive as it is very dusty and the area is also used as the car park. There is a lack of maintenance of the streets lights in the communities as such they are malfunctioning and this has caused some of the roads to be very dark and unsafe to walk during the nights. Additionally, there are no facilities for the disabled in the town. There is the need for some, especially ramps, at the schools and at other public buildings.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"Citizens unifying and participating in the growth and development of their communities while creating opportunities for a brighter future in a safe and healthy environment".*

a. Natural Environment

Vision Statement: "Citizens participating and creating a healthy environment for sustainable growth."

The natural environment of Duncans may be conserved if precautions are taken to mitigate the harmful effects that improper practices have caused. The overgrown trees along the roadsides pose a health and security risk, thus residents suggested the Parish Council hire persons to clear the roadsides and then charge the fee to the land owners. Additionally, residents or land owners should contact the Jamaica Public Service to clear the limbs that are encroaching on their power lines.

Pollution is an issue that has stemmed from improper garbage disposal. It was suggested the community groups establish a project to recycle the plastics to reduce the amount of solid. The sorting of the bottles could create employment opportunities as a garden warden could be used to oversee the project. In addition, the National Solid Waste Management Authority could be consulted to provide a collection schedule for the residents. Skips and drums could also be placed at accessible and secured locations in the town.

To mitigate the flooding in Rodney Bottom, an educational campaign could be arranged. This campaign could be used to inform persons of the effects their improper garbage disposal practices have on the district. Photographs of the flooding could also be taken and displayed at this event. Additionally, a seasonal clean-up of the gully could be arranged by the community members with assistance from the respective political representatives.

b. Social Environment

Vision Statement: *"A united safe community that have access to social services and employment opportunities."*

Regarding high levels of unemployment the residents suggested this could be decreased by establishing a skills training centre in the area where residents can be trained in areas other than tourism. This would allow them to become more marketable within other sectors. An event could also be arranged where different organisations are invited and the residents display their skills in various ways. This would help to market the skills of the residents in the Parish.

The Community Based Organisations in the area could seek sponsorship from funding agencies to establish a multipurpose facility that could be used as a community centre, training centre and sports facility. The location identified was the lot beside the computer shop in the town centre. In order to assist with reactivating the youth clubs, they suggested the potential leaders be trained by agencies that focus on community and social development. The residents could also be sensitised as to how the communities can benefit from having active youth clubs.

The NWC could be contacted to assess the damaged pipelines and leaks to be repaired. The residents expressed they have arranged Labour Day projects to patch the roads in the future but the road is in need of resurfacing. The NWA and representatives from the Trelawny Parish Council could be contacted to get updates on any possible road work. The community members could also organise workdays to clean the drains and trim the overgrown trees with the assistance of the relevant authorities.

c. Economic Environment

Vision Statement: *"Unite for growth and economic development for a brighter future".*

There are many natural resources in the Duncans LDPA that could be used to create job opportunities for the residents. The river could be used for rafting and other sustainable activities such as ecotourism. There is also a beach that could be used to host beach parties and other activities. The residents also suggested an auto-mechanic plant be established that specialises in the assembling of bike parts. In the past, there was a garment factory located in Hague and this could be restored, while incorporating textile manufacturing. The area was also known for producing agriculture and with the available lands, the industry may be reintroduced as the land is capable of producing abundant vegetation or crops. The financial institutions could be encouraged to provide more attainable requirements to better facilitate the self-employed persons seeking assistance in achieving their goals.

A beautification project may be established in the town to attract investors. This could involve some infrastructural development where the buildings could be renovated, painted and labelled. Additionally, the roads could be fixed, drains built and sidewalks constructed. An effective and consistent street sweeping project could be introduced where the roads are swept, garbage collected and flowers planted along the streets.

In order to address the issue of poor road conditions, the residents suggested the Community Based Organisations in the area become more involved. A proposal should be done and presented to the relevant authorities on how to fix and maintain the roads in the communities with the participation of the residents. Funding agencies could be targeted and approached to assist in the projects.

The residents suggested the garment factory that was in Hague be reinstated. It was proposed a training centre be constructed in the area or in close proximity that focuses on clothing and textile/fashion designing.

d. Built Environment

Vision Statement: "To preserve maintain the structures and infrastructures and build new facilities to benefit communities and Parish."

The residents made different solutions to improve the built environment of Duncans. The sanitary facility located beside the courthouse needs to be renovated and a small fee be attached for its use. Partnerships could be made with the Community Based Organisations and other agencies to seek funding and

equipment needed to complete the task. A detailed maintenance proposal could be done and the fee that is attached could be used to assist with its maintenance.

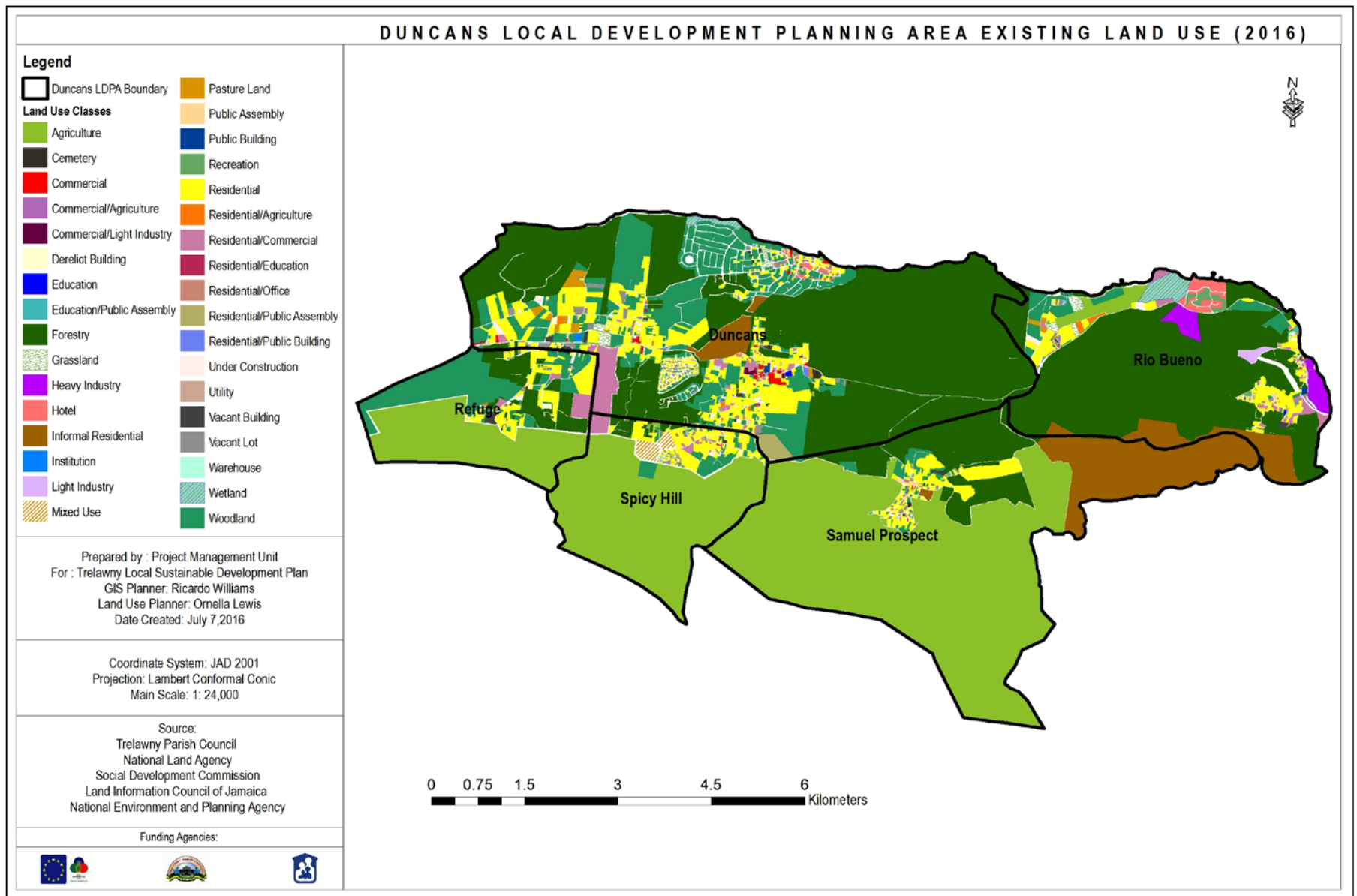
Garbage skips may be placed at strategic points in order to encourage residents to properly dispose of their garbage. The residents could also lobby with the National Solid Waste Management Authority to find out how they can assist with the regular collection of garbage. Additionally, the residents could come together and source funding to build concrete skips in the town.

The residents suggested they approach the Trelawny Parish Council to discuss the issue of poor road conditions. A letter could be sent requesting a meeting with the political representatives along with other officers of the council. Additionally, a letter could be sent to the National Water Commission from all the Community Based Organisations in the area, lobbying to get the broken pipes fixed.

In order to create a recreational space for the Duncans All Age School, the residents suggested a Past Student's Association be established. This association could plan fund raising activities to assist with the provision of recreational facilities at the school. They could also seek sponsorship from various agencies to provide materials and equipment. Ramps could also be built to accommodate persons who are physically challenged.

5. Existing Land Use

This section focuses on the existing land use within the Duncans Local Development Planning Area analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying three elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the "existing and future" use of land of the settlement or region.



Map 18 Duncans Local Development Planning Area Existing Land Use (2016).

TROY
LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY
LOCAL SUSTAINABLE
DEVELOPMENT PLAN: 2030 & Beyond



DRAFT

9.9 TROY LOCAL DEVELOPMENT PLANNING AREA

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1. Overview of Troy Local Development Planning Area (LDPA)

The communities within the Troy Local Development Planning Area include Troy, Warsop and Wilson's Run. These communities are nestled in the heart of the Cockpit Country located near the border of Manchester, St. Elizabeth and Trelawny. The area is mountainous and has natural features such as rivers, springs, ponds, gullies and caves. Based on its location, the main economic activity in the LDPA is farming.

- a. Community Involvement To Date

The level of community involvement has been strong over the past decades. Within each community of the LDPA, there are active Community Based Organisations, namely Community Development Committees,

Citizens Associations, Police Youth/Sports Clubs, Church Groups, Farmers Groups and Parent Teacher's Associations. These organisations along with stakeholders have undertaken fundraising activities and have implemented various projects that have been beneficial to the area.

One project that was undertaken is the improvement and maintenance of the Troy Community Centre by the Troy CDC, High School and Youth Club with assistance from the Councillor. There was also the opening of a Heart Institution in the area with sponsorship from Heart and the Troy CDC.



The residents of the Troy LDPA.



Councillor Gager of the Division spoke to the residents.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able to achieve in twenty (20) years' time.

2. Troy Today

b. Population

For the Troy LDPA, the estimated population is four thousand four hundred and twenty-seven (4427) persons. The table below shows the estimated population size for the communities, which forms the Troy LDPA.

Troy Local Development Planning Area	
Communities	Estimated Population Size
Troy	1116
Warsop	3443
Wilson's Run	962
Total	5521

Source: Social Development Commission, 2010

b. Projects

The main projects undertaken by the local CDCs were the opening of the Troy HEART/Trust NTA Training Institute and the upgrading of the Troy Community Centre.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents were able to discuss and prioritise the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The main problem highlighted in this Local Development Planning Area was the rivers and tributaries are saturated. Residents explained, the rivers have redirected their channels and whenever it rains they become saturated and flood the farm lands, roadways and homes. Both the rivers and the tributaries are filled with silt, soil and other sediments. The residents expressed the silt build-up is very severe that with no river beds, as the beds are on the same level with the land. Hence, whenever it rains the water has nowhere to flow but onto the land.

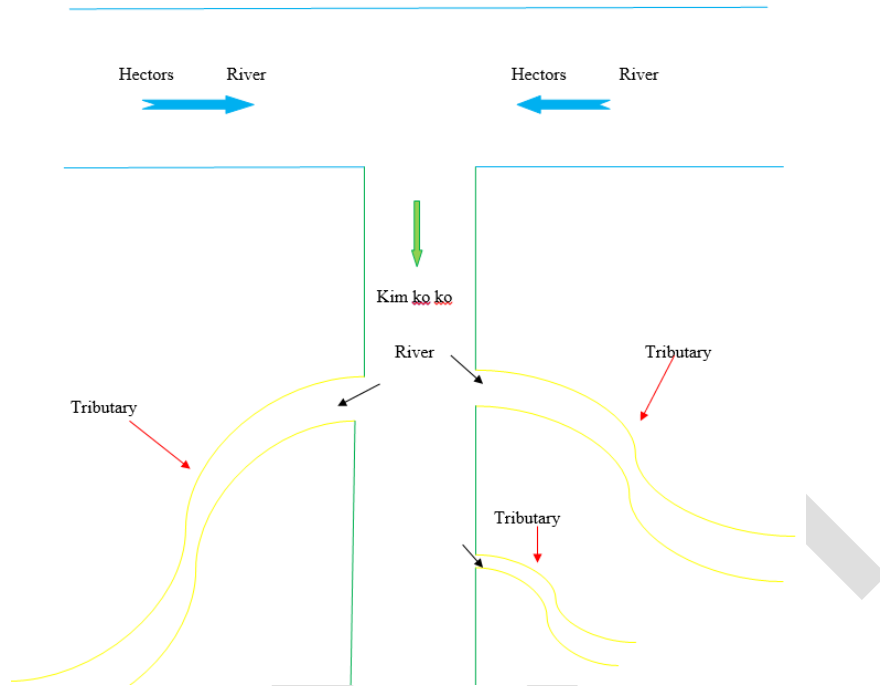
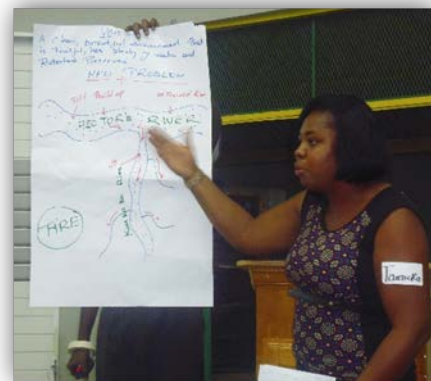


Illustration of current situation the residents face regarding the rivers in the Natural Environment Sector.

Flooding is experienced as the swollen rivers during the rainy seasons, contribute to high rising waters as well as existing water channels which are blocked due to improper garbage disposal.



Discussions were steered by Mr. Edwards and Ms. Malcolm.

Soil erosion is a serious problem for productive agricultural land and for water quality concerns. Soil erosion and break-away of road ways also occur frequently in these areas due to consistent rainfall and poor unsustainable farming practices.

Residents complained of a shortage of yam sticks as the Forestry Department has declared some areas as protected areas and they are prohibited from utilising such forested areas to cut down trees for farming.

Water pollution was also highlighted as a problem as residents constantly dispose of their garbage in the rivers, and during the dry periods animals are tied close to water sources which increase the level of pollution.

b. Social Environment

The residents within the LDPA are experiencing high levels of unemployment among the youths and adults. This as outlined by the residents is caused by various reasons such as children are dropping out of primary and high schools before completing the respective level education and lack of job opportunities even though some persons are qualified, with a few lacking skills training.



Residents of the Social Environment Sector discussed the issues and challenges faced in the communities.

There was an issue regarding poor water supply. Residents who are living in Warsop are without water in their pipes and have to rely mainly on rainfall as well as on purchased water in order to access the precious commodity. This is very difficult and taxing on the residents as the purchased water is very expensive and sometimes there is minimal rainfall.

Being known as a farming LDPA, praedial larceny affects the residents and farmers. The members complained it is caused by high levels of unemployment among adults and youths, laziness especially among the youths and insufficient punishment for the crime.

The other issues faced in the social environment include the following: no access to a fire station, as the nearest one is located in Falmouth within the Parish and Christiana in Manchester; an increase in the number of high school drop outs was noted; there is need for a sub office of the Inland Revenue Department; lack of social amenities (youth clubs) to foster interaction among youths and adults; lack of maintenance of playing fields and community centres and lack of financial resources to undertake projects.

c. Economic Environment

For this sector, the main issue highlighted by the residents is that of the high production costs within the agriculture sector. The farmers are faced with high labour costs which in turn increases the cost of production. Some of the farmers also complained of praedial larceny which is a hindrance as produce are damaged and lost.

Within the LDPA there is limited infrastructure to boost financial growth at the local level. Small-business owners need sufficient positive working capital to operate successfully, as such a lack of working capital presents many disadvantages especially to small businesses. The residents expressed the lack of infrastructure has resulted in high levels of unemployment among adults and youths.



Ms. Poyser and Ms. Lewis welcomed the residents to the sensitisation meeting and visioning workshop.

The unemployment issue has severely been impacting the residents as it was reported most people are not able to find jobs within their communities or within the Parish. Some residents have to leave the area and seek job opportunities elsewhere, which for the communities themselves contributing to brain drain.

As a job requirement, persons should possess the necessary qualifications. However, a few of the community members lack the required skills and knowledge that are accredited and would provide certification necessary to seek potential jobs.

The issue with the poor road conditions is being faced not only by the residents in this LDPA, but throughout the Parish. Some of the main roads in the LDPA are in a deplorable condition as they are filled with potholes and leaking pipes. This issue the residents explained has been affecting especially the farmers as it is very difficult to transport produce to the markets for sale.

d. Built Environment

In the Built Environment thematic area, the main issue is that of poor road conditions in the communities of Warsop, New Hope, Wilson's Run, Tyre and New Roads. The residents stated a few of the parochial roads especially the one located behind the Troy High school has a break-away and needs dire attention.

The lack of piped water was noted in all the thematic areas of the visioning workshop throughout the Troy LDPA. Some of the residents do have access to piped water, however it is not frequent and the pressure is very low. Within the community of New Hope and Wilson's Run there is no access to piped water.



The Built Environment Sector group was facilitated by Ms. Luton.

With the overgrown trees and bushes over the road ways, the community members are facing a challenge as this has contributed and encouraged criminal activities and well as motorists are unable to see clearly while using the roads. At the nights, due to the lack of adequate streetlights, it is difficult for pedestrians and motorists alike to have an easy commute.

The LDPA lacks the relevant infrastructures that would provide them access to health care, employment and other opportunities. That being said, there is no fire station, no gas station, no factory nor a hospital within close proximity. In order for the residents to access these services they have to travel to Falmouth or to the Christiana in the neighbouring Parish of Manchester, which at times is not feasible.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *"To create clean and healthy communities that have access to employment opportunities and stable infrastructures for a better living environment".*

a. Natural Environment

Vision Statement: *"A clean and healthy environment, that is fruitful and has plenty of water that is preserved."*

The citizens are aware they must work towards a sustainable relationship with the natural environment. Its' natural resources must be protected and preserved from degradation, for example natural areas and open spaces for the benefit of future generations. Importantly, the shorelines, river, ponds, sinkholes and other water sources should also be protected from damage and degradation while implementing conservation methods to harness whatever is left. Additionally, each resident should strive to maintain and improve the integrity of natural and recreational systems within the community and ensure that scenic viewpoints are not depleted.

The rivers, namely Hectors and Kim ko ko along and the tributaries are saturated with silt and other sediments. As such it was recommended the process of river dredging be done. The basic aim of dredging is to remove silt - a sedimentary material made of fine sand, clay and small-sized particles of rock - from the river's bed, therefore increasing its capacity to carry water downstream. This method would aid in reducing flooding experienced in the communities.

Stopping rivers from flooding is not possible but methods can be put in place to mitigate and manage the risks that arise from flooding. The implementation of natural flood management methods offers a sustainable approach to managing floods and is intended to complement traditional "hard engineering" techniques, such as flood barrier and concrete walls. These methods rely on combination of small-scale interventions with the aim of reducing the speed of the flow of converging water before it reaches larger rivers. A few of the natural flood defence features include small barriers in ditches and fields, or notches cut into embankments, all of which divert the water into open land. Letting pools form outside the main channel of the river means the water is temporarily removed from the main flow reducing the power of the floodwaters.

Controlling the sediments must be an integral part of any soil management system to improve water and soil quality. The most effective way to control soil erosion and break-away of roadways is to maintain a permanent surface cover on the soil surface. Therefore, areas in the LDPA that are highly susceptible to water or wind erosion need to be considered for soil conservation programmes or educational pilot projects with the involvement of the farmers.

In addressing the issue of lack of yam sticks, residents may collaborate with the representatives from Southern Trelawny Environmental Agency (STEA) as a Yam Stick Project was previously initiated to alleviate the high levels of deforestation in the communities. The planting of trees may also be undertaken to hold the soil. The residents suggested the live yam stick project be restored, as that involved the planting of the bitter damsel plant. The residents would not be bothered as the animals do not eat the plant because of its bitter taste and the roots do not interfere with the growth of the yam. The use of plastic yam sticks may also be looked at as a possible solution.

In order to keep the surroundings clean and free from pollution, the residents suggested the farmers store water for their animals or fetch the water from the water source during the dry periods. By doing this, the animals would not be within close proximity to the water source. Care should also be taken not to overuse pesticides and fertilisers. This would prevent runoffs of the substance into nearby water sources. Residents should also engage in proper garbage disposal practices and refrain from throwing their waste in the rivers and ponds.

b. Social Environment

Vision Statement: *"A strong, united, peaceful and educated LDPA, to live in and that has access to employment opportunities."*

From the discussions at the visioning workshop, the residents have agreed in order to address the issue of unemployment, more training is needed for the residents in the agricultural field due to the fact that the communities within the LDPA engage mainly in farming. Reference was made to the phrase promoted by the Ministry of Agriculture in 2011, *"eat what we grow, grow what we eat"* as the residents need an opportunity to be better able to produce more to feed their families and their communities.

To increase the possibilities of employment, training may be offered in computing with better internet access to all age groups. The introduction of an improved and more effective trading market for the produce being cultivated in the LDPA would be beneficial to the communities. The construction of a food processing factory in Troy or Rock Spring would be ideal as within those communities, there is reliable access to water.

In Warsop there is no piped water as such the residents proposed NWC install the pipes as well as a system to utilise the natural springs in the area to increase supply with the aid of a water pump. It was requested the reservoir in Allsides be renovated; a meeting needs to be arranged with the NWC as the residents explained the facility is not being used, which has contributed to the limitation of water supply.

As suggested by the residents, the solution to the issue of praedial larceny firstly has to include the farmers as the main participants. It was noted there is a neighbourhood watch programme, however, it needs to be reactivated as the programme aided in reducing the frequency of the crime. The initiation of other programmes to aid in social intervention, for example Jamaican Foundation for Lifelong Learning (JFLL) and National Youth Service (NYS), would create awareness of the issues and how they may be dealt with. It was requested the Police be more involved in the communities and their activities and that harsher punishment be implemented to help tackle the crimes.

c. Economic Environment

Vision Statement: *"To foster an atmosphere of job creation through infrastructural development."*

The issue regarding the high production cost within the agriculture sector is overbearing, nonetheless, the residents had a few suggestions as to how to best address it. Firstly, the farmers' group within the area has been dormant and needs to be revamped as it assisted in providing better ways to organise and distribute produce. It would also be beneficial if the farmers purchase their agricultural produce in bulks to reduce the production costs. Regarding the production of yam, a fixed price for the ground provision for a particular season would also be a benefit.

With farming being the main economic activity within the area, members stated the creation of an agroprocessing factory may result in more employment opportunities, investment and an overall economic growth. There are potential lands in the area which could possible house factories or other infrastructure

that could boost economic growth. The relevant social groups may even lobby to funding agencies regarding the construction of such facility. Funding for such projects may be sourced from agencies such as USAID and JSIF among others. It was also noted training programmes for the community members could be undertaken by resourceful persons from different institutions or groups who specialise in the development of by-products from the farming produce. For example, few by-products of yam are yam juice, yam chips among others.

Certification of the skilled persons in the LDPA would be beneficial and as was suggested, contact needs to be made with HEART Trust/NTA and other training agencies to develop strategies in addressing this issue. The programmes would be specifically geared towards specific areas of interest that would benefit the communities.

The community members themselves are aware of the financial limitations that face the Local Authorities. Regarding the poor road conditions, it was advised the community groups contribute to cleaning the drains so as to reduce flooding that damages the roads, bush the roadways as well as lobby for equipment and construction materials. The NWA and Parish Council should also be contacted as they are both responsible for main and parochial roads respectively.

d. Built Environment

Vision Statement: *"The construction of safe, strong, efficient structures and infrastructures for better liveable communities."*

The poor roads conditions which are located in all the communities have to be addressed by the relevant authorities. The NWA and Parish Council are the agencies responsible for fixing such roads both are main and parochial roads respectively. This was also discussed previously in the Economic Thematic Area.

Regarding the lack of piped, it was outlined a few pipes have been laid in some of the communities, with the hope of having access to water supply in the near future. However the community of Wilson's Run is in need of a storage tank. The water pumping station that supplied water to the areas is without a functional water pump, therefore a replacement is needed or an updated water pump would be ideal.

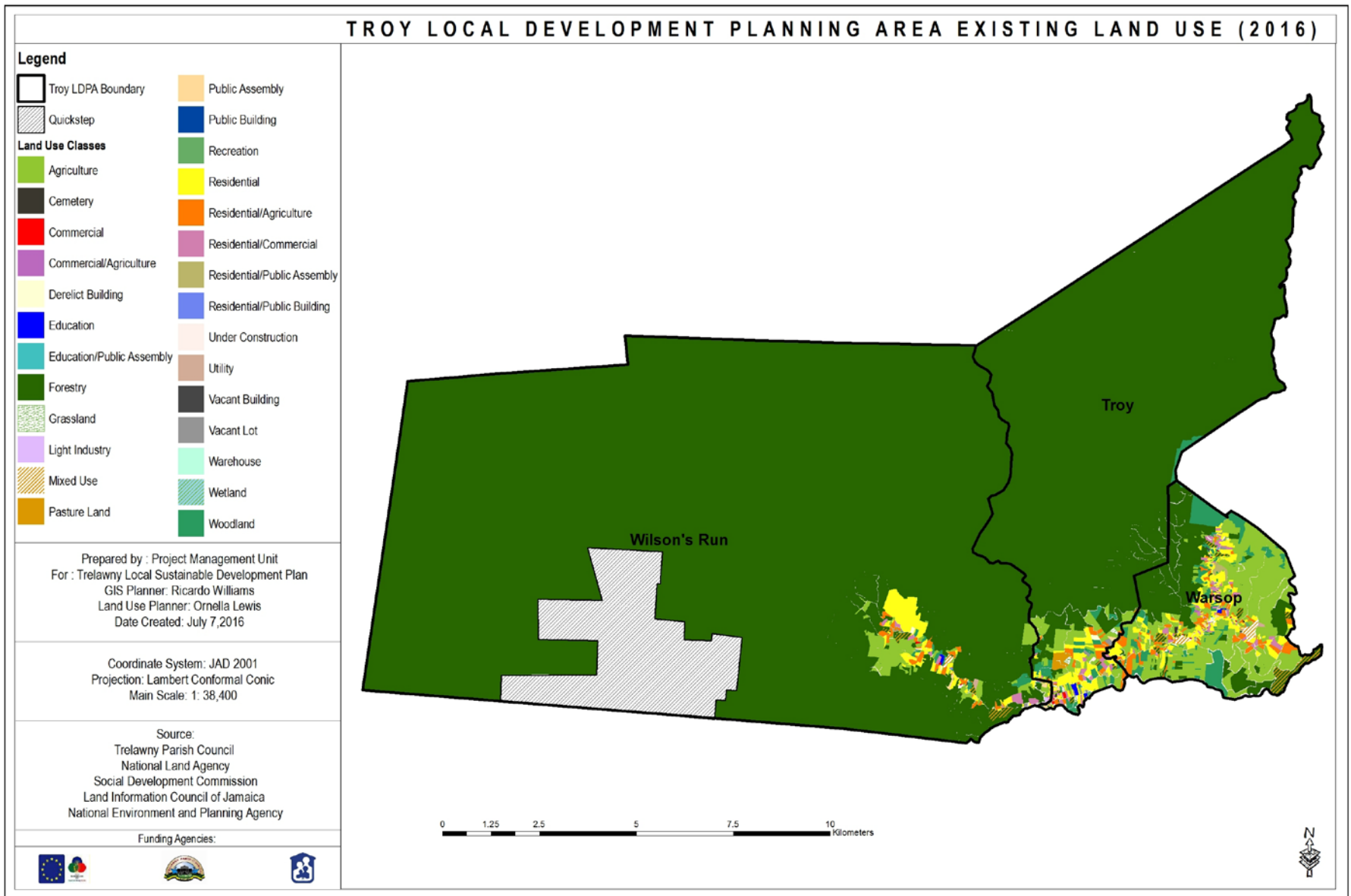
The residents suggested the inmates that are placed in local jails at the Police Stations be used to aid in bushing the roadways that are overgrown and are dangerous. It is also the responsibility of the relevant authorities to consistently maintain the bushing of the roadways.

The need for an agroprocessing plant is necessary for the LDPA and contact may be made with land owners of properties that would be ideal for such purpose through the Political Representative. With discussions, information may be obtained as to whether the land owners would volunteer their properties, lease or sell for the construction of the factory, which could be used to produce by-products from ground produce for export.

The hospital that was in Ulster Spring as expressed by the residents, needs to be reinstated or an upgrade of the current health centre that would facilitate more services. They also volunteered themselves to maintain a fire truck if one was provided by the Jamaica Fire Brigade or a funding agency. As noted, a structure could be built in Warsop to store the fire truck which would be spearheaded by the Political Representative and the citizens. The residents also located an area in Troy or Warsop for the construction a gas station that would prevent persons from storing petrol on their properties which is hazardous.

5. Existing Land Use

This section focuses on the existing land use within the Troy Local Development Planning Area analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying three elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the “existing and future” use of land of the settlement or region.



Map 19 Troy Local Development Planning Area Existing Land Use (2016).

DUANVALE
LOCAL DEVELOPMENT PLANNING AREA

TRELAWNY
LOCAL SUSTAINABLE
DEVELOPMENT PLAN: 2030 & Beyond



DRAFT

9.10 DUANVALE LOCAL DEVELOPMENT PLANNING AREA

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5. Existing Land Use
 1. **Overview of Duanvale Local Development Planning Area (LDPA)**

The Duanvale Local Development Planning Area consists of communities such as Sherwood Content, Perth Town and Duanvale. It is located in the North Eastern Section of Jamaica's largest remaining contiguous rainforest, the Cockpit Country and is a part of the natural reserve of flora and fauna for the island. Being ideally situated in Jamaica's white chalky limestone region the residents enjoy a cool climate. It has many karst hills along with cockpits, sinkholes, caves and underground passages. Four (4) well known caves are located in the LDPA, namely, Puskurrunkus, Kinloss Shelter, Jones Hole Shelter and Miller Cave.

This area has no commercial hub; nonetheless it is located within close proximity to the town of Falmouth. However, there are basic social services located in some of the communities. These include a post office, health centre, schools, churches and shops. The main economic activity of the LDPA is farming with tourism occurring in the community of Perth Town.

a. Community Involvement To Date

The Duanvale LDPA is one that has many Community Based Organisations that are actively involved in the growth and development of the area. Despite the many challenges they face, these CBOs work together to build a better community and Parish at large. Some of these CBOs include Citizens Associations, Church Groups, Sports Clubs, Parent Teachers Associations, Community Development Committees, Youth Clubs, Community Councils and Strata Society.

Over the years, the CBOs have obtained sponsorship from external sources along with hosting fundraising events to complete community projects and activities. Some of the projects that were completed are the renovation of the Sherwood Content Health Centre in 2010 and the construction of a multi-purpose playing field in Sherwood Content in 2013; both were sponsored by the Usain Bolt Foundation. The preservation of the Windsor Caves and the Cockpit Country is an ongoing project that is sponsored by the Windsor Research Centre with focus on the sustainability of the environment. Additionally, the Duanvale Community Development Committee refurbished the Duanvale Community Centre and renovated the New Forest Round-About. The Local Forestry Management Committee also launched a project to protect the Cockpit Country.

In February 2010, The Department of Local Government, in conjunction with the Trelawny Parish Council, conducted a One Day Visioning Symposium in Trelawny. The purpose of the Symposium was to provide a forum for forging a vision for the development of each community and the Parish as a whole. However, the Sensitisation Meeting and Visioning Workshop for the LDPA were held to inform the Trelawny Local Sustainable Development Plan.



Ms. Wellington, Councillor Holt and the community members of the Duanvale LDPA.

The purpose of the Visioning Workshop was to provide a forum for enhancing or creating a shared vision for the development of each community and the Parish of Trelawny as a whole, not a vision for any one organisation. The workshop ensured such a shared vision is the collective product of all relevant stakeholder groups in the communities and in the overall Parish and also will help to visualise what each community and Parish will be able achieve in twenty (20) years' time.

2. Duanvale Today

b. Population

The table below shows the estimated population size for the communities, which forms the Duanvale Local Development Planning Area.

Duanvale Local Development Planning Area	
Communities	Estimated Population Size
Duanvale	2500
Sherwood Content	1499
Perth Town	321
Total	4230

Source: Social Development Commission, 2010

b. Projects

The following projects have been undertaken in the LDPA:

- Refurbishing of the community centre in Duanvale sponsored by the Duanvale Community Development Committee.
- Renovation of New Forest Round-A-Bout sponsored by the Duanvale Community Development Committee.

- Protection of the Cockpit Country sponsored by the Local Forest Management Committee.
- Renovation of Sherwood Content Health Centre sponsored by the Most Honourable Dr. Usain Bolt.
- Preservation of Windsor Caves and the Cockpit Country sponsored by Windsor Research Centre.

3. Development Issues and Challenges

The Visioning Workshop focused on four (4) thematic areas which are the key elements of Sustainable Development. They are; a. Natural Environment b. Social Environment c. Economic Environment and d. Built Environment, where the residents discussed and prioritised the issues and challenges of the area as well as identified possible solutions and suggested possible action plans to address these issues and challenges.

a. Natural Environment

The residents of the Duanvale LDPA described the natural environment as one that is not man-made. They expressed there are various factors that contribute to the destruction of the natural environment and they are the reasons for the challenges faced. One such challenge is that of deforestation as persons rely on it for economic purposes such as farming, coal burning, furniture making and craft items. This area is located in the Cockpit Country which is one of the prized possessions of Trelawny. The residents explained that this disrupts the natural habitat of the flora and fauna that occupy the forests. It also causes landslides as the trees form the root systems in the soils and help to hold it together. When the trees are destroyed the soils become loose and when it rains heavily the soils may wash away, especially on the hillside. Deforestation also contributes to less rainfall as the trees act a transpiration zone and play a crucial role in the water cycle. Additionally, it contributes to global warming.



Residents of the Natural Environment Sector and Mr. Edwards who facilitated the workshop.

Coal burning has been an issue the residents of Duanvale LDPA have been facing for years now as it is high demand. The residents observed that this also poses a health issue as it results in air pollution and may cause respiratory diseases such as asthma.

Improper garbage disposal and illegal dumping are also some of the issues that the residents face. This occurs mainly in gullies between Sherwood Content and Duanvale, marl pits on the roadways between Duanvale and Falmouth and in the sinkholes. Some residents expressed this happens due to a lack of garbage receptacles in the area and the garbage truck does not have a regular collection schedule. A payment is sometimes requested for the collection of garbage by the collectors/workers and there needs to be some improvement in that area.

There has been an infestation of mosquitoes and bats in the area. The influx of mosquitoes is caused by poor environmental practices by the residents as they have open containers with water and engage in unhealthy cleaning practices, which spreads mosquito borne diseases. The residents stated while it is difficult to stop the infestation of mosquitoes they added that steps may be taken to help reduce and control them. Bats were also identified as a problem as they are living in the ceilings of the houses, schools and churches in the area.

b. Social Environment

High levels of unemployment is one of the social issues the residents of the Duanvale LDPA face which is caused a lack of skills among the residents in the area resulting in them being unemployed. There is also the lack of job opportunities in the area; where residents have to find jobs outside the area. Some residents possess the "get rich quick mentality" and do not want to work while relying on others to give them money. This also leads to the illegal activity of scamming. Poor parenting is also a cause of the high unemployment levels as some parents do not encourage their children to become skilled and employable. Additionally, some residents complained about wages being offered are not sufficient to meet their demands.



Mr. Williams engaged the residents of the Social Environment Sector group.

Majority of the youth clubs in the area are currently inactive and needs to be revived. There are many young persons in the area who have expressed interest in managing these clubs to keep them active and involved in community affairs. There is the need for more diversified entertainment in the area to keep the residents involved. Additionally, there is the need for a homework centre in Sherwood Content.

Some of the residents of the communities expressed they have limited or no access to piped water. The residents noted this is due to inadequate infrastructures such as pipelines and pump stations to supply water to some of these areas. Additionally, there is no reservoir in the district of Reserve, which hinders them from getting access to piped water. As a result, residents have to use water from their personal catchment tanks or Parish tanks.

The residents expressed the playing fields at the Duanvale Community Centre and the Waldensia Primary School need to be upgraded and perimeter fencings added. This would allow the fields to be more secured when in use by the children and community members. Additionally, they could be used to host fund raising activities such as football matches, sports days and other entertainment activities.

c. Economic Environment

The residents briefly defined the term 'economic' as anything that generates income or productivity as a result of financial activities. The issues and challenges discussed were diverse. The residents lamented about the lack of job opportunities in the area, due to the unavailability of productive industries within close proximity to the area. Unfortunately, some citizens especially farmers, are unaware of available job

opportunities that exists as some are thinking on a long-term basis. There is also the lack of a skills training centre in the area, therefore residents have to travel to Falmouth or other areas to access training facilities.



Discussions relating to the Economic Environment Sector were chaired by Ms. Poyser.

The residents in the community of Duanvale complained that the area is greatly stigmatised. Criminal activities occurred in the area years ago and it is still associated with the area as being one that encourages these activities. As a result, persons from outside tend to be sceptical about visiting the area and attending events there. The residents argued this has hindered development and external investors.

In the district of Reserve, there is no access to piped water. Duanvale is supplied with water via the National Water Commission but at times the residents are without water for months. There is also poor road conditions that affect the residents as it is sometimes very difficult to access transportation, which is very costly. Additionally, the drivers are faced with high maintenance costs caused by the wear and tear from the poor road conditions.

d. Built Environment

According to the residents the built environment is comprised of man-made structures such as roads and buildings among others. There are many issues that surround this environment and the residents were willing to share some of them. The road condition in all the communities are said to be in a deplorable condition. In some areas there are no existing roadways and this has been the cry of the residents for years now. They are concerned these roads are accident prone, especially at nights as the roads are very dark due to the lack of proper street lights. There is also the need for sidewalks, especially for the children to traverse to and from school.



Ms. Luton made note of what was said by the residents of the Built Environment Sector group.

The communities are also faced with blocked drains especially in Sherwood Content, Duanvale, Reserve and Piedmont. The blockage is caused by debris from the illegal dumping of garbage, stones and marl that are washed onto the roads along with broken down trees and shrubs. The drains are not being properly cleaned and maintained and it gets worse whenever it rains. This has also contributes to the poor condition of the road as the water is then channelled onto the roads and helps to deteriorate it.

Some districts are in need of a community centre while those that have access to one have underutilised it. Few of these community centres have been vandalised in the past and this has led to the deterioration of the structures. As a result of this, they have been abandoned and are in poor conditions. It was also mentioned these structures were not being maintained as the electrical and plumbing work were not being properly monitored.

Internet access in some of the communities is very minimal while it is unavailable in Sherwood Content. The residents complained, they should have access to internet from their homes or even designated points in the communities in this technological era. There is also the need for infrastructures such as ramps, for the physically challenged within the community. This would allow them to be able to access the necessary services without the assistance of others.

Informal settlements are another issue that the residents face in the district of Coxheath. Some residents expressed the lack of opportunities and land availability is the cause of this problem and it needs to be controlled.

4. Community Aspirations

The residents expressed elements of their visions for their communities that are based on these four (4) thematic areas: Natural Environment, Social Environment, Economic Environment and Built Environment as were discussed at the Visioning Workshops.

Vision Statement: *“To create clean, safe, sustainable and productive communities through the utilisation of available community resources”.*

a. Natural Environment

Vision Statement: “A community that is clean and healthy with citizens who are environmentally aware”.

The residents expressed deforestation was a major problem facing the natural environment. Trees play a very important role in the cycles of life and as a result, persons need to be aware of their importance and try to preserve them. In order for this problem to be alleviated, they suggested persons be educated on the effects of deforestation and how reforestation projects can assist. Additionally, more persons need to be involved in the protection of the environment.

Coal burning is a challenge that may be curbed if the residents unite and seek help to implement the plans they have suggested. One such suggestion was for the residents who cut down the trees the same amount of trees should be replanted. Standards and polices should be recommended and established as it relates to burning to control the amount of coal that is burnt over a period of time.

There needs to be proper monitoring of garbage disposal in the communities. A truck would be required to regularly collect the garbage so persons do not resort to dumping their garbage on the streets or in gullies. Garbage skips could be placed along the road sides at selected points, especially those that are considered to be targeted dumping areas. Appropriate signs could be put in place for persons to recognise the area as a no dumping zone and to indicate where skips are located. Penalties for dumping should be enforced and steps could be taken to educate persons on proper garbage disposal techniques.

In order to control the breeding of mosquitoes the residents suggested they covers for all containers the used to store water or holes be made in garbage drums and other containers to prevent water being stored. The overgrown grasses in the homes should be cut low especially during the rainy seasons. In order to reduce the infestation of bats, it was suggested the holes be blocked that creates access for bats to enter.

b. Social Environment

Vision Statement: *“Creating a united safe and productive community with access to all social services and amenities.”*

The residents suggested the provision of skills training and certification may help to lower the unemployment levels in the area. Persons who are trained are more likely to be employed when an opportunity arises as they would be qualified as well as these skills maybe used to encourage entrepreneurship. The residents suggested pastry making and auto mechanics training be done at the community centres, school cottages or health centres in the area. Public education and sensitisation could also be used to help lower unemployment levels. Educational Institutions could partner with Community Based Organisations to host events where they advertise their educational programmes along with the basic requirements.

Few solutions were given to assist communities that are without piped water. The Reservoir in Sherwood Content could be used to gravity-feed water to communities such as Reserve and others in need. Conversely, pump stations, pipelines and other equipment would be needed to supply the water. The National Water Commission would have to be contacted and the necessary steps taken.

To provide fencing for the playing fields at the Duanvale Community Centre and Waldensia Primary School, the communities could organise a series fundraising events to offset the cost of the fencing. This could be done as community events and the residents could organise a work day to complete the fencings. The active Police Youth Clubs could also solicit funding from Non-Governmental Organisations to assist with the upgrading of these playing fields.

Parenting workshops/seminars could be hosted in each district within the different communities to address the issue of poor parenting. In addition, the churches may be encouraged to become more involved in offering counselling sessions to parents and children who are encountering problems or refer them to professional counsellors.

c. Economic Environment

Vision Statement: *"To develop a well-trained workforce, partnering with various stakeholders to drive productivity and employment through the utilisation of available community resources."*

The major economic challenge that the residents face is the lack of job opportunities in the area. To alleviate this challenge, they strongly suggested the elected representatives along with influential citizens liaise with the Heart Trust/NTA to become more involved in the community to train and certify persons. They could also collaborate with Jamaica Foundation for Lifelong Learning (JFLL) to assist in identifying community members who are in need of help to develop their basic reading skills. Community Based Organisations such as youth clubs may also develop mentorship and intervention programmes to help others in finding jobs.

The residents also suggested, the Member of Parliament provide financial assistance from the Constituency Development Fund and other funding agencies. Previous contribution was made by the Universal Service Fund to assist with the renovation of the Duanvale Community Centre however; due to the lack of resources the renovation was stalled. Additionally, the community centre in Sherwood Content is underutilised, therefore skilled persons within the community could use it to train other community members and arrange for them to get certified by the relevant agencies.

The residents proposed a temporary Police post be installed to help rid the communities of the stigmatisation and promote more social interaction and youth development in the areas, especially Duanvale. Regular community visits by the police officers could build better relationships between the officers and the citizens. The police could also get involved in or organise community programmes for the children in the communities.

In order to assist the residents in accessing some of the basic amenities in life, a few suggestions were made. One was the community members could meet with the elected representatives to discuss ways in which they could assist with the repairing of the roads, while offering the manual labour. They also suggested that representatives from the Trelawny Parish Council, the Councillor for the Division along with officers from the National Works Agency could be more vigilant in keeping the citizens updated on basic road repair projects. With regards to the lack of piped water, regular visits can be made to the National Water Commission pump station to help to identify any problems and properly maintain the facility. In

addition, the communities without access to potable water need to be serviced with more than one water truck on a regular basis.

d. Built Environment

Vision Statement: *"To create a safe, clean and sustainable built environment. That is using energy efficient building materials while minimising waste, so that it falls within the economic means of the community".*

Deplorable road conditions are a challenge that is in urgent need of attention. The residents suggested they dialogue with all stakeholders such as National Works Agency, the Trelawny Parish Council along with the Elected Representatives to seek funding to begin the road repairs. The residents can also seek to form partnerships with private organisations to extend their Labour Day projects to assist in the fixing of the roads. The roads need to be properly maintained and more durable materials should be used to construct these roads. Additionally, the contractors responsible for the haulage of canes should be petitioned to assist with the fixing of the roads as the heavy equipment uses contribute to the deterioration of the road conditions. To seek proper lighting for the roadways, the residents suggested each member pay their property taxes, whereas the outstanding taxes that are owed can be paid and negotiations made in order to get additional streetlights.

To address the issue of the blocked drains the residents were aware focus should be directed towards public education as it is associated with the improper disposal of garbage, which contributes to the blockage of these drains. The haulage contractors should also be asked to clean up after they are through transporting the cane from one location to the next. The existing drains need to be cleaned and widened to control the volume of water that has to pass through them and they need to be properly constructed to keep the water off the road.

There are community centres in the area that are constantly vandalised and underutilised while, some areas are in need of community centres. However, emphasis needs to be placed on maintenance and security to prevent these centres from being destroyed. A thorough educational campaign for residents is needed to showcase the importance of preserving the structures and facilities of the community centres.

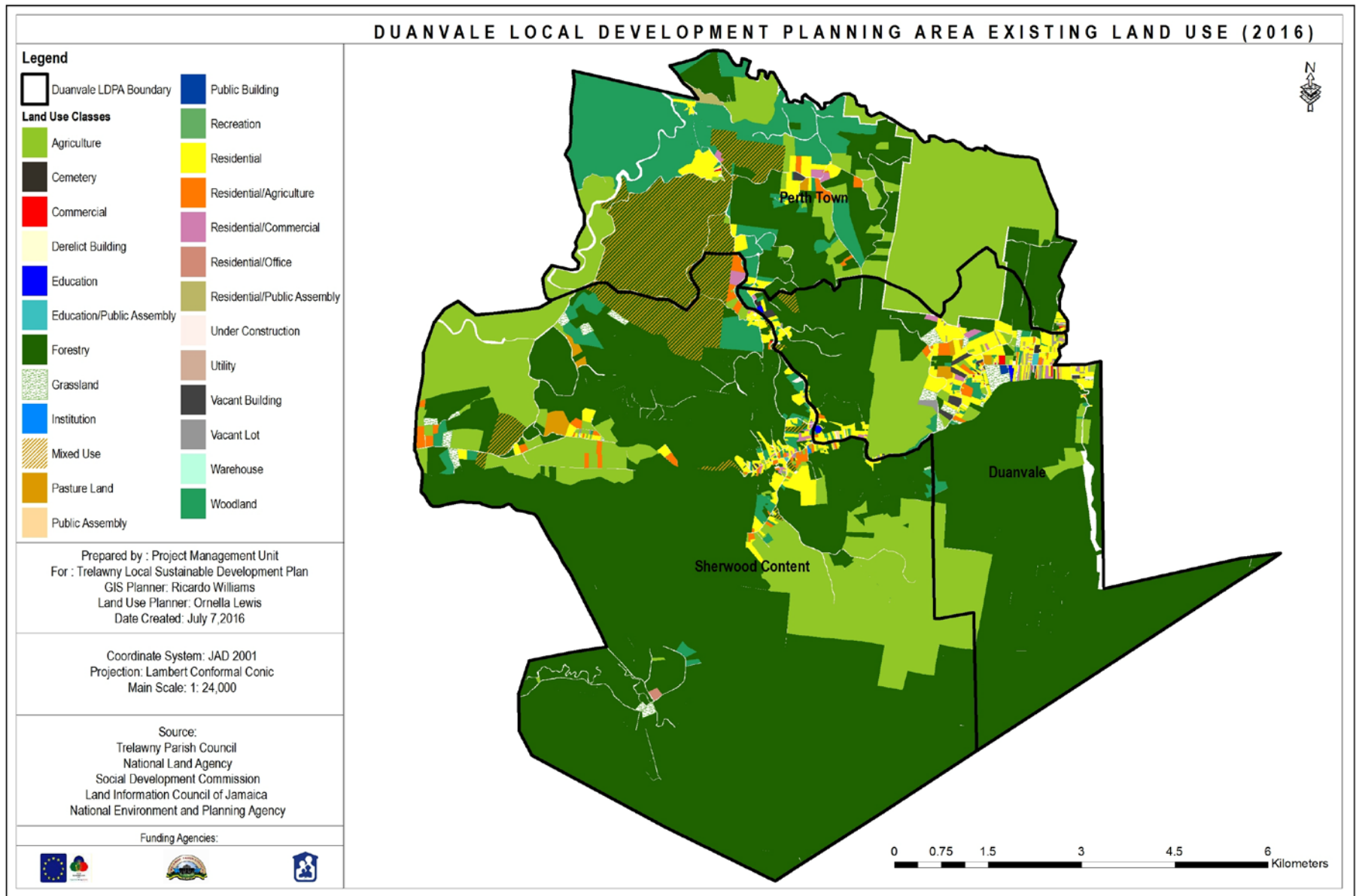
The issue of low internet access can be solved as the communication providers might be willing to supply the area if the population is able sustain it. Residents suggested they present a written petition to the two

(2) basic internet service providers, Flow and Digicel and have the residents sign it. A request could then be made to access 4G and other services and devices that will improve the quality of the service. The major stakeholders in the area could implement the construction of ramps and other facilities for the disabled which would allow them access to the services independently.

To mitigate the problem of informal settlements, the relevant authorities could allow the lands that are available to be sub-divided and sold to the residents at an affordable cost. The residents should also seek to acquire proper documentation for lands, especially those lands from generations which can be resold. Additionally, public education must be undertaken to provide residents with the necessary information relating land titles acquisition and the agencies involved in the process.

5. Existing Land Use

This section focuses on the existing land use within the Duanvale Local Development Planning Area analyses how well lands are being utilised for the needs of the residents living in these communities. The Land Use information is vital for studying three elements of land settlement which are: character, pattern and distribution, after which recommendations may be made to govern and preserve the “existing and future” use of land of the settlement or region.



Map 20 Duanvale Local Development Planning Area Existing Land Use (2016).

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APPENDICES

TRELAWNY
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11 APPENDICIES

APPENDIX 1

General Glossary

Ecological Sensitive Area means an area which is vulnerable to natural disasters and human impact.

Ecosystem means entire assemblage of organisms (plant, animal and other living beings—also referred to as a biotic community or biocoenosis) living together in a certain space with their environment (or biotope), functioning as a loose unit.

Development Areas mean the group of communities based on demographics, geographic, economic and social criteria with the potential for growth where the persons will gravitate towards its centre or hub for their socio-economic activities (PIOJ).

Local Development Planning Areas mean the areas specified in the Trelawny Local Sustainable Development Plan (TLSDP) which focus on all the communities within the Parish and not only on the growth centres.

Local Planning Areas mean the areas specified in Part II of the First Schedule of the Town and Country (Trelawny Parish) Provisional Development Order, 2013, which are concentrated on the growth centres of the Parish.

Mangrove means a group of plants, generally exceeding one half metre in height that normally grows above mean sea level in the intertidal zone of marine coastal environments and estuarine margins.

Non-Renewable Resources means a resource of economic value that cannot be readily replaced by natural means on a level equal to its consumption, for example most fossil fuels, such as oil, natural gas and coal.

Sustainable Development means a process in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are made consistent with the needs of future generations as well as those of present generations.

Watershed Management Unit means one of the twenty-six (26) watersheds defined in Jamaica that support the cycling of Jamaica’s clean water supply.

Wetland means a terrestrial ecosystem characterised by sluggish drainage and supporting specially adapted vegetation.

APPENDIX 2

Schedule of Beaches along the Trelawny’s Coast.

Location	Type
Braco	Bathing/Fishing
Burwood	Bathing
Coopers (Good Hope)	Fishing
Flamingo	Bathing
Gentles	Fishing
Half Moon Bay	Bathing
Jacob Taylor	Bathing/Fishing
Rock	Fishing
Rio Bueno	Bathing/Fishing
Salt Marsh	Fishing
Stewart Castle	Fishing
Victoria Park	Bathing/Fishing

APPENDIX 3

Caves in Trelawny.

Name	Also Known As	Location
Adam's Third Pit		Quick Step
Agony Hole		Barbecue Bottom
Alps Cave		Alps
Alps Sinkhole		The Alps
Alps Spring Cave		The Alps area
Anancy Hole**		Booth
April 2 Sink		Rock Spring
Arcadia Cave		Belmont area
Ashley Hall Cave		Sawyers area
August 23 Pit**		Me No Sen
Back-Of-Hut Pit-1		Cockpit Country
Back-Of-Hut Pit-2		Cockpit Country
Bad Hole**		Windsor

Barbecue Bottom Hole-1		Barbecue Bottom
Barbecue Bottom Hole-2		Barbecue Bottom
Belmont Cave		Stewart Town area
Belmore Castle Pit-1		Belmore Castle
Belmore Castle Pit-2		Belmore Castle
Benta Well**		Coxheath
Bogue Spring		Bogue
Bonafide Cave		Sawmill
Booth Camp Spring		Booth
Braco Cave	Arawak Cave	Rio Bueno area
Bristol Cave - 2nd Ent	Ratbat River Cave	Quashie River area
Bunkers Hill Shelter Cave**		Bunkers Hill
Burnt Hill Caves		Burnt Hill
Campbells Cave		Campbells
Campbell's Glade Sinks		Quashie River
Canaan Spring		Cockpit Country
Cane Patch Sink		Rock Spring
Carambie Cave - Main		Rock Spring
Carambie Cave - Dark		Rock Spring
Carambie Cave - Back		Rock Spring
Cave Window Hole		Sherwood Content
Clear River Cave**		Dromilly
Coco River Sink		Troy
Coffee Hall Cave 1	Bethany Cave	Fontabelle
Coffee Hall Cave 2		Fontabelle
Cole Fissure Cave		Kinloss
Comb Cave		Mouth River
Contra Sheep Pen Hole		Windsor
Cowitch Park Caves	Pendrick Cave	Troy
Cowtrap Pit		Quick Step
Crayfish Cave		Rock Spring
Crescent Pit		Cockpit Country
Croydon Mountain Cave		The Alps
Dalby's Stream Cave	Tyre Cave, Water Spring Cave	Troy
Dalesman'S Cave		Ulster Spring
Deeside Risings		Deeside
Deeside Roaring River Cave		Deeside
Devils Staircase		Carters Gap
Drip Cave		Stewart Town
Dromilly Cave	Morgan Cave	Dromilly
Dundee Cave		Dundee
Duppy Cave		Springvale

East Hole		Barbecue Bottom
Ed'S Lost Rack Pit		Me No Sen
Ellens Mourning Pit		Quick Step
Far Enough Cave		Rock Spring
Farmyard Cave		Rock Spring
Flood Exit Cave		Bamboo Bottom
Florence Hall Cave		Coopers Pen
Fontabelle Cave	Bethany Cave	Fontabelle
Fontabelle Rising		Fontabelle
Fountain Cave	Cotton Tree Cave	Ulster Spring
Glade Fissures Cave		Sawmill
Glory Hole		Ulster Spring
Good Hope Cave		Rock Spring
Good Hope One Cave - Sink		Rock Spring
Good Hope One Cave - Rising		Rock Spring
Good Hope Two Cave - Sink		Rock Spring
Good Hope Two Cave - Rising		Rock Spring
Greater Swanga**		Rock Spring
Gremlin Cave		Sawmill
Hall And Hill Cave	Holland Hill Cave	Rio Bueno
Hammonds Cave	Bun cave, Bunkershill Cave	Bunkershill
Harties Cave #1 - Main		Rock Spring
Harties Cave #1 - Nw		Rock Spring
Harties Cave #2		Rock Spring
Hectors River Cave	Dungeon Caves, Troy Caves	Hector's River
Hectors River Sink 1		Troy
Hectors River Sink 2		Troy
Hectors River Sink 3		Troy
Hectors River Sink 4		Troy
Hell Cave		Freemans Hall
Hessies Hole**		Coxheath
Hole-In-The-Wall Pit		Cockpit Country
Home Away From Home Cave**		Caledonia
Hope Gate Cave		Coopers Pen
Hope River Glade Cave - Rising		Flagstaff
Innerwell Fissure Cave		Me No Sen
Iron Maiden Cave - Sink		Rock Spring
Ivy Terry Cave		Falmouth
Jabbering Crow Pit		Cockpit Country
Jezebel Hole		Quashie River
Johnson Cave		Stewart Castle
Johnsons Pen Cave	Carey Park Cave, Slave Cave	Duncans

Jones Hole Shelter		Duanvale
Killer Corkscrew Pit		Me No Sen
King Koes Cave		Troy
Kinloss Shelter	Cole Cave	Kinloss
Kolan Bush Sinkhole		Troy
Litchfield Cave	Wait-a-bit Cave	Litchfield
Lindas Mini-Pit		Me No Sen
Long Mile Cave	Pick'ny Mama Cave	Windsor
Long Pond Sink		Long Pond
Lowe River Caves	Right's Bat Hole	Lowe River
Macbean'S Shelter Cave		Coxheath
Marta Tick Cave	Comenight Cave, Macca Stick Cave, Mattastick Cave	Sawmill
Miller Cave		Duanvale
Minocals Glory Hole		Me No Sen
Mirk Pit		Barbecue Bottom
Montieth Cave		Clarks Town
Mouth Maze - Sink		Rock Spring
Mouth Maze - Lighthole		Rock Spring
Mouth Maze - Good Hope Sump		Rock Spring
Murrow Hole		Bristol Cave
New Forest Cave 1	Kinloss Mountain Cave	Duanvale
New Forest Cave 2		Duanvale
Old Man Cave		Stewart Town
Olive Piece Property Caves		Quick Step
Palmers Cave		Durham Mountain
Pantrepant Cave	Spring Cave, Arawak Cave	Pantrepant
Pool Cave - Rising		Rock Spring
Pool Cave - Sink		Rock Spring
Potosi Water Boil		Perth Town
Printed Circuit Cave - Main	Corner Cave, John Foden Cave	Rock Spring
Printed Circuit Cave - Farmyard		Rock Spring
Printed Circuit Cave - Double		Rock Spring
Printed Circuit Cave - Positive Se		Rock Spring
Printed Circuit Cave - Positive Nw		Rock Spring
Printed Circuit Cave - Emitter		Rock Spring
Printed Circuit Cave - Northwest		Rock Spring
Pusskurrunkus Cave (Southfield Cave)		Duanvale
Quashie River Cave	Bristol Sink, Breezy Hole	Quashie River
Quashie Sinkhole**		Quashie River
Quaws Pond Sink		Quaws Pond
Quich Owl Gully Cave		Ulster Spring

Ramgoat Cave		Barbecue Bottom
Red Top Pit		Cockpit Country
Road Side Pit		Me No Sen
Robert Mings Pit		Quick Step
Rolling Rock Pit		Sawmill
Ruined Ground Cave	Fowl House Cave	Windsor
Salmon Cave		Flagstaff
Saucy River Cave		Accompong
Sawmill Cave**		Sawmill
Sawmill Collapse		Sawmill
Sheep Pen Cave		Windsor
Shortys Cave		Sherwood Content
Sink Field Holes		Hectors River
Snake Hole		The Alps
Sods Hole		Quashie River
South Hole		Barbecue Bottom
Southfield Cave		Duanvale
Spaniard Cave		Perth Town
Sploosh Pot		Quashie River
Spring Cave (Pantrepant East)		Pantrepant
Stanford Cave		Sammypiece
Stephenson Cave		Sawmill
Stewart Castle Cave		Carey Park
Stony Hill Cave		Duncans
Swanga Cave - Rising		Rock Spring
Swanga Cave - Sink		Rock Spring
Tamarind Pond Hole		Cockpit Country
Terry Head Cave		Ulster Spring
The Tomhole		Me No Sen
Too Far Stream Cave		Rock Spring
Tyre Stream Cave**		Tyre
Tyre Sump Cave		Tyre
Undernose Cave		Sawmill
Victons Cave		Duncans
Wandering Well		Me No Sen
Waynes Pit		Cockpit Country
White Cave		New Hope
Wilson's Run Cave		Heading
Windsor Great Cave - Main		Windsor
Windsor Great Cave - Upper		Windsor
Windsor Great Cave - Bamboo		Windsor
Windsor Great Cave - Resurge		Windsor

Source: Jamaica Caves Organisation, 2016

APPENDIX 4

Government Land Settlements in Trelawny.

Government Land Settlement	Location	No. of Structures	Status
Allsides	Wait-A-Bit		
Bounty Hall	Bounty Hall		
Braco and Lancaster Estate	Braco		
Brampton Bryan	Jackson Town		
Bunker's Hill			
Clarmont			
Dromilly	Deeside		
Garredu			
Greenvale			
Greenwich			
Hague	Falmouth		
Hyde and Gibraltar	Clark's Town		
Litchfield			
Middlemost/Samuel Prospect	Duncans		
Reserve Pen			
Richmond Pen			
Stettin			
Troy			
Unity			
Warsop	Warsop		

Source: NEPA

APPENDIX 5

Informal Settlements in Trelawny.

Informal Settlement	Location	No. of Structures	Status
Allsides	Wait-A-Bit	4	Surveyed
Belmore Castle	Quick Step		Unsurveyed
Bristol	Ulster Spring		Unsurveyed
Brampton Bryan	Jackson Town		Unsurveyed
Caledonia	Alps	10	Surveyed
Carey Park	Duncans		Unsurveyed
Cockburn Pen	Clark's Town		Surveyed
Cooper's Pen	Falmouth	35	Unsurveyed
Dromilly Land	Deeside		Surveyed
Durham	Spring Gardens		Unsurveyed
Hague	Falmouth		
Heading	Troy		

Hope Mountain Forest Reserve	Deeside		Surveyed
Hyde	Clark's Town		Surveyed
Johnson Hill	Salt Marsh		
Kinloss	Kinloss		Unsurveyed
Mack Hill	Clark's Town	350	Surveyed
Mahogany Hall	Sawyers		Surveyed
Middlemost/Samuel Prospect	Duncans		Surveyed
Pamarsus	Clark's Town		Surveyed
Quickstep	Quick Step		Unsurveyed
Salt Marsh	Falmouth		Surveyed
Kettering/Silver Sands	Silver Sands		
Stewart Castle	Stewart Town		Unsurveyed
Vanzie Land/Race Course	Falmouth		Surveyed
Water Lane	Falmouth	120 - 600	Surveyed
Zion	Martha Brae		

Source: Squatter Settlement Unit – MDEG&JC 2016.

Those listed below are not considered to be informal settlements.

** Project Land Lease (PLL): Wilson Valley**

APPENDIX 6

Police Stations in Trelawny.

Name	Location
Clark's Town	38 Main Street
Duncans	Duncans Main Road
Falmouth	29 Rodney Street
Rio Bueno	Rio Bueno Main Road
Stewart Town	Caedar Mountain
Ulster Spring	Ulster Spring Main Road
Wait-A-Bit	Wait-A-Bit Main Road
Wakefield	Wakefield Main Road
Warsop	Warsop Main Road

APPENDIX 7

The Jamaica National Heritage Trust has listed the following monuments and historical sites in the Parish, which are worthy of preservation for the interest of both residents and visitors.

Sites of Architectural or Historical Significance.

Site	Location	Type of Site
Albert George Market	Falmouth	Historical Architecture
Albert Town Historic Free Village	Albert Town	Historical Architecture

All Sides Historic Village	All Sides	Archaeological
Rio Bueno Anglican Church	Rio Bueno	Historical Architecture
Arcadia Great House	Arcadia	Archaeological
Ashley Hall Plantation	Ashley	Archaeological
Baptist Church	Rio Bueno	Historical Architecture
Baptist Church	Duncans	Historical Architecture
Baptist Manse	Duncans	Historical Architecture
Barbecue Bottom	Barbecue Bottom	Archaeological
Barnstaple Sugar Estate	Barnstaple	Archaeological
Barrett House	Falmouth	Archaeological
Belmont Historic Property House	Belmont	Archaeological
Belmore Castle Plantation	Belmore	Archaeological
Bengal Bridge	Bengal	Historical Architecture
Braco Taino Site 1	Braco	Archaeological
Braco Taino Site 2	Braco	Archaeological
Browns Mountain	Browns Mountain	Archaeological
Browns Mountain Slave Hospital	Browns Mountain	Archaeological
Burnt Hill Historic Road/Sinkholes	Burnt Hill	Archaeological
Carbie Historic Estate	Carbie	Archaeological
Cascade Cut-stone Ruin	Cascade	Archaeological
Cave River Sugar Works	Cave River	Archaeological
Clifton Sugar Works	Clifton	Archaeological
Clifton Taino Site	Clifton	Archaeological
Coffee Hall Historic Ruins	Coffee Hall	Archaeological
Coral Spring Taino Site 2	Coral Spring	Archaeological
Covey/Good Hope Sugar Works	Covey/Good Hope	Archaeological
Coxheath Historic Ruins	Coxheath	Archaeological
Dornoch Rising	Riverhead	Archaeological
Dover Castle Historic Barbecue	Dover Castle	Archaeological
Dromilly Sugar Works/Great House	Dromilly	Archaeological
Duanvale sugar Works	Duanvale	Archaeological
Duncans Cemetery	Duncans	Archaeological
Duncans Clock Tower	Duncans	Historical Architecture
Duncans Police Station	Duncans	Historical Architecture
Duncans Shop 1	Duncans	Historical Architecture
Duncans Shop 2	Duncans	Historical Architecture
Duncans Shop 3	Duncans	Historical Architecture
Duncans Shop 4	Duncans	Historical Architecture
Duncans Supermarket	Duncans	Historical Architecture
Duncans Vernacular House 1	Duncans	Historical Architecture
Duncans Vernacular House 2	Duncans	Historical Architecture
Duncans Vernacular House 3	Duncans	Historical Architecture
Duncans Vernacular House 4	Duncans	Historical Architecture
Falmouth Baptist Church	Falmouth	Historical Architecture
Falmouth Court House	Falmouth	Historical Architecture
Falmouth Warehouse	Falmouth	Historical Architecture
First Hill United Church Cemetery	First Hill	Archaeological

Florence Hall Great House	Florence Hall	Historical Architecture
Fontabelle Sugar Works and Great House	Fontabelle	Archaeological
Fort Balcarres	Falmouth	Archaeological
Fort Dundas	Rio Bueno	Archaeological
Freemans Hall Sugar Factory	Freemans Hall	Archaeological
Friendship Historic Sugar works	Friendship	Archaeological
Good Hope House	Good Hope	Historical Architecture
Grays Inn Barbecue and Tombs	Grays Inn	Archaeological
Hague Pen	Hague	Archaeological
Hague Taino Site	Hague	Archaeological
Hampstead House	Hampstead	Historical Architecture
Hampstead Taino Site	Turner's Hill	Archaeological
Hamstead Historic Sugar Works	Hamstead	Archaeological
Harmony Hall Grave Yard	Harmony Hall Estate	Archaeological
Harmony Hall Great House	Harmony Hall Estate	Historical Architecture
Harmony Hall Sugar Works	Harmony Hall Estate	Archaeological
Harmony Hall Taino Site	Harmony Hall	Archaeological
Holland Hill Cave	Holland Hill	Archaeological
Hugh Shearer House	Martha Brae	Historical Architecture
Hyde Cave	Hyde	Archaeological
Hyde Sugar Works	Hyde	Archaeological
Hyde Taino Site	Hyde	Archaeological
Irving Tower Taino Site	Martha Brae	Archaeological
Joes Hut Historic Village	Joes Hut	Archaeological
Kinloss Sugar Estate	Kinloss	Archaeological
Lancaster Great House	Lancaster Estate	Historical Architecture
Lancaster Sugar Works	Lancaster Estate	Archaeological
Liberty Hall House	Liberty Hall	Archaeological
Litchfield and Litchfield Mountain	Litchfield	Archaeological
Mahogany Hall Estate	Mahogany	Archaeological
Manchester Sugar Estate	Manchester	Archaeological
Martha Brae Spanish Settlement	Martha Brae	Archaeological
Martha Brae Sugar Work	Martha Brae	Archaeological
Martha Brea Taino Site	Martha Brae	Archaeological
Me No Sen Yuh No Come Historic Tombs	Me No Sen Yuh No Come	Archaeological
Mount Ridgeway Historic Plantation	Mount Ridgeway	Archaeological
Mountain Spring Bay House	Mountain Spring	Archaeological
New Forest Taino Site	New Forest	Archaeological
Olive River Historic Village	Olive River	Archaeological
Oyster Bay Cinote and Caves	Oyster Bay	Natural
Pantepant House	Pantepant	Historical Architecture
Pantepant Taino Cave	Pantepant	Archaeological
Pantrepant Sugar Works and Taino Midden	Pantepant	Archaeological
Pembroke House	Pembroke	Historical Architecture
Pembroke Taino Site	Pembroke	Archaeological
Police Station	Rio Bueno	Historical Architecture

Pound Hill Vernacular House 1	Duncans	Historical Architecture
Pound Hill Vernacular House 2	Duncans	Historical Architecture
Pound Hill Vernacular House 3	Duncans	Historical Architecture
Pound Hill Vernacular House 4	Duncans	Historical Architecture
Quashie River Historic Village	Quashie River	Archaeological
Quaws/Quays Pond	Quaws/Quays Pond	Archaeological
Quickstep Maroon Village	Quickstep	Archaeological
Reserve Sugar Works	Reserve	Archaeological
Rest and be Thankful Baptist Church Ruins	Rest and be Thankful	Archaeological
Rio Bueno Taino Site	Rio Bueno	Archaeological
Rio Bueno Vernacular House 1	Rio Bueno	Historical Architecture
Rio Bueno Vernacular House 2	Rio Bueno	Historical Architecture
Rio Bueno Vernacular House 3	Rio Bueno	Historical Architecture
Rio Bueno Warehouse 1	Rio Bueno	Archaeological
Rio Bueno Wharf	Rio Bueno	Archaeological
Robin Sober Inn	Duncans	Historical Architecture
Rock Spring Mouth River Cave	Rock Spring	Archaeological
Rock Vernacular House	Greenfield	Historical Architecture
Sawyers Market Historic Village	Sawyers Market	Archaeological
Sherwood (content) Plantation House	Sherwood (content)	Archaeological
Sherwood Taino Site	Sherwood	Archaeological
Sportsman Hall Historic Works	Sportsman Hall	Archaeological
Spring Garden Historic Estate	Spring Garden	Archaeological
Spring House	Coral Spring	Historical Architecture
Spring Sugar Works	Coral Spring	Archaeological
Spring Taino Site 1	Coral Spring	Archaeological
St. Peters Anglian Parish Church	Falmouth	Historical Architecture
Stettin Historic House Ruins	Stettin	Archaeological
Stewart Castle Overseer House	Stewart Castle	Archaeological
Stewart Castle Site	Stewart Castle	Archaeological
Stewart Castle Taino Site	Stewart Castle	Archaeological
Westwood High School	Stewart Town	Archaeological
Stonehenge Sugar Estate	Stonehenge	Archaeological
The Alps Free Village Baptist Church Cemetery	The Alps	Archaeological
Tilston Great House	Tilston	Historical Architecture
Troy Historic Military Camp	Troy	Archaeological
Tyre Historic Village	Tyre	Archaeological
Ulster Spring Sugar Works	Ulster Spring	Archaeological
Unity Sugar Estate	Unity	Archaeological
Vale Royal Great House	Vale Royal	Historical Architecture
Venture historic Estate	Venture	Archaeological
Wait-A-Bit Historic Village	Wait-A-Bit	Archaeological
Wales House	Wales	Historical Architecture
Wales Taino Site	Wales	Archaeological
Warsop (Historic)	Warsop	Archaeological

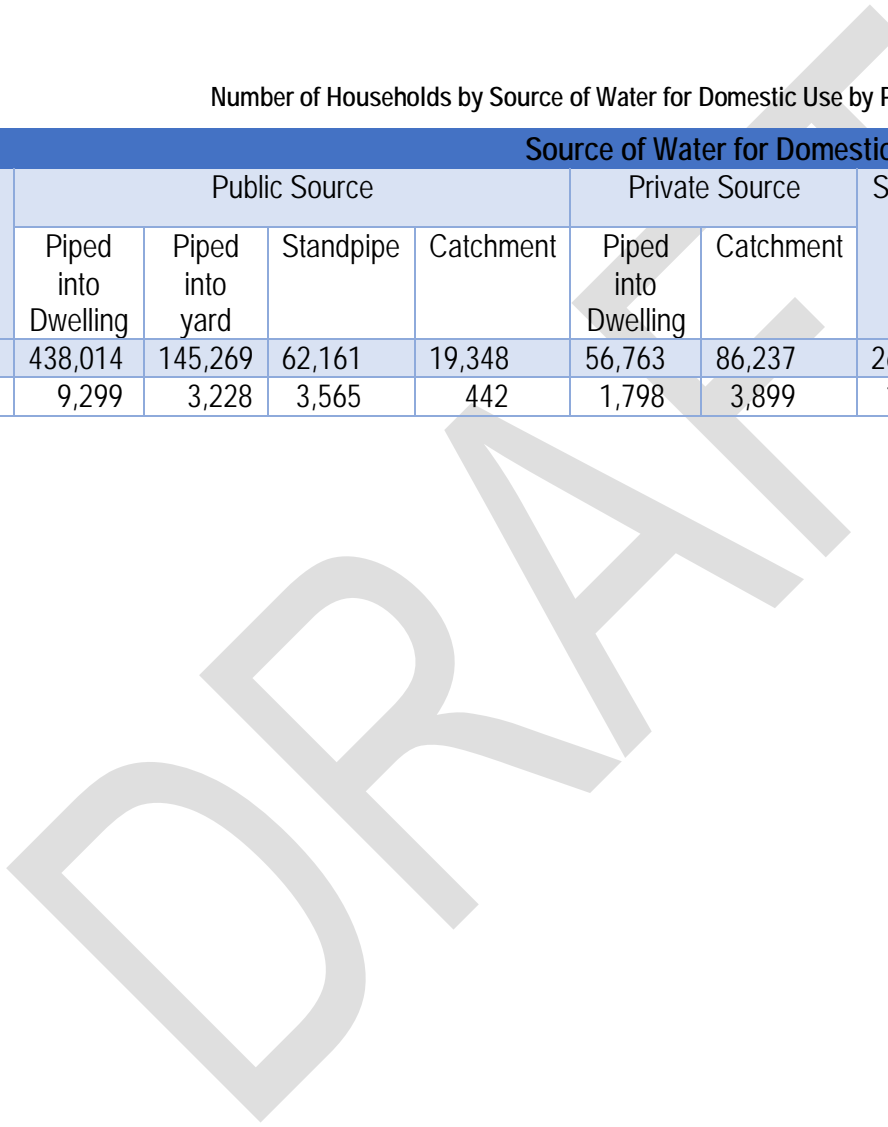
Water Square	Falmouth	Archaeological
White Bay Wharf	Coral Spring	Archaeological
William Knibb School	Falmouth	Historical Architecture
Wilson's Run Historic Estate	Wilson's Run	Archaeological
Windsor Cave	Windsor	Archaeological
Windsor House	Windsor	Historical Architecture
Windsor Slave Hospital/Barracks	Windsor	Archaeological
Windsor Sugar Works	Windsor	Archaeological
Windsor Taino Site	Duncans	Archaeological
Wirefence Village/Post Office	Wirefence	Archaeological
Green Park Great House	Green Park	Historical Architecture
Johnsons Bay Cave	Silver Sand	Archaeological

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APPENDIX 8

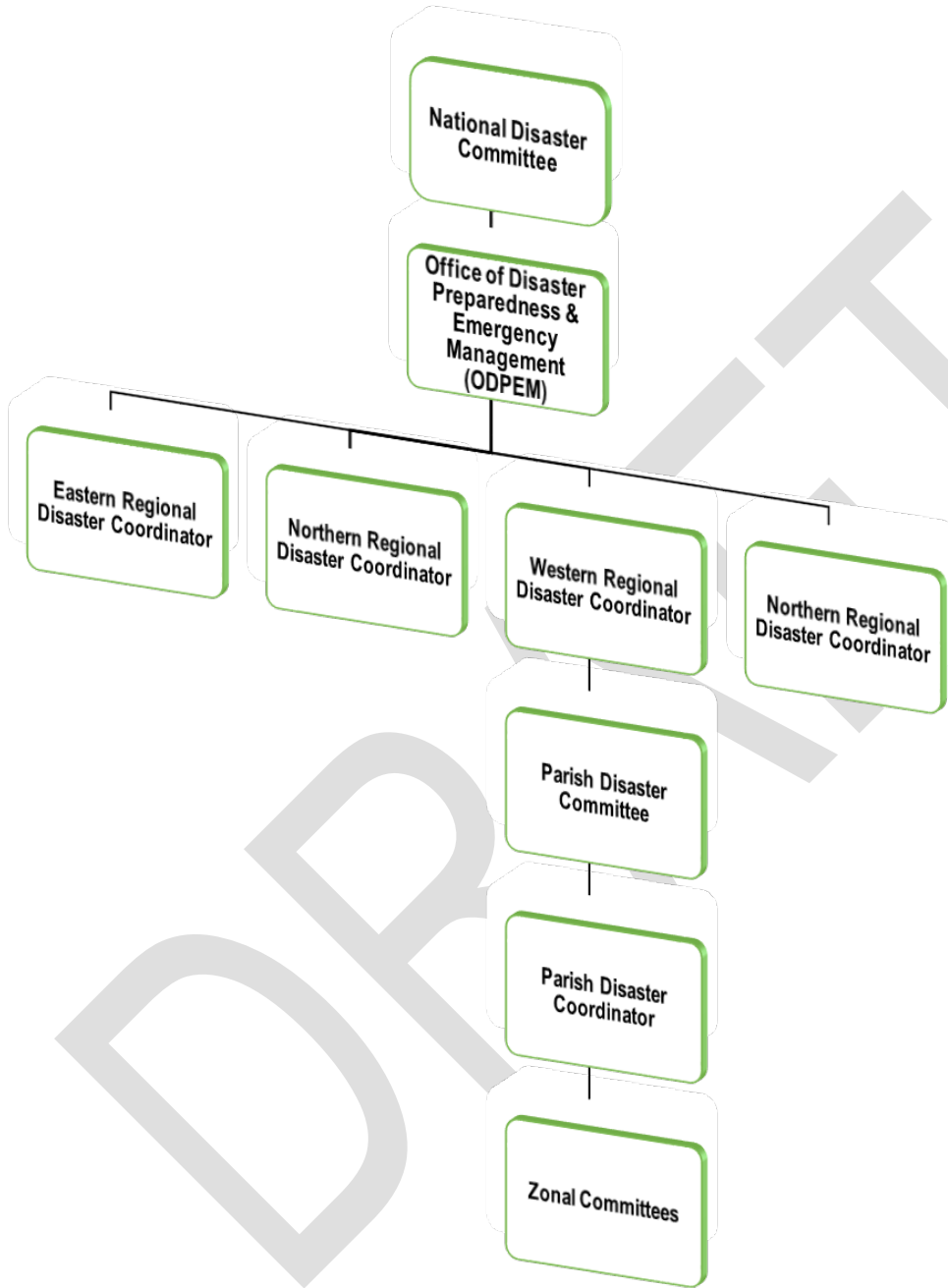
Number of Households by Source of Water for Domestic Use by Parish.

Source of Water for Domestic Use											
	Total Households	Public Source				Private Source		Spring/River	Trucked Water/Water Truck	Other	Not Reported
		Piped into Dwelling	Piped into yard	Standpipe	Catchment	Piped into Dwelling	Catchment				
Jamaica	881,089	438,014	145,269	62,161	19,348	56,763	86,237	26,601	18,819	16,264	11,613
Trelawny	25,201	9,299	3,228	3,565	442	1,798	3,899	1,721	437	520	292



APPENDIX 9

Organisational Structure of Disaster Management in Trelawny.



APPENDIX 10

Official and Contingency Shelters by Division in Trelawny.

Number	Shelter Name	Division	Zone	Areas Served
Official Shelters				
01	William Knibb High School	Falmouth	Falmouth	Falmouth
02	Holland High School	Martha Brae	Falmouth	Martha Brae
03	Marta Brae Basic School	Martha Brae	Falmouth	Martha Brae
04	Granville All Age School	Martha Brae	Falmouth	Granville
05	Salt Marsh All Age School	Martha Brae	Falmouth	Salt Marsh
06	Hague Primary School	Martha Brae	Falmouth	Hague
07	Daniel Town Primary School	Martha Brae	Falmouth	Daniel Town
08	Bounty Hall Primary School	Wakefield	Falmouth	Bounty Hall
09	Bounty Hall Com. Centre	Wakefield	Falmouth	Bounty Hall
10	Wakefield Primary School	Wakefield	Wakefield	Wakefield
11	Hastings Primary School	Wakefield	Wakefield	Deeside
12	Friendship Basic School	Wakefield	Wakefield	Friendship
13	Unity Primary School	Wakefield	Wakefield	Bunker's Hill
14	Bunkers Hill Community Centre	Wakefield	Wakefield	Bunker's Hill
15	Hampden Primary School	Wakefield	Wakefield	Hampden Land
16	Dromilly Basic School	Wakefield	Wakefield	Dromilly
17	Perth Town Junior High School	Sherwood Content	Falmouth	Perth Town
18	Piedmont Basic School	Sherwood Content	Falmouth	Sherwood Content
19	Waldensia All Age School	Sherwood Content	Falmouth	Sherwood Content
20	Cedric Titus High School	Sherwood Content	Clark's Town	Clarks Town
21	Hyde Community Centre	Sherwood Content	Clark's Town	Hyde
22	Kinloss Primary School	Sherwood Content	Clark's Town	Kinloss
23	Duanvale Basic School	Sherwood Content	Clark's Town	Duanvale
24	Duanvale Primary School	Sherwood Content	Clark's Town	Duanvale
25	Reserve Community Centre/ Reserve Basic School	Sherwood Content	Clark's Town	Reserve
26	Duncans All Age School	Duncans	Duncans	Duncans

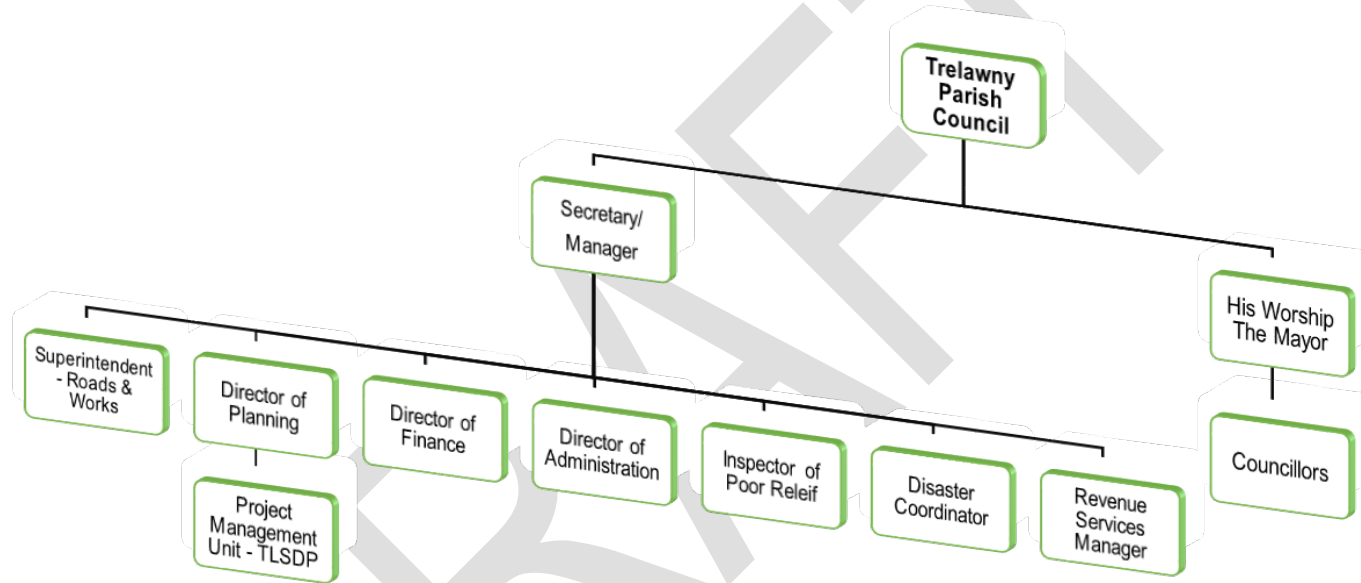
27	Rio Bueno All Age School	Duncans	Duncans	Rio Bueno
28	Refuge Primary School	Duncans	Duncans	Refuge
29	Brampton All Age School	Duncans	Jackson Town	Brampton
30	Jackson Town Basic School	Duncans	Jackson Town	Jackson Town
31	First Hill All-Age School	Duncans	Jackson Town	Jackson Town
32	Stewart Town Basic School & Primary School	Ulster Spring	Stewart Town	Stewart Town
33	Stewart Town Comm. Centre	Ulster Spring	Stewart Town	Stewart Town
34	Sawyers Primary School	Ulster Spring	Jackson Town	Mahagony Hall
35	Alps Primary School	Ulster Spring	Ulster Spring	Alps
36	Ulster Spring Primary School	Ulster Spring	Ulster Spring	Ulster Spring
37	Freemans Hall Primary School	Ulster Spring	Ulster Spring	Freemans Hall
38	Albert Town High School	Albert Town	Albert Town	Albert Town
39	Albert Town Primary School	Albert Town	Albert Town	Albert Town
40	Albert Town Community Centre	Albert Town	Albert Town	Albert Town
41	Spring Garden Primary and Infant School	Albert Town	Albert Town	Spring Garden
42	Wait A Bit All Age School	Lorrimers	Wait-A-Bit	Wait-A-Bit
43	Wirefence Basic School	Lorrimers	Wait-A-Bit	Wirefence
44	Wirefence Comm. Centre	Lorrimers	Wait-A-Bit	Wirefence
45	Low River Junior High School	Lorrimers	Wait-A-Bit	Low River
46	Warsop All Age School	Warsop	Warsop	Warsop
47	Troy All Age School	Warsop	Warsop	Troy
48	Troy High School	Warsop	Warsop	Troy
49	Wilson Run All Age and Basic School	Warsop	Warsop	Wilson's Run
50	Quickstep Primary School	Warsop	Warsop	Quickstep
Contingency Shelters				
51	Salvation Army	Falmouth	Falmouth	Falmouth
52	Johnson Hill Deliverance Tabernacle	Martha Brae	Falmouth	Johnson Hill
53	Bounty Hall Baptist	Wakefield	Falmouth	Bounty Hall

54	Wakefield Baptist	Wakefield	Wakefield	Wakefield
55	Deeside New Testament	Wakefield	Wakefield	Deeside
56	Hastings Baptist	Wakefield	Wakefield	Deeside
57	Reid's Friendship	Wakefield	Wakefield	Friendship
58	Bunkers Hill New Testament	Wakefield	Wakefield	Bunkers Hill
59	Sherwood Content New Testament	Sherwood Content	Clark's Town	Sherwood Content
60	Clark's Town SDA	Sherwood Content	Clark's Town	Clark's Town
61	Kinloss New Testament	Sherwood Content	Clark's Town	Kinloss
62	Duanvale Methodist	Sherwood Content	Clark's Town	Duanvale
63	Duanvale Baptist	Sherwood Content	Clark's Town	Duanvale
64	Faith Tabernacle	Sherwood Content	Clark's Town	Duanvale
65	Duanvale Pentecostal	Duncans	Clark's Town	Duanvale
66	Duncans Baptist	Duncans	Duncans	Kettering
67	Crawle Methodist	Duncans	Duncans	Crawle
68	Spicy Hill Pentecostal	Duncans	Duncans	Spicy Hill
69	Rio Bueno SDA	Duncans	Duncans	Rio Bueno
70	Rio Bueno Anglican	Duncans	Duncans	Rio Bueno
71	Samuel Prospect Praise Temple	Duncans	Duncans	Samuel Prospect
72	Mount Refuge	Duncans	Duncans	Carey Park
73	Good Hope Baptist	Duncans	Duncans	Samuel Prospect
74	William Webb Baptist	Ulster Spring	Stewart Town	Stewart Town
75	Sawyers Methodist	Ulster Spring	Jackson Town	Sawyers
76	Brampton Methodist	Ulster Spring	Jackson Town	Brampton
77	Alps SDA	Ulster Spring	Ulster Spring	Alps
78	Alps New Testament	Ulster Spring	Ulster Spring	Alps
79	Ulster Spring Baptist	Ulster Spring	Ulster Spring	Ulster Spring
80	Dutch Hill New Testament	Ulster Spring	Ulster Spring	Dutch Hill
81	Freemans Hall Baptist	Ulster Spring	Ulster Spring	Freemans Hall
82	Warsop Pentecostal	Warsop	Warsop	Warsop
83	Warsop Anglican	Warsop	Warsop	Warsop
84	Troy Anglican	Warsop	Warsop	Troy

85	Wilson's Run New Testament	Warsop	Warsop	Wilson's Run
86	Warsop Methodist	Warsop	Warsop	Warsop
87	Warsop Baptist	Warsop	Warsop	Warsop
88	Wilson Valley Baptist	Warsop	Warsop	Wilson Valley
89	Spring Gardens SDA	Albert Town	Albert Town	Spring Gardens
90	Stettin New Testament	Albert Town	Albert Town	Stettin
91	St. Vincent New Testament	Albert Town	Albert Town	St. Vincent
92	Lowe River Assembly of God	Lorrimers	Wait-A-Bit	Lowe River
93	Lime Tree United	Lorrimers	Wait-A-Bit	Lime Tree
94	Joe Hut New Testament	Lorrimers	Wait-A-Bit	Joe Hut
95	Litchfield SDA	Lorrimers	Wait-A-Bit	Litchfield
96	Litchfield Baptist	Lorrimers	Wait-A-Bit	Litchfield
97	Wirefence SDA	Lorrimers	Wait-A-Bit	Wirefence
98	Allsides SDA	Lorrimers	Wait-A-Bit	Allsides

APPENDIX 11

Organisational Structure of the Local Planning Authority - Trelawny Parish Council.



APPENDIX 12

Summary of major Issues, Challenges and Proposed Solutions, Sensitisation Meetings and Visioning Workshops.

Local Development Planning Area (LDPA)	Major Issues and Challenges	Community Aspirations	Proposed Solutions from Stakeholders	Proposed Solutions from TAC
1. Albert Town LDPA Communities: <ul style="list-style-type: none"> ▪ Albert Town ▪ Stettin ▪ St. Vincent ▪ Spring Gardens ▪ Freemans Hall 	<ol style="list-style-type: none"> 1. Lack of piped water. 2. Unemployment. 3. Poor road conditions. 4. Land of clear lack titles (lack of ownership). 	<ol style="list-style-type: none"> 1. Use of springs and rivers to increase water supply by NWC. 2. The need for heritage and eco-tourism and the need for an agro-processing plant. 3. Contact National Works Agency (NWA) and Parish Council (PC) to maintain and fix roads. 4. The need for LAMP from National Land Agency (NLA) and property owners to visit the NLA offices. 	<ol style="list-style-type: none"> 1. The water pump in Ulster Spring could be used to gravity-feed water to the areas and catchment tanks are needed. 2. Farmers could focus on other cash crops instead of solely on yam. 3. An alternate route linking south and north Trelawny is needed- the Burnt Hill main road was suggested. The quality of materials and methods used should be revised. 4. LAMP should be implemented and road shows be done by NLA. 	<ol style="list-style-type: none"> 1. NWC is responsible for providing water to the communities and provisions should be made accordingly. 2. Public education about alternative economic opportunities and the need for business plans to seek assistance with projects and plans. 3. NWA and Parish Council (PC) to maintain roads. 4. Visit the NLA offices and await the implementation of LAMP. A Road Show by NLA could be done.
2. Clark's Town LDPA Communities: <ul style="list-style-type: none"> ▪ Clark's Town ▪ Kinloss 	<ol style="list-style-type: none"> 1. Limited employment opportunities. 2. Need for new cemetery in Clark's Town. 3. Deforestation and soil degradation. 	<ol style="list-style-type: none"> 1. Improvements in the manufacturing sector and the need for investment initiatives. 2. The Parish Council should build a new cemetery close to existing cemetery. 3. Rules and regulations are needed and replanting projects initiated. 	<ol style="list-style-type: none"> 1. Sponsorships could be sought through business plans and proposals. 2. Lobby with Political Representative for construction of new cemetery. 3. Public awareness projects and residents should replant the trees they cut down. 	<ol style="list-style-type: none"> 1. Construction of an agro-processing plant and the need for investors. 2. Contact has been made with property owners of the suggested location – Political Representative to follow-up. 3. Green Harvesting maybe considered. Education and awareness by Forestry

				Department and RADA.
3. Wakefield LDPA Communities: <ul style="list-style-type: none"> ▪ Wakefield ▪ Deeside ▪ Bunkers Hill ▪ Hampden ▪ Bounty Hall 	<ol style="list-style-type: none"> 1. Roads and drains are in poor conditions and are not maintained. 2. Lack of employment opportunities. 3. Pollution – Land and air. 	<ol style="list-style-type: none"> 1. NWA and Parish Council need to assess and maintain roadways. 2. The need for a food processing plant and investment in small businesses. 3. Engage in proper garbage disposal and an efficient garbage collection schedule is needed from National Solid Waste Management Authority (NSWMA). Reduce need for burning. 	<ol style="list-style-type: none"> 1. The Agencies – NWA and PC with responsibility for maintaining such infrastructure should be contacted. 2. Training should be acquired from HEART Trust/NTA and public education projects and activities be promoted. 3. NSWMA to install garbage receptacles and an effective garbage collection system is needed. 	<ol style="list-style-type: none"> 1. Contact should be made with Local Planning Authority to construct needed infrastructure. 2. Studies need to be undertaken to determine reasons for illiteracy and volunteers are needed to improve skills training. 3. Green harvesting and NSWMA to regulate collection of garbage. Private companies to monitor cane trucks and their capacity and arrange clean-up exercises be done.
4. Ulster Spring LDPA Communities: <ul style="list-style-type: none"> ▪ Ulster Spring ▪ Sawyers ▪ Alps 	<ol style="list-style-type: none"> 1. Shortage of piped water. 2. High levels of unemployment. 3. Lack of fire station or sub-station. 4. Poor condition of main and parochial roads. 	<ol style="list-style-type: none"> 1. The current water system/reservoir needs to be upgraded, sanitised and maintained by National Water Commission (NWC). 2. Health center in Ulster Spring could be upgraded to a hospital and a food processing plant be constructed in the area. 3. A Fire Station maybe constructed at the old Parish Council behind the library. 4. Seek assistance from the Political Representatives to acquire materials to temporarily fix the road surfaces. Contact NWC to fix broken pipes. 	<ol style="list-style-type: none"> 1. The water sources at Quashi River and Litchfield to be combined and water gravity-fed to areas without water. 2. The area needs more investments to provide employment opportunities. 3. The old Parish Council structure could house a sub-station or a fire station. 4. NWA and Parish Council to properly maintain roads and residents could also assist if materials and equipment are provided. 	<ol style="list-style-type: none"> 1. NWC to maintain and regulate water supply system. PC could provide catchment tanks. 2. Incorporate agencies eg. The Tourism Product Development Company (TPDCo.) to identify and consult with on possible business opportunities. 3. Contact could be made with MLG&CD and Fire Department 4. Formulate sustainable plans and projects with assistance from agencies eg. STEA.

<p>5. Falmouth LDPA</p> <p>Communities:</p> <ul style="list-style-type: none"> ▪ Falmouth ▪ Martha Brae ▪ Granville ▪ Daniel Town ▪ Salt Marsh 	<ol style="list-style-type: none"> 1. High levels of unemployment among youths and adults. 2. Poor and deplorable road conditions with blocked drains. 3. Improper garbage disposal and inefficient garbage collection system. 4. Deforestation and pollution. 5. Lack of investment and lack of recreational facilities and activities. 	<ol style="list-style-type: none"> 1. To boost economic growth, Falmouth be developed as a resort town. 2. Citizens offer their services to fix and maintain roads and drains with assistance of Agencies with responsibility. 3. Educate the residents of proper disposal methods and effects of improper disposal. NSWMA to regularise the collection schedule. 4. Engage in reforestation projects and educate residents of value of trees to society. 5. Seek local and international investors and renovate Victoria Park and implement other recreational activities for locals and tourists. 	<ol style="list-style-type: none"> 1. Steer youths and adults toward skills training, focus on areas that are in demand. Local and international investors are needed to increase economic growth. Implement polices to keep persons employed and welcome more tourists. 2. NWA and PC to maintain road networks and drains frequently and effectively. 3. Public education forums are needed to promote the importance of civic pride. Need for larger garbage receptacles and an effective collection system. 4. Reforestation activities and projects could be undertaken by community groups and public education to create awareness about the impacts of pollution. 5. Political Representatives could assist in sourcing funding locally and abroad. Relocation of Victoria park to a more central location in town centre. 	<ol style="list-style-type: none"> 1. Public education and mentorship programmes are needed at all levels. Seek and encourage aspiring entrepreneurs. Investors are needed for small and medium businesses. 2. NWA and PC to maintain roads. Studies be done to determine impact of stagnant water in drains and sponsorships are needed to clear blocked drains. PC to ensure drains are maintained consistently. 3. A landfill would be beneficial and NSWMA to implement regular garbage collection schedule. Central Sewage System needed. 4. Trees that are cut down should be replanted and penalties fined when person do not confine to policies and regulations. 5. Encourage young entrepreneurs to seek investors for small businesses. Recreational facilities are needed in town centre, community groups could seek funding for such projects.

				**Fire Boat Station is needed at the Falmouth Port.
6. Wait-A-Bit LDPA Communities: <ul style="list-style-type: none"> ▪ Wait-A-Bit ▪ Wire Fence ▪ Joe Hut ▪ Lorrimers 	1. Praedial larceny and unsustainable farming practices. 2. No piped water in some communities. 3. Unemployment among youths and adults. 4. Lack of telephone lines and financial services.	1. Increase public awareness and implement penalties for praedial larceny. Public campaigns to educate farmers and citizens about the effects and dangers of improper farming practices. 2. Political Representative could engage in dialogue with the Parish Council and NWC. 3. Focus maybe directed towards self-employment opportunities along with skills training facility. 4. Survey needed to determine the number of persons requiring these services and lobby to service providers.	1. Complaints be reported and dealt with by the Police and public awareness projects be implemented. 2. The water supply system be regulated and efficient storage tanks be installed. 3. The area needs more investors to provide employment opportunities. 4. The residents and community groups could lobby to service providers.	1. The Police should be contacted and reports filed. 2. NWC to install pipes and regulate and maintain water supply system. 3. Southern Trelawny Environmental Agency (STEA) and other agencies could assist in writing business proposals to seek investments. 4. The service providers should be contacted and community groups lobby to access services.
7. Jackson Town LDPA Communities: <ul style="list-style-type: none"> ▪ Jackson Town ▪ Stewart Town ▪ Brampton 	1. Lack of job opportunities among youths. 2. Lack of piped water in homes and businesses. 3. Poor road conditions, especially along main roads and need for sidewalks and pedestrian crossings.	1. Engage youths in Jamaican Foundation for Lifelong Learning (JFLL) to increase literacy and an increase in farming activities is needed. 2. The pumping station needs to be properly maintained and regulated. 3. The residents could work together to fix roads with assistance/sponsorship from other stakeholders.	1. Need for certification and skills training along with investments to boost economic growth. 2. Residents and community groups to liaise with NWC to improve water supply system. 3. NWA and PC are responsible for maintaining these infrastructure, as such contact should be made.	1. Community groups could identify business opportunities within the communities and collaborate with agencies in making proposals to increase economic growth. 2. Water pumping station to be regulated and properly maintained by NWC. Upgraded pipelines are needed. 3. The relevant agencies – NWA and PC – should

				construct sidewalks and maintain roads and drains. Community groups could organise projects for pedestrian crossings.
8. Duncans LDPA Communities: <ul style="list-style-type: none"> ▪ Duncans ▪ Refuge ▪ Spicy Hill ▪ Samuel Prospect ▪ Rio Bueno 	<ol style="list-style-type: none"> 1. Improper garbage disposal. 2. High levels of unemployment. 3. Lack of investment ideas and opportunities. 4. Overgrown trees along roadways. 	<ol style="list-style-type: none"> 1. The residents to establish a project to recycle plastics and an effective garbage collection schedule from MSWMA is needed. 2. Utilise resources in communities for eco-tourism or a garment factory or an auto-mechanic plant. 3. Undertake beautification projects among others to attract investors. 4. The Parish Council should be contacted as well as Jamaica Public Service (JPS) to clear overgrown trees. 	<ol style="list-style-type: none"> 1. The area needs additional garbage receptacles as well as public awareness of the impacts and effects of improper garbage disposal. 2. Focus directed towards eco-tourism and contact be made with TPDCo. and other agencies. 3. Community groups to make proposals to source funding and investment opportunities. 4. Contact be made with JPS and property owners to maintain and bush properties. 	<ol style="list-style-type: none"> 1. NSWMA to regulate garbage collection system and PC should follow-up and ensure the system is effective. 2. Improve incentives to find work especially for trained persons. Seek support and assistance for young entrepreneurs. 3. Studies are needed to analyse business trends and potential business opportunities. Aspiring entrepreneurs need mentorship. 4. Contact should be made with JPS and requests made for overgrown trees to be trimmed and consistently maintained.
9. Troy LDPA Communities: <ul style="list-style-type: none"> ▪ Troy ▪ Warsop ▪ Wilson's Run 	<ol style="list-style-type: none"> 1. Flooding especially during rainy seasons as rivers are saturated with silt and other sediments. 2. High production costs and lack of employment opportunities. 3. Poor road conditions. 4. Lack of fire station. 	<ol style="list-style-type: none"> 1. River dredging be done along with methods to mitigate and manage the risks that arise from flooding. 2. Revamp the farmers' group and farmers are advised to purchase their produce in bulks. An agro-processing factory would be beneficial. 	<ol style="list-style-type: none"> 1. Studies be done to assess the situation and credible recommendations be proposed by environmental agencies. 2. Focus on reducing costs of seed and labour and negotiate and seek partners. Need for facility and technology to manufacture by-products of the produce. 	<ol style="list-style-type: none"> 1. Assessment of flooded areas and rivers and suitable recommendations made. Office of Disaster Preparedness and Emergency Management (ODPEM) and other environmental agencies could be contacted via Political Representative.

		<p>3. Community groups may clean the drains to reduce flooding that damages the roads, bush the roadways and lobby for equipment and construction materials.</p> <p>4. The residents themselves could maintain a fire truck if one was provided by the Jamaica Fire Brigade or a funding agency.</p>	<p>3. Repairs to the All-Sides to Warsop main road and other parochial roads by NWA and Parish Council.</p> <p>4. A sub-station could be located in Albert Town at the old Parish Council building.</p>	<p>2. Reduce labour and overhead costs. Investments are needed in equipment and other capital.</p> <p>3. Mentorship and financial education are needed to encourage persons with business ideas.</p> <p>4. Contact should be made with Fire Department and Ministry with responsible.</p>
<p>10. Duanvale LDPA</p> <p>Communities:</p> <ul style="list-style-type: none"> ▪ Duanvale ▪ Perth Town ▪ Sherwood Content 	<p>1. Deforestation and air pollution from coal burning.</p> <p>2. Poor road conditions and blocked drains.</p> <p>3. Limited employment opportunities.</p>	<p>1. Awareness about the effects of deforestation and engage residents in reforestation projects. Standards should be recommended and established as it relates to burning.</p> <p>2. Liaise with relevant agencies (NWA and PC) with responsibility for roads and drains.</p> <p>3. Explore investment opportunities and involve persons in skills training.</p>	<p>1. Community groups to initiate re-planting of trees projects and public awareness forums.</p> <p>2. Political Representatives could interact with NWA and PC on behalf of residents to address this issue.</p> <p>3. Political Representatives could assist small businesses seek foreign customers.</p>	<p>1. Replanting exercises should be done for trees cut down and persons should be educated about everyday actions and the impacts on the forests.</p> <p>2. NWA and PC should be contacted to fix roads and maintain drains.</p> <p>3. Encourage young entrepreneurs to seek investors and to seek skills training.</p>





TRELAWNY

LOCAL SUSTAINABLE DEVELOPMENT PLAN: 2030 & Beyond



DRAFT



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Jamaica

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