

St. Elizabeth Local Sustainable Development Plan: 2030 & Beyond



Our Partners

The St. Elizabeth Sustainable Development Plan was formulated through collaboration between the St. Elizabeth Parish Council and the St. Elizabeth Parish Development Committee. Funding was made possible through the Sugar Transformation Unit within the Ministry of Agriculture and Fisheries and the National Housing Trust.



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Messages

His Worship The Mayor Cllr. Everton Fisher
Mayor of Black River

It gives me tremendous joy and honour to introduce the St. Elizabeth Sustainable Development Plan to the citizens of St. Elizabeth and the wider Jamaica. Through the collaborative efforts of the St. Elizabeth Parish Council and the St. Elizabeth Parish Development Committee, this plan was created with focus on a sustainable planning model for the Parish with major concentration on; Natural Environment, Built Environment and Infrastructure, Economic Environment and Social Environment and Facilities. This visionary initiative has been created to ensure long-term sustainment so that future generations may be able to benefit from the resources which exist.

The St. Elizabeth Parish Council would like to thank all the parties involved in the accomplishment of this project. We cannot be more grateful for the support from the Sugar Transformation Unit as well as the National Housing Trust. Their significant contributions have ensured the completion of this plan.

The development strategies and actions presented in this plan will improve; economic, social and environmental conditions. These dimensions contribute to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure. It will also support strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being. Lastly, it will contribute to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including the reduction of the impact on drought especially as the Bread Basket Parish.

Finally, this plan could not have been possible without the assistance of individual citizens, community agencies, organizations, businesses and institutions across St. Elizabeth. The St. Elizabeth Parish Council therefore thanks all contributors and as we take on the responsibility of fulfilling this vision guided by Jamaica's vision 2030.

Mayor Everton Fisher,
Chairman, St. Elizabeth Parish Council



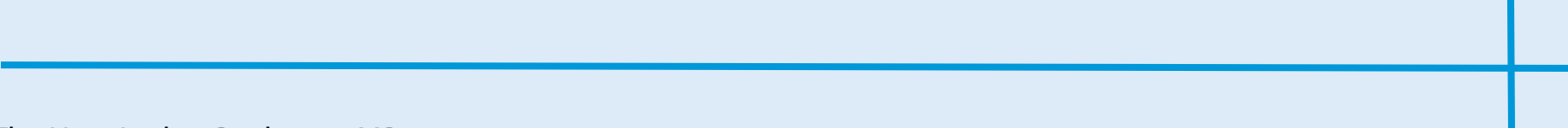
Mr. Jason Henzel Chairman
St. Elizabeth Parish Development Committee

The St. Elizabeth Parish Development Committee (SEPDC) would like to congratulate the project team on the completion of the St. Elizabeth Local Sustainable Development Plan. The extensive planning, research, preparation and tireless work through collaborations with both the PDC and the Parish Council towards the promulgation of a development plan for the parish has not gone unnoticed and is appreciated. The active participation and interest by international and local organisations to fund such a plan is of great importance and is evidence that Local Sustainable Development Planning is of high priority in the parish and country at large.

Short and medium term decisions within the St. Elizabeth Local Sustainable Development Plan are important for managing development and their transformative roles in national development within the context of Vision 2030. The core aim of the PDC is to balance environmental sustainability and economic growth while promoting social equality and sustainable planning. This has been achieved over the past two years through the convergence of various skills across academic and commercial sectors, coupled with insight and knowledge. Throughout the development of this plan, we have strived to ensure clear and collective decisions were made to mitigate the issues brought to light by community members and other stakeholders. It is my fervent hope to see St. Elizabeth continue to define itself as a leader in sustainable economic growth with its foundation in the community.

We have started the process of implementation on good footing, stemming from the success of the Greater Treasure Beach Sustainable Development Plan. I encourage the SEPDC, Parish Council, community groups and organisations to take full action and responsibility in the fulfilment of these ambitious but necessary goals and objectives.

Jason Henzel,
Chairman



The Hon. Luther Buchanan MP
Minister of State - Ministry of Agriculture and Fisheries

To enable the sustainable development of the Jamaican agricultural sector and natural resources by 2030, the Ministry of Agriculture and Fisheries (MOAF) has developed and continues to implement key strategic objectives through its mission. This mission is to advance the development of a modern, efficient and internationally competitive agricultural sector and the sustainable management of our fisheries resources in order to promote food security and food safety in an effort to contribute to the development and well-being of our people. One of the Ministry's strategic objectives is to establish sustainable policy and planning frameworks to protect and develop suitable agricultural lands and fisheries resources. The St. Elizabeth Sustainable Development Plan has created a platform for sustainable policy and a planning framework that allows aspects of the Agricultural Land Utilization Policy to be merged and aligned with this Development Plan in meeting key strategic goals and objectives for the Jamaican agricultural sector. The MOAF therefore endorses this Development Plan as one of the many critical success factors required for the Ministry to accomplish its overarching goal for the agricultural sector.

It is very important that suitable agricultural lands are protected from other competing land use developments that do not create or enhance rural development and economically viable business opportunities for the agricultural sector in the parish of St. Elizabeth. In this regard, the goals, strategic directions and actions of the St. Elizabeth Sustainable Development Plan serve to enhance the goals and objectives of the MOAF as far as agricultural land use preservation and retention is concerned. Similarly, this Development Plan is also critical to the MOAF through the enablement of strategic land use zoning proposals that will seek to enhance agricultural land use. The strategic positioning and allowance for certain types of industrial land use developments (for example), is critical to promote agro-industrial development, as this will increase the output of diversified agricultural and value added production, and contribute to the overall increase in Jamaica's local and international agricultural competitiveness.

The MOAF supports the Development Plan in this context, as it will provide the intricate strategic planning and policy framework that will promote compatible mixed use developments that will enhance agricultural land use, promote rural development and stimulate growth in the agricultural sector. This Development Plan will also play a critical role in goals, strategic directions and actions that can lead to the development and expansion of infrastructure necessary for the growth and continued modernization of the agricultural sector, towards rural development in St. Elizabeth.

The Hon. Luther Buchanan MP,
Minister of State
MOAF



The Hon. Noel Arscott MP
Minister Of Local Government & Community Development

The Ministry of Local Government and Community Development takes great pleasure in endorsing the efforts of the St. Elizabeth Parish Council, which, in collaboration with the St. Elizabeth Parish Development Committee, has completed the St. Elizabeth Sustainable Development Plan. This Ministry also lauds the nationalism and vision of the National Housing Trust and the Sugar Transformation Unit in providing vital funding support to this significant development, which has major planning and investment implications not just for the parish of St. Elizabeth, but ultimately for the entire Jamaica.

The conclusion of the process leading to the completion of the St Elizabeth Sustainable Development Plan coincides with a historic moment in Jamaica's legislative history, as three pieces of legislation aimed at modernising the framework of Local Government have been tabled in Parliament. One of these Bills – the Local Governance Act – for the first time assigns to Local Authorities the responsibility for the sustainable development of their jurisdictions and the preparation of Local Sustainable Development Plans.

The efforts of the St. Elizabeth Parish Council and their partners in completing this Sustainable Development Plan underline the participatory approach to governance, which is a strategic objective of the Local Government's Reform Programme and puts into sharp focus, the significant contribution of the St. Elizabeth Parish Development Committee. The process undertaken in this project involved going to the community and soliciting the citizens' opinions on a wide range of issues which impact their daily lives. These include transportation, land use, housing, environment, recreation and open spaces, disaster awareness and specific investment potential unique to the parish

The completion of the Sustainable Development Plan is the end of one phase of the sustainable development process. Now that the Plan is complete, the critical elements of implementation will have to take centre stage along with the various actions that support the promotion of the parish. We look forward to the development of infrastructure which will make it easier for economic development to occur as well as the facilitation of the enabling environment for the overall well-being of the citizens of St. Elizabeth.

We congratulate the St. Elizabeth Parish Council on achieving this historic landmark and wish for speedy success in its implementation.

Hon. Noel Arscott MP,
Minister, MLGCD

THE MINISTRY OF AGRICULTURE & FISHERIES SUGAR TRANSFORMATION UNIT

The Sugar Transformation Unit of the Ministry of Agriculture and Fisheries is very pleased to endorse the St Elizabeth Sustainable Development Plan. As the Ministry continues, through the STU, to implement the Jamaica Country Strategy for the Adaptation of the Sugar Industry, one of our objectives is to strengthen the economic diversification, social resilience and environmental sustainability of sugar dependent areas. With this in mind, the STU provided funding to assist in the completion of the local sustainable development plans in the six parishes identified as sugar dependent. The STU anticipates that these plans will greatly assist in attracting local and international investment in developmental projects in the parish.

In this regard, The St Elizabeth Parish Council and the Parish Development Committee, with a view to taking positive and proactive action to guide the growth and development within the parish, embarked on the preparation of the St Elizabeth Sustainable Development Plan. The STU, through funding provided by the European Union, has made available to the St Elizabeth Parish Council a grant of \$20 million in two tranches of \$10 million each, contingent on agreed deliverables.

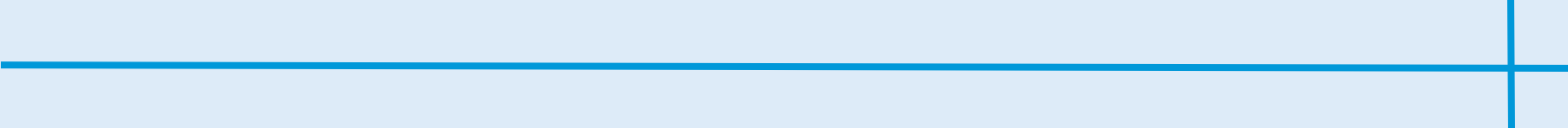
The approach utilised in creating the plan was to develop a strategy that promotes integration between the local and national planning authorities. It also demonstrated a “bottom up” approach to planning, which involved the citizens determining a vision for the parish, strategies to achieve this

vision, while addressing the numerous issues and problems that confront the parish. It is anticipated that the additional benefits of the plan include but are not limited to:

- Creation of strategies for conservation of the natural environment
- Preservation and promotion of heritage and culture
- Retention of productive/fertile farmlands
- Creating strategies for economic sustainability resulting from decrease in sugar prices proposed in 2017
- Stabilizing costs in providing and maintaining infrastructure.

With this plan as a foundation, we urge you to continue to build on it as you work towards Vision 2030 and to make St. Elizabeth a Jamaican place in which to live, work and raise families.

Congratulations again to the St. Elizabeth Parish Council, the Parish Development Committee, the project team and all other stakeholders involved in the creation of the parish development plan.



Mr. Martin Miller, Acting Managing Director
National Housing Trust

In 2006 the NHT signed a memorandum of understanding to part-fund the preparation of development plans for nine parishes. In so doing, the NHT's aim was to help facilitate the creation of a long term sustainable development plan for these parishes, as part of the national drive towards achieving the related goal and outcomes of Vision 2030, and to enhance the quality of life of residents of the respective parishes.

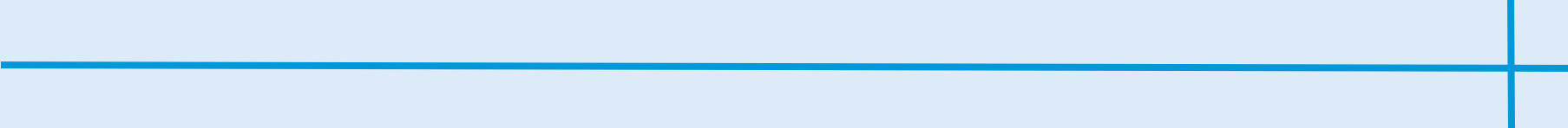
As Jamaica contemplates climate change and takes steps to reduce the possible negative impact of this phenomenon, blueprints for orderly and sustainable development have become even more critical. How we will continue to nourish ourselves, nurture our children and improve our lives in the long run, without doing irreparable harm to our environment, must be a prime consideration for every citizen. The lesson for us all is that if we take care of the environment, the environment will take care of us.

An overarching document such as the St. Elizabeth Parish Development Plan which is now being launched, will guide land use, construction, and exploitation of the parish's resources so that all may enjoy the benefits of our land without damaging those aspects of the environment which made such benefits possible in the first place. Benefits such as reducing the effects of drought, preserving and promoting the heritage and culture of the parish, providing a wide range of housing options, and promoting the parish's development potential for agro-tourism.

As partners sharing the vision of making Jamaica the place of choice to live, work, raise families and do business, the NHT salutes all parties who crafted this development plan. The consultative approach of the St. Elizabeth Parish Council and Parish Development Committee has been especially welcomed. Such consultation brought people into the process, won favour for the development principles and paved the way for general adherence.

Congratulations to all St. Elizabeth on the achievement of this important milestone.

Martin Miller,
Acting MD,
National Housing Trust



Mr. Colin Bullock, Director General
Planning Institute of Jamaica

The St. Elizabeth Parish Development Committee, Parish Council and all stakeholders involved in the preparation of the St. Elizabeth Local Sustainable Development Plan have demonstrated that “a dream doesn’t become reality through magic; it takes sweat, determination and hard work” (Colin Powell). St Elizabeth’s dream of an inclusive, viable, vibrant and resilient community is that much closer to reality because of the commitment, singleness of purpose, and participatory approach demonstrated in the preparation of the roadmap for the cohesive development of the parish. That same dedication, teamwork and collaboration are essential to the successful implementation of the Plan and are already evident in the execution of the recently completed Greater Treasure Beach Sustainable Development (GTBSD) Plan.

The Planning Institute of Jamaica is pleased to have been a part of your Plan development journey ably led by the Parish Council. We see the parish Plan as a local embodiment of the principles of sustainable development articulated in Vision 2030 Jamaica - National Development Plan and in the Outcome Document of the Rio+20 Conference on Sustainable Development - “The Future We Want”. It is specifically aligned to the tenets of sustainable urban and rural development as outlined in Goal #4, Outcome #15 of Vision 2030 Jamaica. The process of creating this essential planning instrument as well as the critical outputs which are to be derived hereafter puts people at the centre of development; the primary objective being to create a better quality of life for residents and the country as a whole. We therefore look forward to the Plan being the catalyst of the further development for both the human and physical resources of this parish which contributes so much to the nation.

On behalf of the Planning Institute of Jamaica, I take this opportunity to convey congratulations to the Plan development team, and all stakeholders who have contributed to its preparation. Indeed, this noteworthy accomplishment represents a significant step for the parish of St. Elizabeth, in itself becoming a “place of choice” and in contributing to Jamaica being “the place of choice to live, work, raise families and do business”.

Colin Bullock,
Director General
Planning Institute of Jamaica
November 4, 2015

Mr. Douglas Saunders
Cabinet Secretary

The Cabinet Office congratulates the St. Elizabeth Parish Council and the St. Elizabeth Parish Development Committee on the completion of the Parish's first Local Sustainable Development Plan.

The completion of this plan is not only a vital step in the realisation of the Vision 2030 goal for sustainable urban and rural development for the Parish of St. Elizabeth, but it will also, ultimately support the Government of Jamaica objective of achieving economic growth and making Jamaica the place of choice to live, work, raise families and do business.

Further, the St. Elizabeth Local Sustainable Development Plan will inform new and current investors of the opportunities for development, and the contributions they can make to realising the vision for development of the Parish, as well as a speedier response for development applications, as it provides a blueprint for the development of the Parish.

The journey was a long and difficult one, and your commitment and resolve to this process must be applauded, as the management of our scarce and limited resources becomes more critical in the light of challenges such as climate change and the impact of drought on agriculture, the economy and our people.

The Cabinet Office is proud to be a partner, as the Parish of St. Elizabeth charts its course for a bright and prosperous future.

Douglas Saunders,
Cabinet Secretary
Cabinet Office

Mr. David Gardner, Secretary/Manager
St. Elizabeth Parish Council

The St.Elizabeth Parish Council in collaboration with the St.Elizabeth Parish Development Committee, the Ministry of Local Government and Community Development, other partner agencies and sponsors is extremely proud to have successfully completed the first comprehensive sustainable development plan for the parish.

We consider this achievement to be a very significant milestone that will enhance the orderly, efficient, integrated and speedy development of local communities. It will also act as a fillip for local and foreign investments in Jamaica and St.Elizabeth in particular. We can therefore expect to see further improvements in Jamaica's 'doing business' ranking thereby enhancing the nation's prospects for meaningful sustainable economic growth going forward.

The sustainable development plan will also serve as a road map to guide the council's performance framework, its strategic direction and by so doing help to put sustainability at the heart of what we do and believe as a responsible local authority. Consequently, we are confident that in the very near future there will be a marked improvement in the quality of life and place experience of our citizens.

It is therefore against this background that we now declare St.Elizabeth ready and open for business.

David Gardner,
Secretary/Manager
St. Elizabeth Parish Council

Mr. Peter Knight, Chief Executive Officer
National Environmental Planning Agency

On behalf of the National Environment and Planning Agency (NEPA), I wish to use this medium to endorse the sterling work of the St. Elizabeth Parish Development Committee (STEPDC), St. Elizabeth Parish Council, its stakeholders and partners in preparing the St. Elizabeth Sustainable Development Plan.

The Plan creates a sustainable planning model for the various communities within the parish boundary aimed at bolstering the sustainable development planning scheme. Worthy of recognition is the emphasis in the Plan on the world-recognized climate adaptation and mitigation strategies to build resilience through adaptation and mitigation efforts.

The St. Elizabeth Sustainable Development Plan will serve as an important fillip in the parish's effort to attract local and international investments to widen the economic and foster sustainable development. The NEPA will take steps to incorporate the relevant policies and proposals contained in the Plan in the emerging St. Elizabeth Development Order now being prepared by the Town and Country Planning Authority/NEPA in collaboration with the St. Elizabeth Parish Council and other stakeholders.

The NEPA see the preparation of the Plan as signaling a major step in the journey to achieve the desired holistic development of the area by vision of the partners and stakeholders. It is therefore imperative that all government agencies, business interest, Non-governmental organizations (NGO's), community groups and other stakeholders take the goals for the area as outlined by the various communities and implement them in an orderly and sustainable manner to make St. Elizabeth "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 Sustainable Development Plan.

Once again, congratulations on the preparation of the St. Elizabeth Sustainable Development Plan.
We wish for you every success in its implementation.

Peter Knight,
Chief Executive Officer
National Environmental Planning Agency

The Hon. Custos William Shagoury CD, JP
Chairman of NAPDEC

The National Association of Parish Development Committees (NAPDEC) applauds the St. Elizabeth Parish Development Committee (PDC) and the St. Elizabeth Parish Council ; and all the other partners who supported the completion of the St. Elizabeth Local Sustainable Development Plan . We are heartened that through strong partnerships, strategies for the future growth and development of the parish of St. Elizabeth have been successfully drafted. The Association wants to acknowledge the support of the Sugar Transformation Unit and the Ministry of Agriculture and Fisheries for their continued investment and confidence in the sustainable development planning.

Through the completion of this document the parish of St Elizabeth has developed strategic plans by formulating economic development campaigns that focused on expanding the business potentials and income generation opportunities to impact positively job creation. By using this exceptional approach to planning, the bonus shall be an improvement in the welfare of the citizens at the same time guaranteeing that a healthy natural environment exist to support the social, economic and governance structures and processes in the parish.

As we salute you, be reminded, that a plan is a blue print to a desired outcome. It is important for you to remain attentive and continually committed to the timely implementation of this plan. Be aggressive as you enter the implementation stage of your Local Sustainable Development Plan while ensuring that we contribute to making Jamaica the place of choice to live, raise families and do business. Again, we would like to toast the PDC and commend all the partners involved; your perseverance to the task of charting the path, for St. Elizabeth to become a model for sustainable development in Jamaica, is indeed ground breaking. Keep up the good work while ensuring that the voice of the people of St Elizabeth prevail.

The Hon. Custos William Shagoury CD, JP
Chairman of NAPDEC
October 2013

Acknowledgements

The St. Elizabeth Local Sustainable Development Plan is a strategy for pursuing sustainable economic growth across the parish. This long-term plan was developed from the visions, ambitions, strategic priorities and passions expressed by communities within the Parish of St. Elizabeth during an extensive public engagement process. The plan was formulated through a collaboration of the St. Elizabeth Parish Council and the St. Elizabeth Parish Development Committee.

This initiative is part of the Government of Jamaica's ongoing local government reform process, being spearheaded by the Ministry of Local Government and Community Development. It has helped the Ministry to model the local government reform agenda through improved engagement of communities in planning, through the strengthening of the Parish Development Committee system, and through the implementation of demonstration projects designed to grow economies in sustainable ways.

We are thankful to the Sugar Transformation Unit for their financial and logistical support and for providing necessary guidance and also National Housing Trust for their significant financial contribution under its Rural Township Development Programme. We are also grateful to the Ministry of Local Government and Community Development (MLGCD), the Planning Institute of Jamaica (PIOJ), the National Environment and Planning Agency (NEPA), the National Association of Parish Development Committees (NAPDEC), the National Land Agency (NLA) and other agencies for provision of expertise and technical support. To the Social Development Commission we want to thank them for their support in organizing and assisting in the community visioning workshops and the provision of community profiles. We would also like to express our sincere thanks towards volunteer researchers and surveyors who devoted their time, knowledge and sweat in the process.

Executive Summary

The St. Elizabeth Local Sustainable Development Plan (SELSDP) is a strategy for pursuing sustainable economic growth and environmental protection throughout the ecologically sensitive parish which holds great economic promise for the future. The plan was formulated through collaboration between the St. Elizabeth Parish Development Committee (SEPDC) and the St. Elizabeth Parish Council (SEPC). It is based on extensive consultations held with concerned communities, Councillors, Members of Parliaments, the private sector and other stakeholders coupled with data collected from land use surveys. The SELSDP is designed to localize the nation's Vision 2030 Jamaica- National Development Plan. It also advances the local government reform initiative of the Ministry of Local Government and Community Development by improving the engagement of the parish council with its communities in long- range planning for sustainable development.

Goal 1: Natural Environment- ensure growth and development do not conflict or compromise the state of the natural environment

Improving the management and protection of sensitive environmental features while supporting economic activities; such as tourism and the fishing industry that rely heavily on a healthy ecosystem. Environmental buffers are proposed to shield environmentally sensitive areas from the impacts of surrounding land uses and reforestation activities to curb erosion.

Goal 2: Disaster Mitigation and Management- improve disaster mitigation measures supporting climate resilient communities and reduction of disasters on communities

St. Elizabeth is susceptible to several hazards, ranging from hurricanes to storm surges, floods, droughts and fires. The plan aims to strengthen critical emergency response facilities and the capacities in the region, improving response and preventative measures.

Goal 3: Social Environment- provide liveable communities through the improvement of conditions

Strategic actions are proposed to improve access to quality education, optimum healthcare, empower communities, improve recreational spaces and the preservation of the parish's unique culture and heritage assets.

Goal 4: Built Environment- improves and provides reliable, accessible and efficient infrastructure

Improvements in infrastructure are necessary in supporting future growth and development. The plan identifies critical gaps in the level of infrastructure within the parish and establishes priority strategies for investment in the transportation network, improving waste management, ensuring the availability and access to quality water and provides efficient infrastructural maintenance.

Goal 5: Economic Growth- promotes sustainable economic growth, reduce unemployment, encourage diversity in economic opportunities and investments

St. Elizabeth has immense economic growth potential and the plan aims to ensure that this potential is realised and maximised in a manner that protects the community's economic assets. Strategic actions to diversify the economy include the revitalisation of the agriculture sector, increase support in the local economy, encourage private sector investments, revitalising markets and the growth of the parish's tourism products.

Goal 6: Land Use- ensures land use development for future expansion is aligned with environmentally sustainable practices to achieve balanced development

Improving land management will include the protection of agricultural lands from competing land uses to ensure a sustainable economic future. Limiting the amount of development in ecologically sensitive areas and land prone to hazards. The preservation of the historic nature of towns and sites to leverage investments, business formation and job creation. Promoting mixed- use development and enforcing development guidelines for towns to improve economic potential and liveability.

Goal 7: Governance- increase community involvement and public participation

The plan promotes the need for partnerships between civil society and the private sector, with an emphasis on strong community- based organisations to partner with the Parish Development Committee and the Parish Council in decision- making processes for social and economic development.

The St. Elizabeth Parish Development Committee and the St. Elizabeth Parish Council will take the lead in overseeing plan implementation and encouraging partnerships among communities, the private sector, public sector, academic institutions and national agencies essential to effective implementation. This plan serves as an important input in the preparation of a new Development Order, guiding land use and orderly land development.

CONTENTS

1. Introduction	1	24
<i>Why Sustainable Development Matters</i>	1.1	25
<i>Sustainable Communities</i>	1.2	26
<i>Need for Sustainability in St Elizabeth</i>	1.3	27
<i>The Local Sustainable Development Planning Process</i>	1.4	29
2. Background	2	33
<i>Regional Context</i>	2.1	33
<i>Regional Boundary</i>	2.2	43
<i>Regional Centre</i>	2.3	45
<i>Emerging Centres</i>	2.4	45
<i>Demographics + Growth Trends</i>	2.5	45
3. Plan Framework	3	52
<i>Vision</i>	3.1	52
<i>Goals + Strategic Objectives</i>	3.2	53
4. Dimensions of the SELSDP	4	56
<i>Natural Environment</i>	4.1	56
<i>Social Environment + Facilities</i>	4.2	63
<i>Built Environment + Infrastructure</i>	4.3	78
<i>Economic Environment</i>	4.4	82
5. Snapshot of Development Areas	5	95
<i>Black River</i>	5.1	95
<i>Santa Cruz</i>	5.2	103
<i>Junction</i>	5.3	116
<i>Maggotty</i>	5.4	128
<i>New Market</i>	5.5	140
<i>Balaclava</i>	5.6	150

CONTENTS

6. Existing Land Use	6	162
<i>Black River</i>	6.1	162
<i>Santa Cruz</i>		170
<i>Junction</i>		174
<i>Maggotty</i>		178
<i>New Market</i>		182
<i>Balaclava</i>		186
7. St Elizabeth Proposed Points of Interest	6.2	190
8. St Elizabeth Land Use Intensity	6.3	194
9. Development Strategies	7	197
10. Implementation	8	208
<i>Management Structure</i>	8.1	209
<i>Role of Key Agencies</i>	8.2	209
<i>Development Order</i>	8.3	209
<i>Monitoring + Evaluation</i>	8.4	216
<i>Implementation Timeline</i>	8.5	216
11. References		217
12. Appendix		220

CONTENTS - Figures and tables

	Fig.	Pg.
Components of Sustainable communities	2	27
Special Areas of St. Elizabeth	3	49
Population of St Elizabeth by age and gender	4	51
Sugar Cane Farming	5	83
Community Safety ratings	6	124
Black River Development Area	7	164
Black River Community Existing landuse	8	166
Black River Town Existing landuse	9	168
Santa Cruz Development Area	10	172
Junction Development Area	11	176
Maggotty Development Area	12	180
New Market Development Area	13	184
Balaclava Development Area	14	188
Proposed Points of Interest	15	192
Existing Land Use	16	196

CONTENTS - Figures and tables

	Tab.	Pg.
Development Areas	1	43
Development areas by percentage population	2	46
Urban Population Distribution	3	50
Percentage Gender split	4	108
Number of Schools in Santa Cruz	5	110
Households involved in farming	6	113
Social Services	7	121
Major Crimes	8	123



A scenic view of the Wallywash Pond, in Pondsides, St. Elizabeth

Introduction

The St. Elizabeth Local Sustainable Development Plan [SELSDP] was created in accordance with policies and legislation contained in all important previous national plans and policies, and expands on the previously released Greater Treasure Beach Sustainable Development Plan. The National Vision 2030, the latest and most comprehensive plan dictating development within the country was an important cornerstone throughout the creation of the SELSDP. The plan was created during the period of 2013 to 2015, based on scrupulous research, land use surveys and extensive consultations with community members, the public & private sector and other important stakeholders. Other contributions which have directly or indirectly influenced the SELSDP include The National Settlement and Development Strategies, National Physical Plan and Environmental Action Plans and The Land and Industry Policies. Any development under the SELSDP will also conform to stipulations of the Town and Country Planning Act and the St. Elizabeth Development order. The Local Sustainable Development Planning Frame work was adopted from the Local Agenda 21 document and is the basis of the SELSDP which among other things covers human settlement, health, population dynamics and combating poverty. Another important planning document referenced in the SELSDP is that of the Millennium Development Goals. Together the PDC and the Parish Council will fulfil the promotion and advancement of the Local Government Reform Initiative towards improvement in their commitment to provide long- range planning, sound environmental management and the creation of sustainable development programmes in the best interest of the parish.

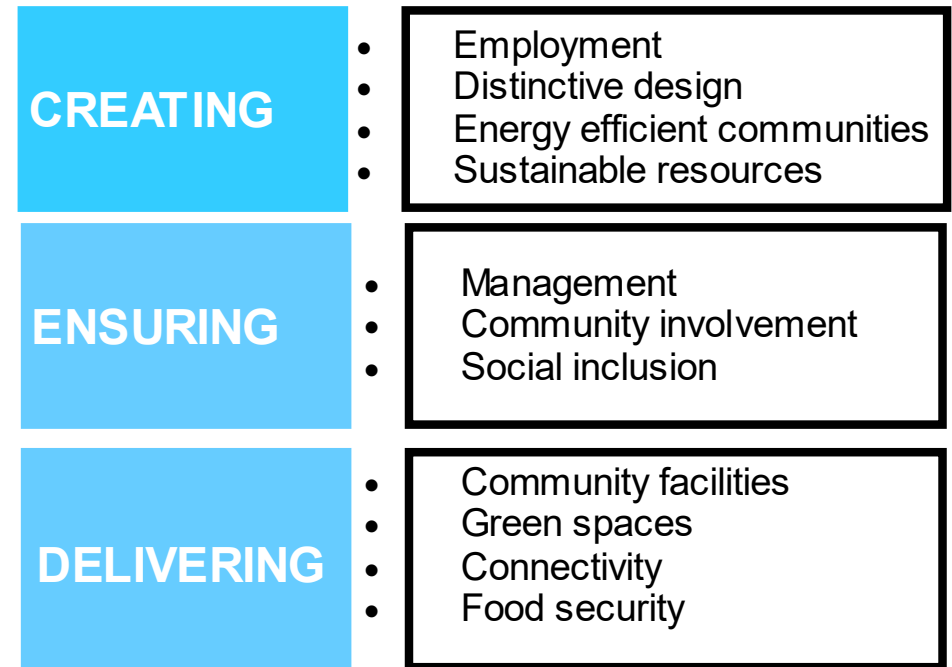
1.1 Why Sustainable Development Matters

The world faces numerous challenges, ranging from economic crises, poverty, poor health conditions, global warming, loss of biodiversity and pollution. Sustainable development has been based on the principle of being a means of reconciling human development within the earth's ecological systems. It has been defined in numerous ways, but the most frequently used meaning is from The Brundtland Report (1987) stating: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". True sustainable development and decision-making has become a key goal of public policy in Jamaica. Development that is not sustainable will inevitably lead to negative economic, social and environmental impacts, which the United Nations World Summit Document (2005) has identified as the major objectives or pillars necessary for development to occur. Advancing sustainable development will work towards safeguarding the future and improving the quality of life in St. Elizabeth through essential tasks and elements (Figure 1).

The sustainable development concept emphasizes the importance of maintaining and improving the quality of life by ensuring that decisions made today take into consideration social, economic and environmental consequences. It integrates the main objectives of society in order to maximise human well-being in the present without compromising the ability of future generations to meet their own needs (OCED 2001).

Figure 1

Elements of Sustainable Design



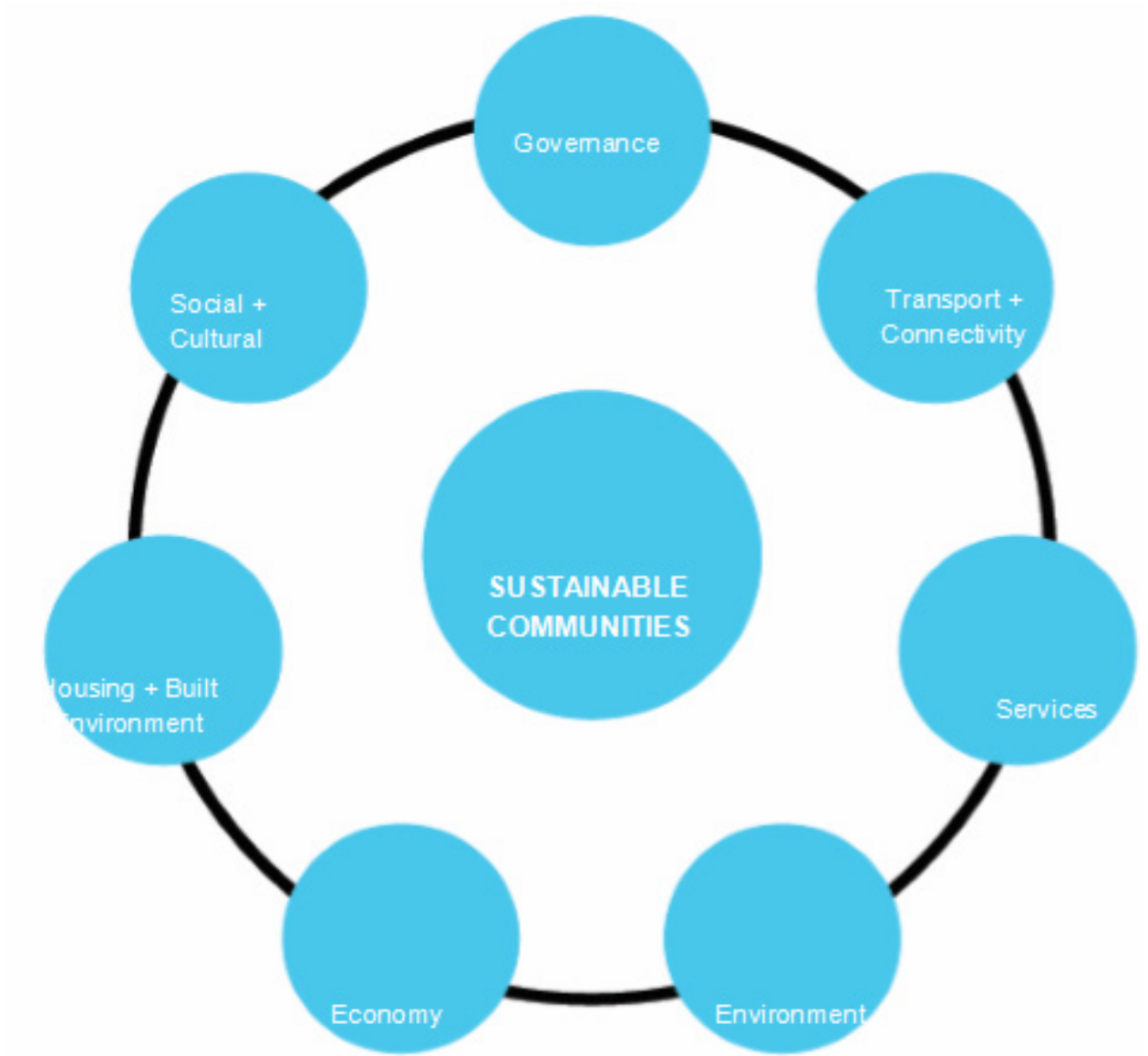
1.2 Sustainable Communities

Sustainable communities meet the diverse needs of existing and future residents, their children and other users, contribute to a high quality of life and provide opportunities and choice (outlined in Figure 2). They achieve this in ways that make effective use of natural resources, enhance the environment, promote social cohesion and inclusion and strengthen economic prosperity (Keams 2003).

- Governance- effective and inclusive participation, leadership and representation
- Transport and Connectivity- better transport services and communication connecting people to jobs, health care, schools and other services
- Services- a full range of appropriate accessible public and private community and voluntary services
- Environmental- providing places for people to live in an environmentally friendly way
- Economy- flourishing and diverse local economy
- Housing and the Built Environment- a quality built and natural environment
- Social and Cultural- a vibrant, inclusive and harmonious community

Figure 2

Components of Sustainable Communities



Source: *The Common Goal: Defining and Measuring Sustainable*

1.3 Need for Sustainability in St. Elizabeth

St. Elizabeth is a diverse ecological area, brimming with rich cultural and heritage value, sustained by agricultural, fishing, mining and tourism economic prospects. The challenges faced within the parish presently are vastly different from those of the past; however our priority remains the same: improved quality of life, catering to economic growth, maintaining a clean environment and the best use of resources. Guided by holistic and far-sighted comprehensive planning, the plan will take into account future development through an integrated planning process and set objectives.

Sustaining a Robust and Vibrant Economy: establish local economically viable, socially responsible and environmentally sound economies. Achieving this goal requires participation from all sectors of the community to determine the needs and to identify and implement appropriate solutions.

Responsible Environmental Development: the preservation and restoration of the natural environment and its resources is essential in maintaining community sustainability.

Embrace and Promote the Rich Cultural Heritage: strengthening community ties and local character through developed and diverse cultural heritage programmes and events.

Establish a Maintenance Culture: instil the understanding of the benefits and greater responsibility in managing and maintaining resources, utilities and infrastructure.

1.4 The Local Sustainable Development Planning Process

The Local Sustainable Development Planning Framework (LSDPF) was developed to advance a national agenda on governance and sustainable development, and to guide Jamaica's commitment to Agenda 21 at the local level. The LSDP program grew out of the LSDPF and supports the demonstration of local sustainable development planning applications in parishes across the country in order to assist local authorities in their efforts to elaborate, enhance and implement local Agenda 21. Agenda 21, a key document from the United Nations Conference on Environment and Development, has become a blueprint for action to achieve sustainable development in the 21st century (UNCED, 1992). Agenda 21 recognises that sustainability will require a broadening of the environmental agenda to mainstream sustainable development within local and national government policies, plans and practices. It covers themes such as role of trade, combating poverty, population dynamics, health, human settlements, the atmosphere, biodiversity, water, toxic chemicals and radioactive waste.

Achieving local sustainable development will therefore require:

- National and local partnerships as one of the core values throughout the processes
- The integration of environmental, social and economic planning processes
- Collaboration and coordination within the primary development processes of a country, and an agreement by both local and international donors to align themselves with such primary processes
- Consensus building on a shared national vision, core values and strategies to guide governance and development planning in the country
- The comprehensive reform of traditional modes of development planning and decision- making, which can only be achieved through the formulation and elaboration of local sustainable development plans that contribute to the implementation of the nation's sustainable development framework
- The review and coordination of national information management systems to provide information required for sound cross- sectional decision- making
- An enabling jurisdictional and legal framework in which there is clear delegation of government responsibilities, policy management and decision- making authority and sufficient resources allocated.

Community Sensitization

CDC Conference

Consult community members

DRAFT 1

Request info from agencies

STEERING COMMITTEE



Consult with Strategic planners in various agencies

Edit + finalise the design of the Plan

FINAL DRAFT

Community Profiles

STEERING COMMITTEE

VALIDATION PRESENTATION TO COMMUNITY STAKEHOLDERS



St. Elizabeth Sustainable Development Plan



ING
TEE

Land Use Surveys

DRAFT 2

Socio-Economic Sugar
Belt Area Survey

Community Visioning
workshops + prioritizing
setting

STEERING
COMMITTEE

Implementation
Strategies

DRAFT



Consult With
Councillors +
Members of Parliament

MITTEE

ENTATION
ITIES +
ERS



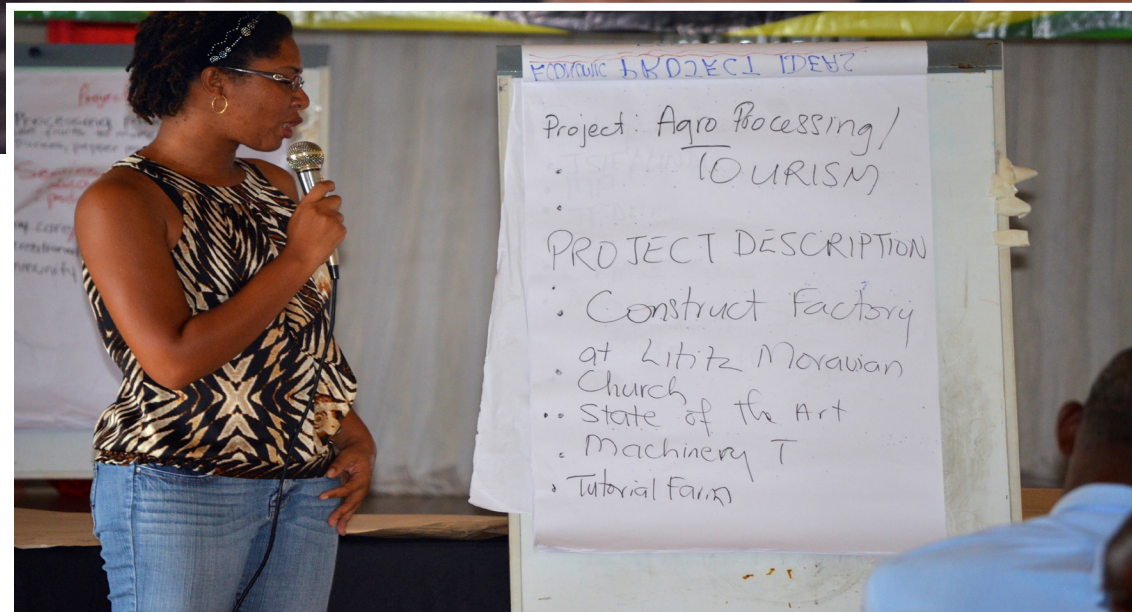
able Development Plan

... DEVELOPMENT COMMITTEES
... FRAMEWORK: THE PATHWAY TO LOCAL ECONOMIC DEVELOPMENT"



Above: Key stakeholders giving ear to the viewpoints of citizens at Community Development Committee (CDC) Conference

Right: Community member presenting outcome of ideas obtained from visioning session

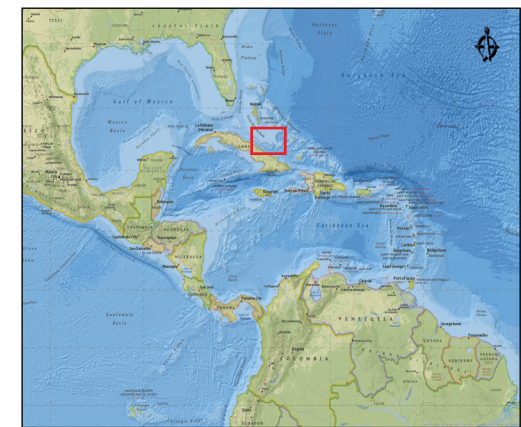
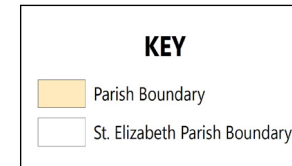
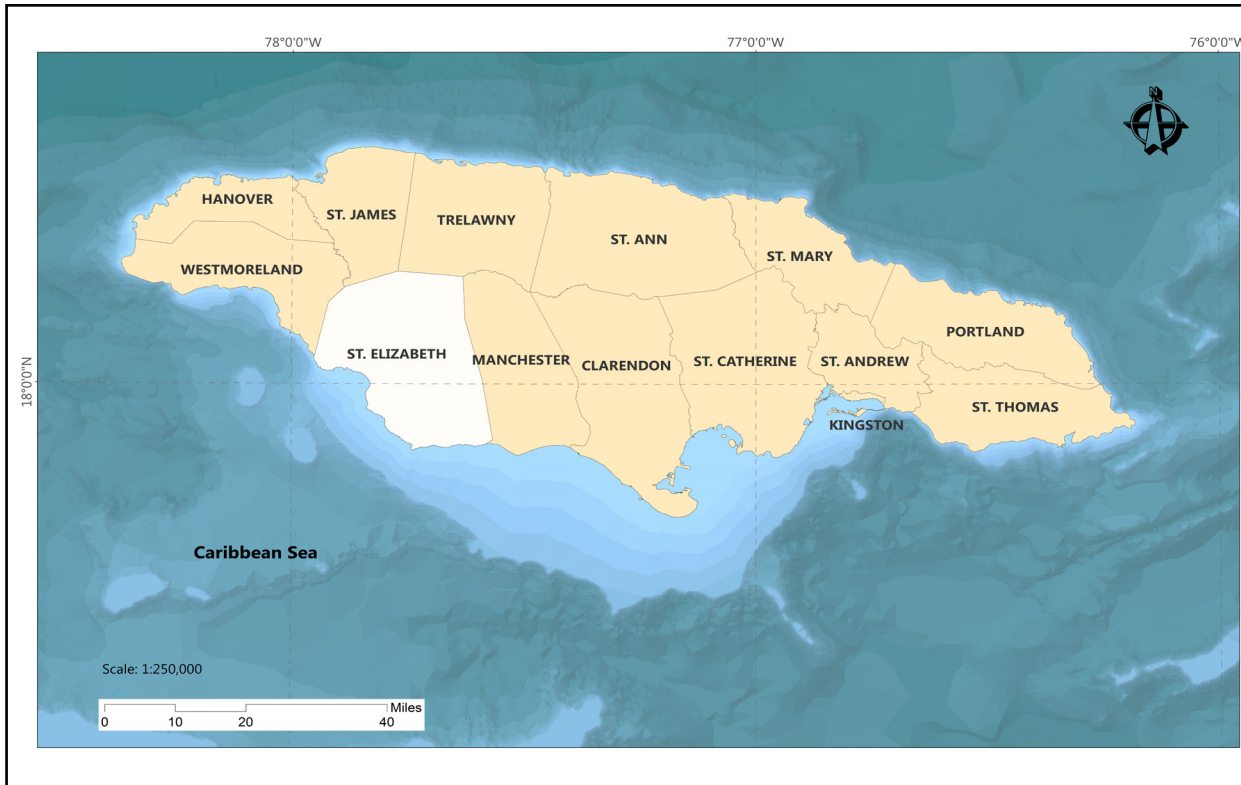


Background

2.1 Regional Context

St. Elizabeth; known as the 'Bread Basket', is one of the lead agricultural parishes. It is located in the south west section of the island and encompasses 779.7 square miles of Jamaica's landmass. The parish lies in the Cornwall County and is the third largest parish in the country.

The Parish capital is Black River which is also a major town alongside Santa Cruz and Junction with 4 minor towns; Mountainside, New River, Southfield and Marlborough. Santa Cruz has surpassed Black River as a major hub for commercial, educational and administrative services due to its location in the centre of the parish and its prominence as a transportation hub has heightened.

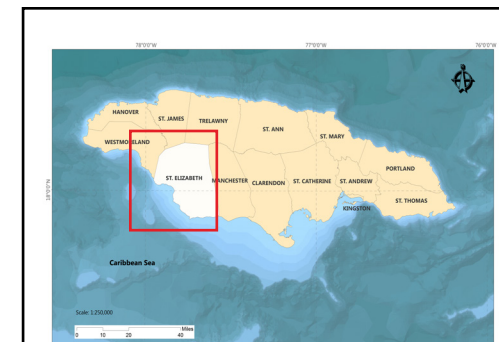
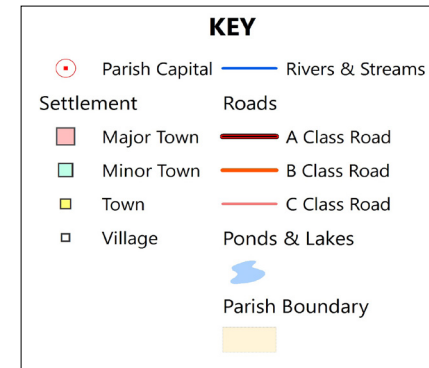


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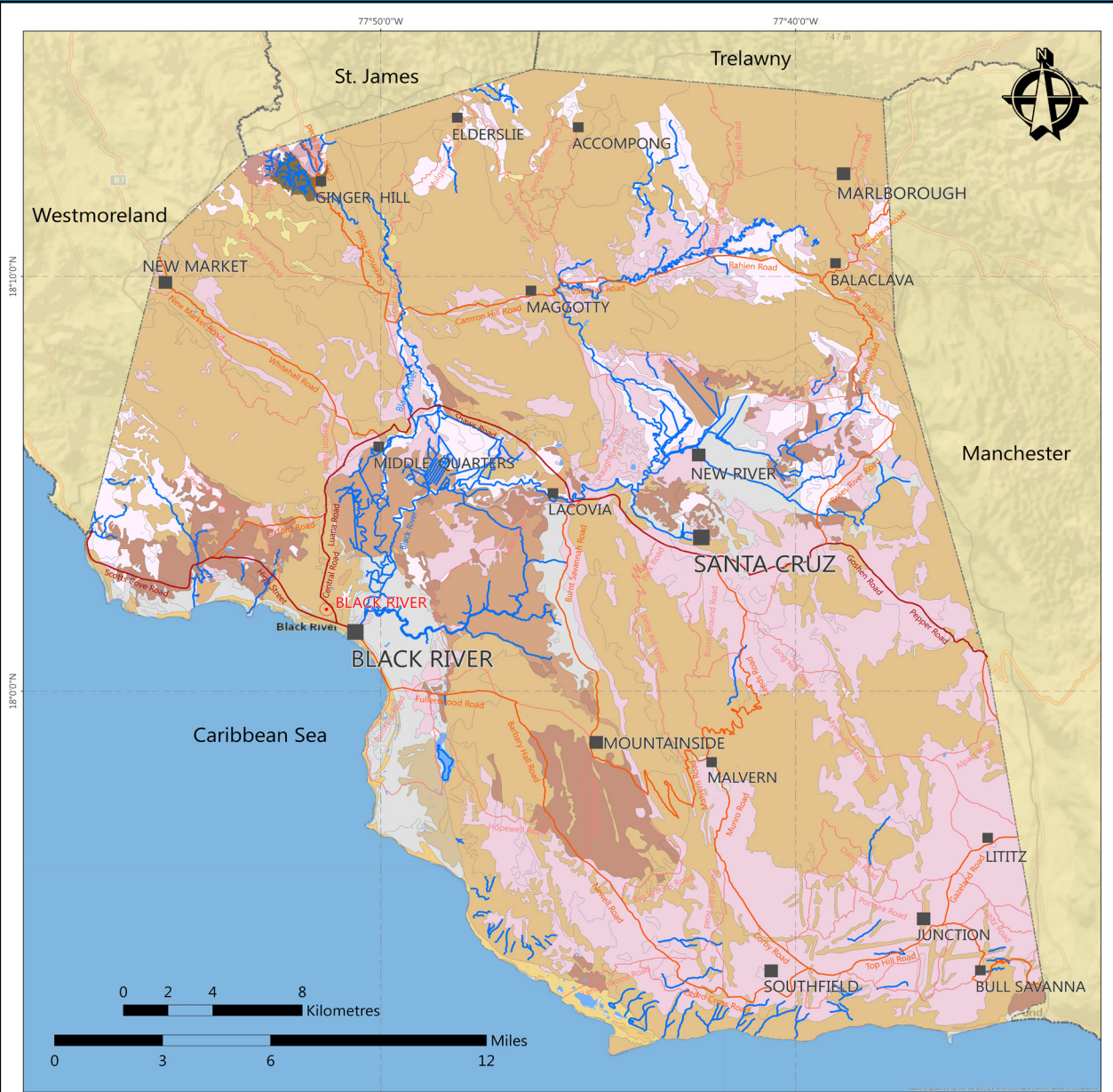
Soil

According to the Land Capability Classification system, approximately 18% of the lands in St. Elizabeth are arable. This 18% of arable lands represents approximately 10% of the total arable land in Jamaica. Areas of alluvium and basal aquiclude have the highest moisture content throughout the Parish, such as areas along the coast and morass and its periphery where the swamp and large water bodies are located. Also included are the northern regions where more rainfall is experienced and closer to sources of rivers both above and underground. The driest soil can be found to the southern regions and the leeward side of the Santa Cruz Mountains.

Topography

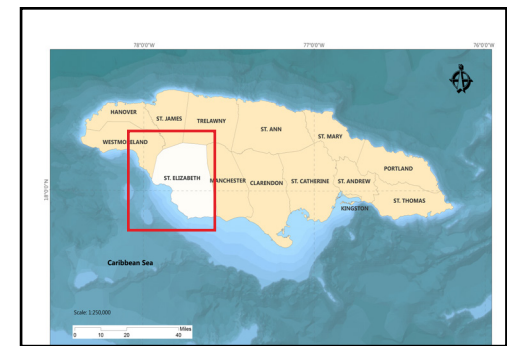
The relief of St. Elizabeth is dynamic and diverse ranging from mountainous and hilly areas to the North and North Eastern section of the parish alongside low lying plains in the central and southern sections. The Santa Cruz Mountains although only 5 miles wide, runs a distance of approximately 15 miles at 457.2- 914.4 metres (1500- 3000ft) and has topographical features which include sink holes and dry valleys. In Malvern elevations can get as high as 724 metres (2375ft). Stretching along most of the northern section of St. Elizabeth through Springfield, Maggoty to Balaclava is a plateau dissected by faulting and sinks holes reaching elevations close to that of the Santa Cruz Mountains. The area is 1250ft to 1500ft above sea level. The plateau consists of the Lacovia Mountains and Nassau Mountains at 182- 452 metres (600- 1500ft); and merges into the Cockpit Country along the Trelawny and St. Ann boundaries. Bull Savannah and Ballards Valley is an approximate 1000ft above sea level to the north and edge of the Upper Morass. The elevation stretches from Goshen and Pepper towards Alligator Pond along the south coast where it falls. Colluvial plains run to the west of the Santa Cruz Mountains from Burnt Savannah towards Treasure Beach and Great Bay; while the Pedro Plains fall below 500ft above sea level and undulate along the western edge. The Nassau Valley is separated from the plains by the Nassau Mountains forming an interior basin of approximately 10 square miles with steep undulation and the basin lies over 400ft above sea level and the mountains encircling the area rising steeply to more than 1000ft. The St. Elizabeth plains also cover approximately one third of the Parish, comprising of Black River to the west; to Elim and Bogue to the east dividing the more mountainous north from the mountains of the south. There are 44 caves found presently in the Parish. Of these 44 caves there are 4 popular and frequently visited caves:

- Mexico Cave- considered the longest in the Parish
- Peru Cave
- Yardley Chase Caves
- Wallingford Caves



KEY

Parish Capital	Soil Texture
Settlement	No Data
Major Town	Clay
Minor Town	Clay Loam
Town	Gravelly Clay Loam
Rivers & Streams	Gravelly Loam
Roads	Loam
A Class Road	Peat
B Class Road	Sand
C Class Road	Sandy
Ponds & Lakes	Sandy Loam
Ponds & Lakes	Silty Clay Loam
Parish Boundary	Stony Clay
	Stony Clay Loam
	Stony Loam
	Stony Sandy Loam



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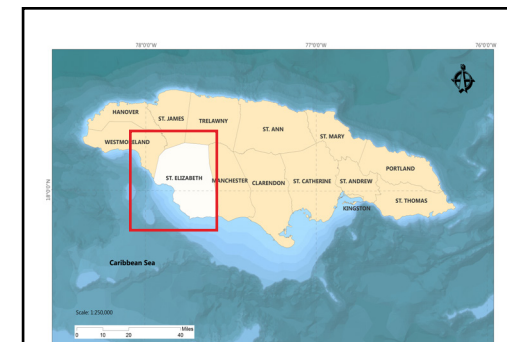
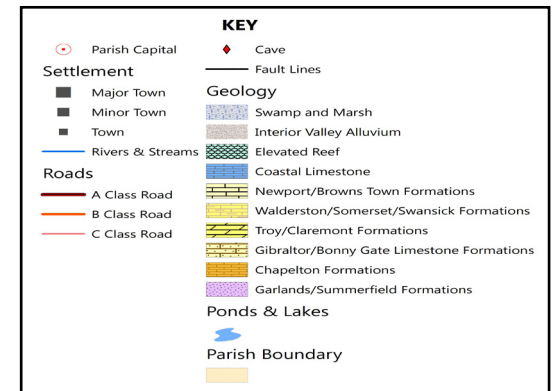
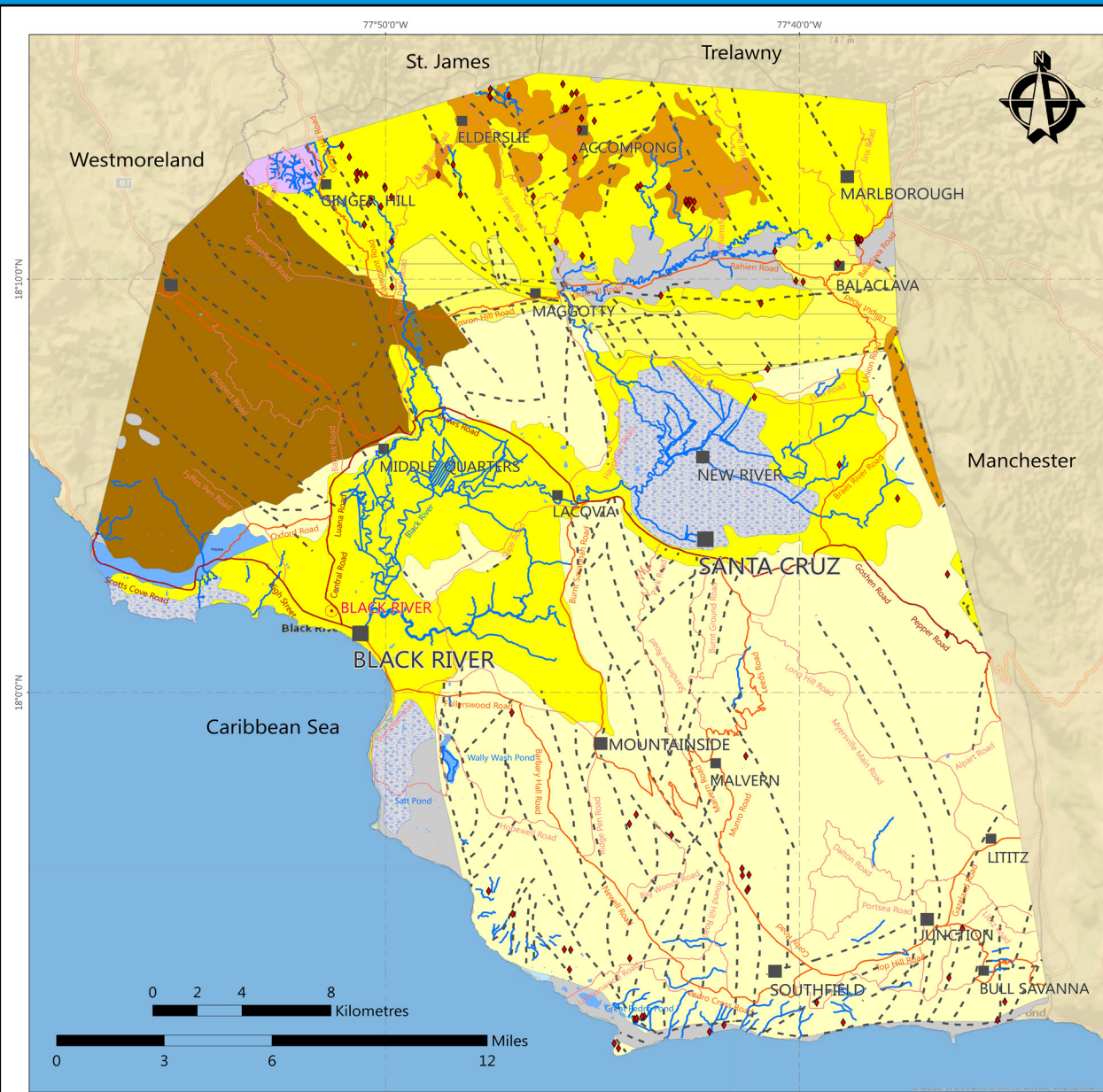
Source:
 National Spatial Data Management Division, 2011; Rural Physical Planning Division, 2012;
 National Geographic, Esri, DeLorme, NAVTEQ, UNED-WCMC,USGS,NASA,ESA,METI,NRCAN,GEBCO,NOAA,IPC, 2013

Geology

The most extensive lithology of the Parish is the white limestone formations covering over half of St. Elizabeth at elevations ranging from below sea level to over 2500ft. Although usually hard and bedded, found in such areas as Maggotty, Balaclava and Aberdeen, variations do occur as seen in soft chalky flinty beds near Springfield. The limestone has weathered to produce karstic limestone features to the north. Bauxite frequently covers the surface of these areas. Yellow-brown and red-brown shale with occasional sandy beds underlie the white limestone formation chiefly to the north. Limestone and shale are exposed in areas near Ginger Hill and around Elderslie and Accompong.

Alluvium is found at higher elevations and surrounding the edge of limestone in the south at Burnt Savanna, derived from limestone area; mostly from bauxite sources. Deposits of silica sand surrounded by stretches of mottled clay run along the North West edge of the morass from Crawford to Lacovia.

Recent alluvial deposits are found throughout the morass areas of the St. Elizabeth plains. Strips of alluvium are also found in the Nassau Valley. The alluvial materials are derived mostly from the limestone districts, where weathering has made it fine and argillaceous in consistency. The interior basin deposits occur in the Nassau Valley over an area of approximately 10 square miles of alluvium, colluvium and lacustrine. Along the coastal strips of the Pedro Plains a consolidated sand stone can be found, brown in colour and slightly mottled.



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Hydrology & Drainage

The drainage of St. Elizabeth is mainly by the Black River and its tributaries. Flowing westwards, it collects tributaries mainly from the north and flows forth on to the plains and then the swamp by way of the Maggoty Gorge. A great amount of meandering streams joins the Black River in both the Upper and Lower Morass; one of the most important being the Y.S. River which carved through the limestone plateau whose valley provides access from Holland on the plains to Ipswich in the north. All the rivers in the Upper Morass join the Black River, and all surface water exits the Upper Morass by way of the Black River.

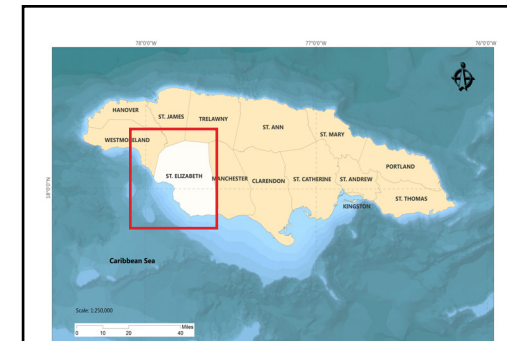
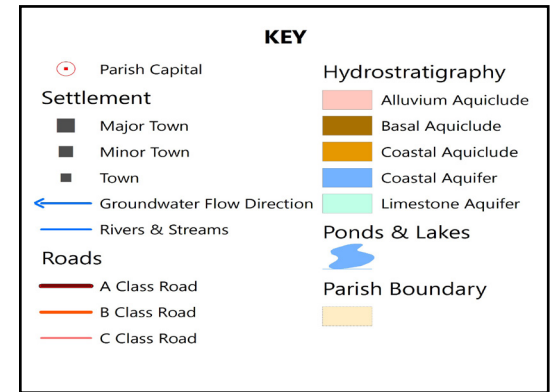
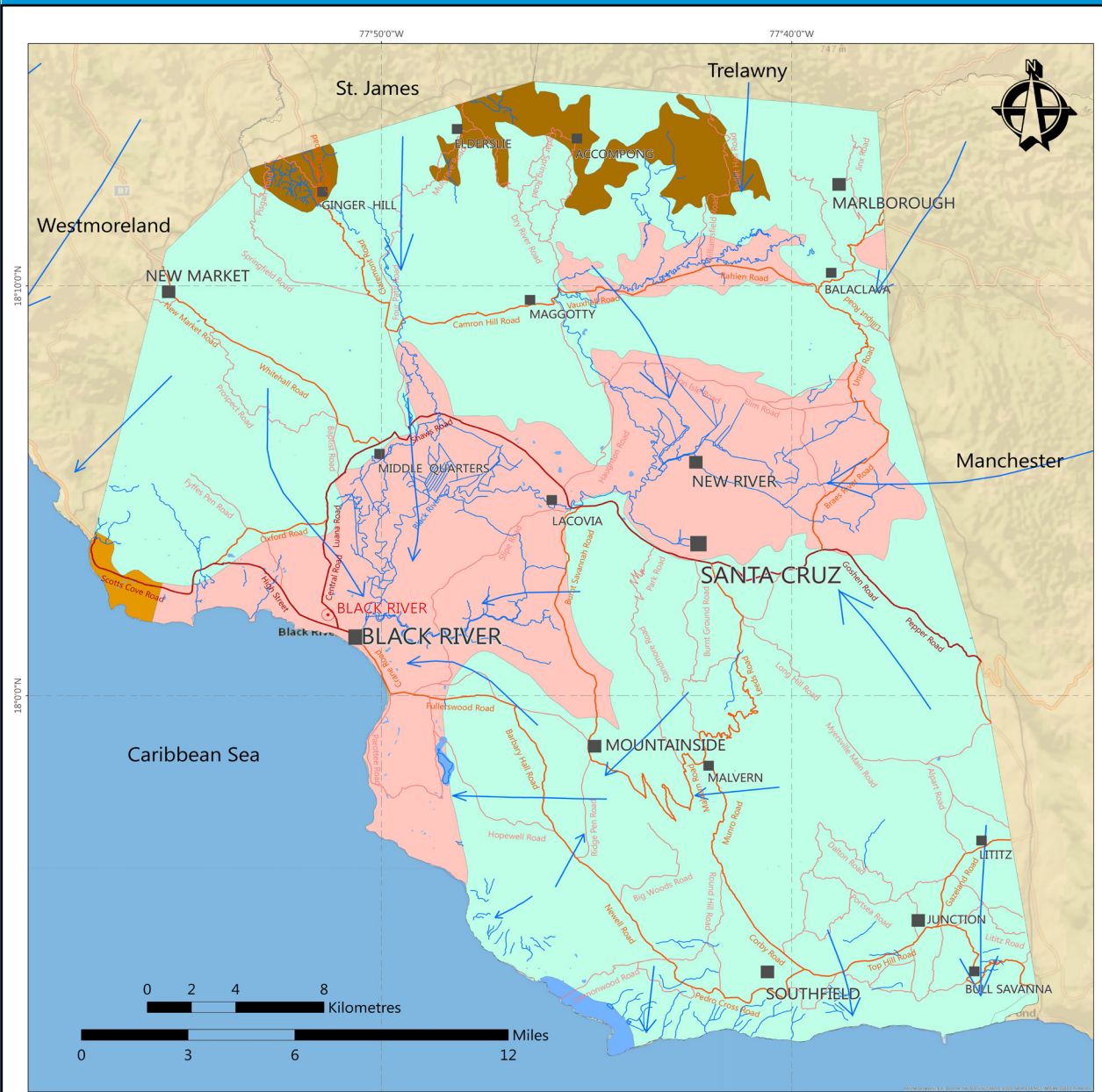
The most obvious and critical hydrological feature of the St. Elizabeth plains is the Black River basin, a large wetland area of swamps covering the area. The basin falls into two main sections, the Upper Morass and the Lower or Great Morass. The Upper Morass, lying approximately 50ft above sea level, is separated from the Lower Morass by a breach in the limestone hills east of Lacovia through which the Black River flows. The Black River Lower Morass is a designated RAMSAR site, yet it has no legal status beyond the convention. The Morass is alleged to be the largest herbaceous wetland ecosystem in the island, and is an extremely complex area that supports a large biologically diverse and natural community. The Morass supports rich indigenous flora and genetic reserves including 92 species of flowering plants, 25% of which are considered rare and 8% endemic to the country.

The Black River Morass spans approximately 7800 hectares in area at an elevation between 0-15m above sea level. It is bounded to the north and west by major roadways and to the east by the Santa Cruz Mountain and to the south by the Caribbean Sea. The Upper Morass constitutes 1762 hectares and the Lower Morass 6075 hectares. These areas are both supported by marine and coastal inland wetland systems, supporting Intertidal forested wetlands commonly known as mangrove swamps. The Black River Morass supports vital functions such as exporting organic carbon to the food web of estuarine and coastal ecosystems.

The Lower Morass is being adversely affected by the loss of flora due to fires, removal of trees for timber and fuel, harvesting of palm fronds and thatch for construction material and basket weaving.

The Wallywash Pond is a major source of water for surrounding communities, fed by numerous springs. Mining activities have created small ponds on some beaches and other inland freshwater ponds are seasonal. Great Pedro, Parrottee and other mangrove ponds of southern Font Hill are hyper-saline.

Along St. Elizabeth's coast are eleven beaches: Galleon, Hodges, Font Hill, Crane, Fullerswood, Calabash Bay, Great Bay, Treasure Beach, Billy's Bay, Fort Charles and Parottee. There are also six bays along the Parish's coast: Great Pedro, Calabash, Starve Gut, Malcolm, Parottee and Black River.



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2.2 Regional Boundary

A Development Area is a group of communities based on geographic, demographic, economic and social criteria or commonalities with the potential for growth, where persons gravitate towards its centre or hub for socio- economic activities. These Development Areas are townships which form the hub of socio- economic activities for the Parish with a potential for growth (SDC 2005).

The parish comprises six development areas: Black River, Santa Cruz, Junction, Balaclava, Maggoty and New Market.

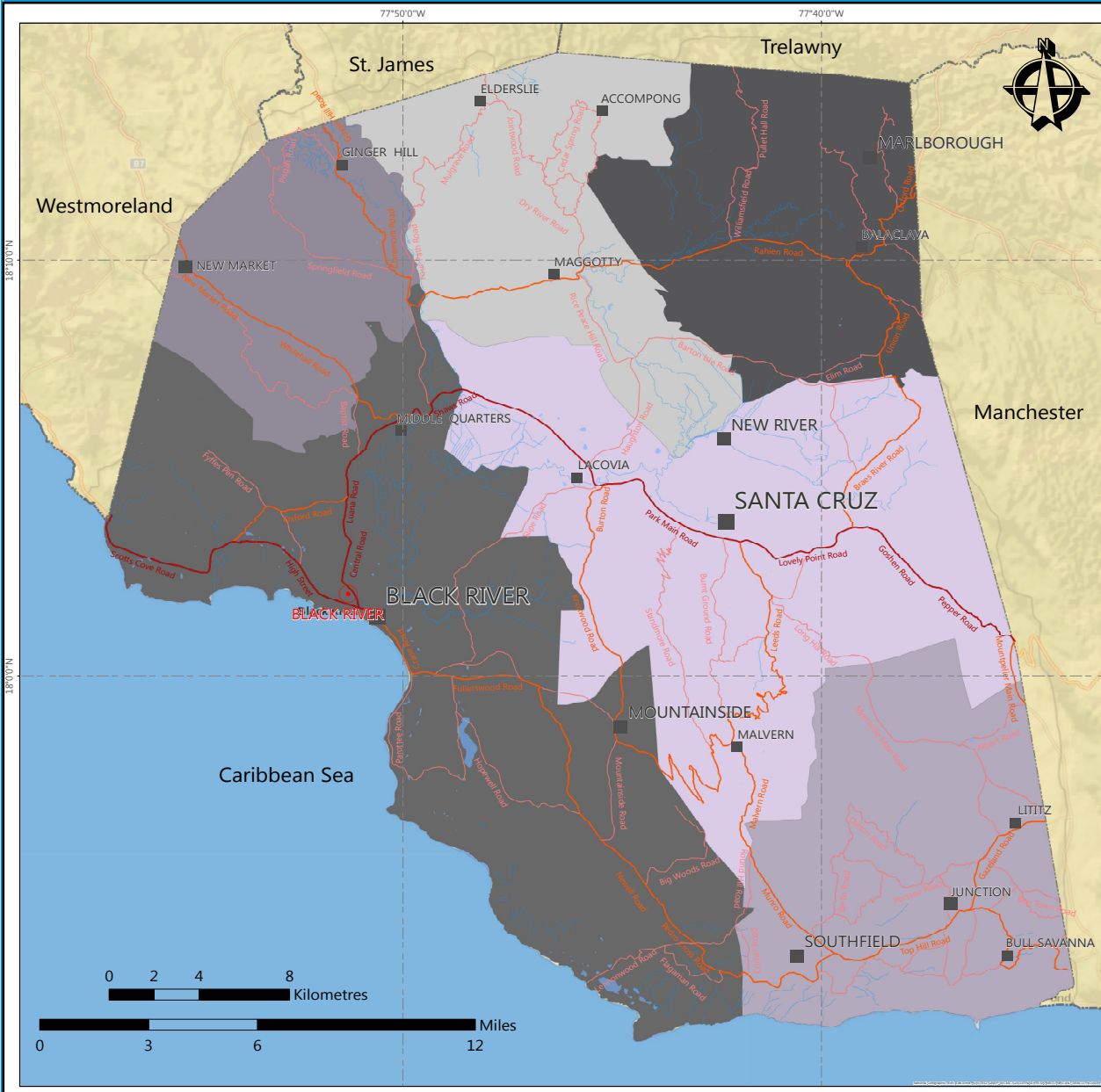
These Development Areas are townships which form the hub of socio- economic activities for the Parish with a potential for growth (SDC 2005).

Table 1

Development Areas in St. Elizabeth

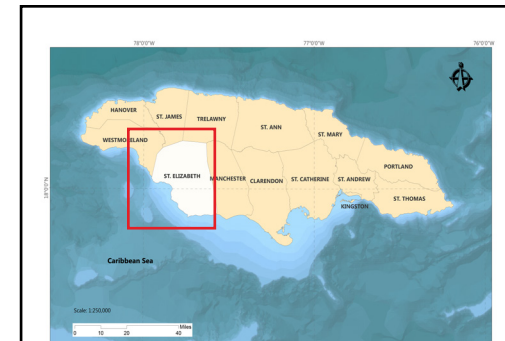
Development Area	Total Districts	Total Communities
Junction	94	14
Santa Cruz	90	9
Maggotty	66	9
Balaclava	42	7
New Market	61	6
Black River	112	16
Total	465	61

Source: SDC 2005



KEY

Parish Capital	Development Area
Settlement	Balaclava
Major Town	Black River
Minor Town	Junction
Town	Maggoty
Rivers & Streams	New Market
Roads	Santa Cruz
A Class Road	Ponds & Lakes
B Class Road	Parish Boundary
C Class Road	



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2.3 Regional Centre

Black River is the primary regional centre and capital of the parish. As the principal administrative and civic centre it provides a high concentration of government and social services for the region, as highlighted further in the Greater Treasure Beach Sustainable Development Plan (GTBSDP).

2.4 Emerging Centres

Santa Cruz and Junction over the years have experienced a heavy influx of growth, commerce and services, evidenced by the increase in new businesses and building applications. To compare the towns to their state in the early 2000's will reveal the ease of movement along corridors without infrastructural, traffic and parking hindrances present in 2015.

2.5 Demoraghics + Growth Trends

Planning for the efficient use and management of St. Elizabeth's land, inland water supply and coastline requires numerous demographic and correlated factors to be taken into consideration, including:

- Population size and distribution
- Squatting implications
- Demand for employment, housing and the need for goods and services
- Population loss or gain

From Jamaica's 14 parish districts, St. Elizabeth is the seventh most populated. It holds approximately six percent of the country's total population according to the most recent Population and Housing Census. In 2011, it was established that 150,205 persons inhabited the parish (STATIN 2012).

St. Elizabeth, along with most of the country, is predominately rural comprised of small towns and communities that are served by regional centres, or growth nodes. Over time, people living in the rural areas of Jamaica are relocating to urban centres in order to seek employment and take advantage of the increased accessibility to services like health care and education. St. Elizabeth is no exception. From 2001 to 2011, there was an increase of 0.6% of the population living in urban regions. Fifteen percent of St. Elizabeth residents are located in towns or urban areas, while 85 percent remain in rural parts of the parish (see Table 2). However, this pattern of rural to urban migration has been occurring at a greater pace in other parts of Jamaica. For instance, both Clarendon and St. James have experienced increases in urban inhabitants of almost five percent during the same ten-year period.

Table 2
Urban Population Distribution

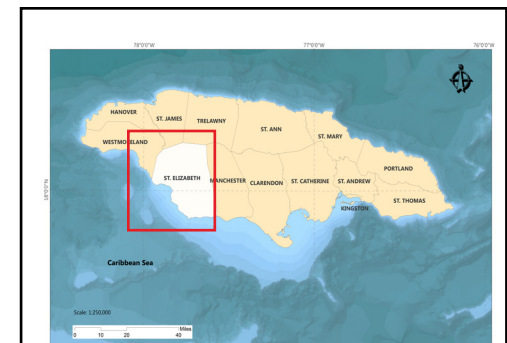
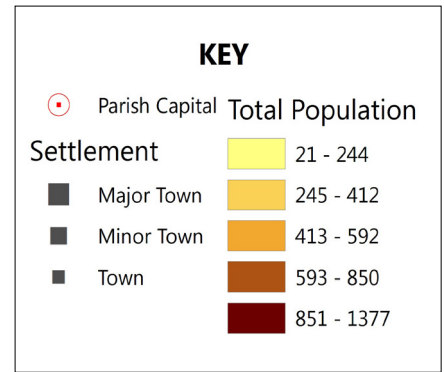
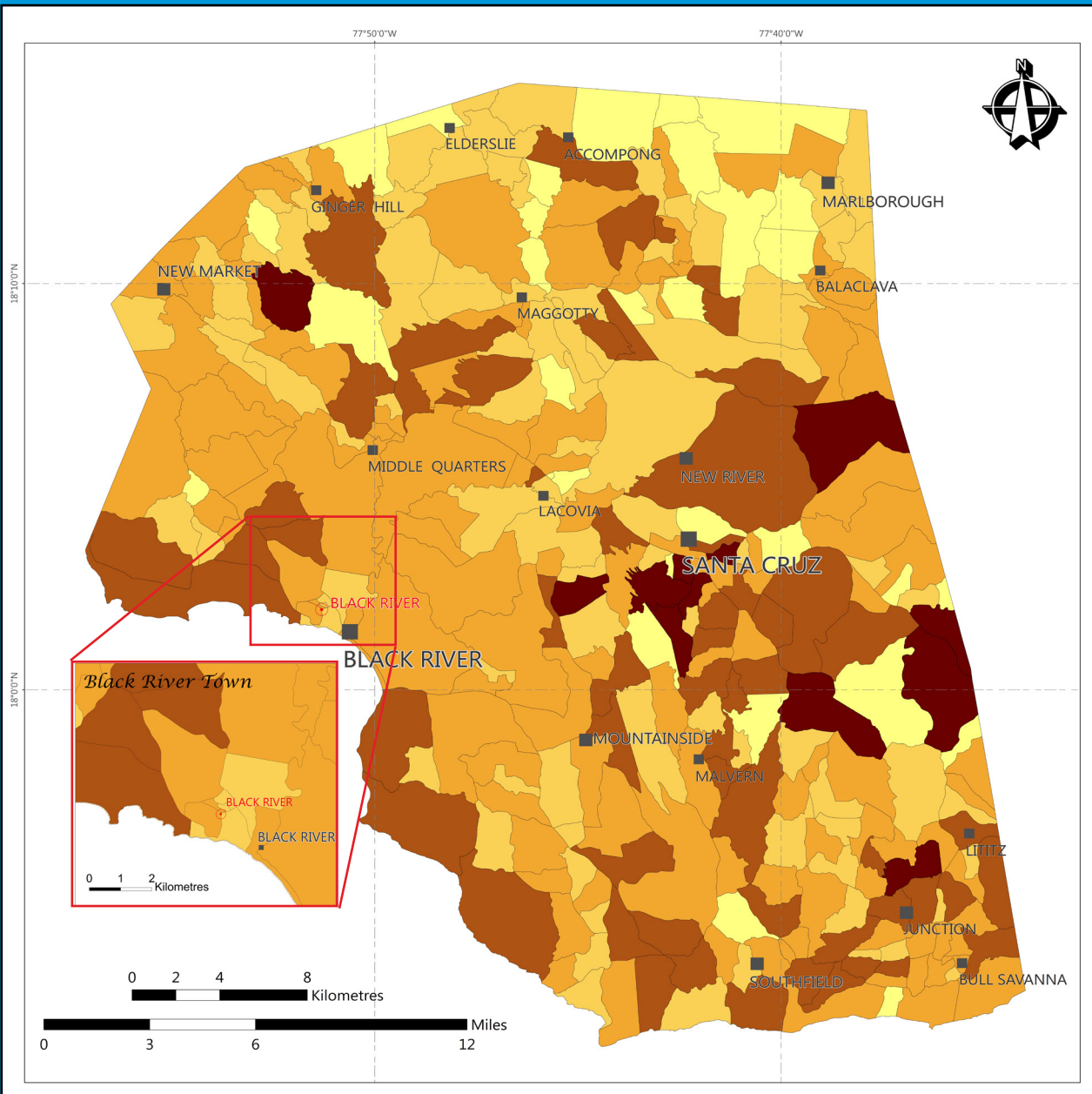
	Percentage of Population		
	2001	2011	Change (%)
Urban	14.4%	15%	+0.6%
Rural	85.6%	85%	-0.6%

Note: For a community to be considered urban it must have a population of at least 2,000 persons; as well as, a combination of commercial activity, public, professional and financial services.

Source: STATIN 2012

Within St. Elizabeth, there are 14 clusters of settlements. According to the Population and Housing Census, these are known as Special Areas. These areas of development are identified on Figure 3 with their total populations and number of households recorded. Only four of these regions are classified as urban areas of Jamaica. Black River, Santa Cruz, Balaclava and Junction each contain more than 2,000 inhabitants, as well as, possess the minimum criteria to be considered urban. These urban areas contain at least one commercial activity, one financial service, one professional service, and residential service, and one public service.

These four urban areas combined contain approximately 15 percent of the total population of the parish (see Table 2 above). Of the 85 percent (85%) of the population that are considered rural, 18 percent reside in one of the other ten previously mentioned Special Areas, or development regions, leaving 67 percent (67%) of the population outside close proximity of any of the essential services offered by the existing development areas.



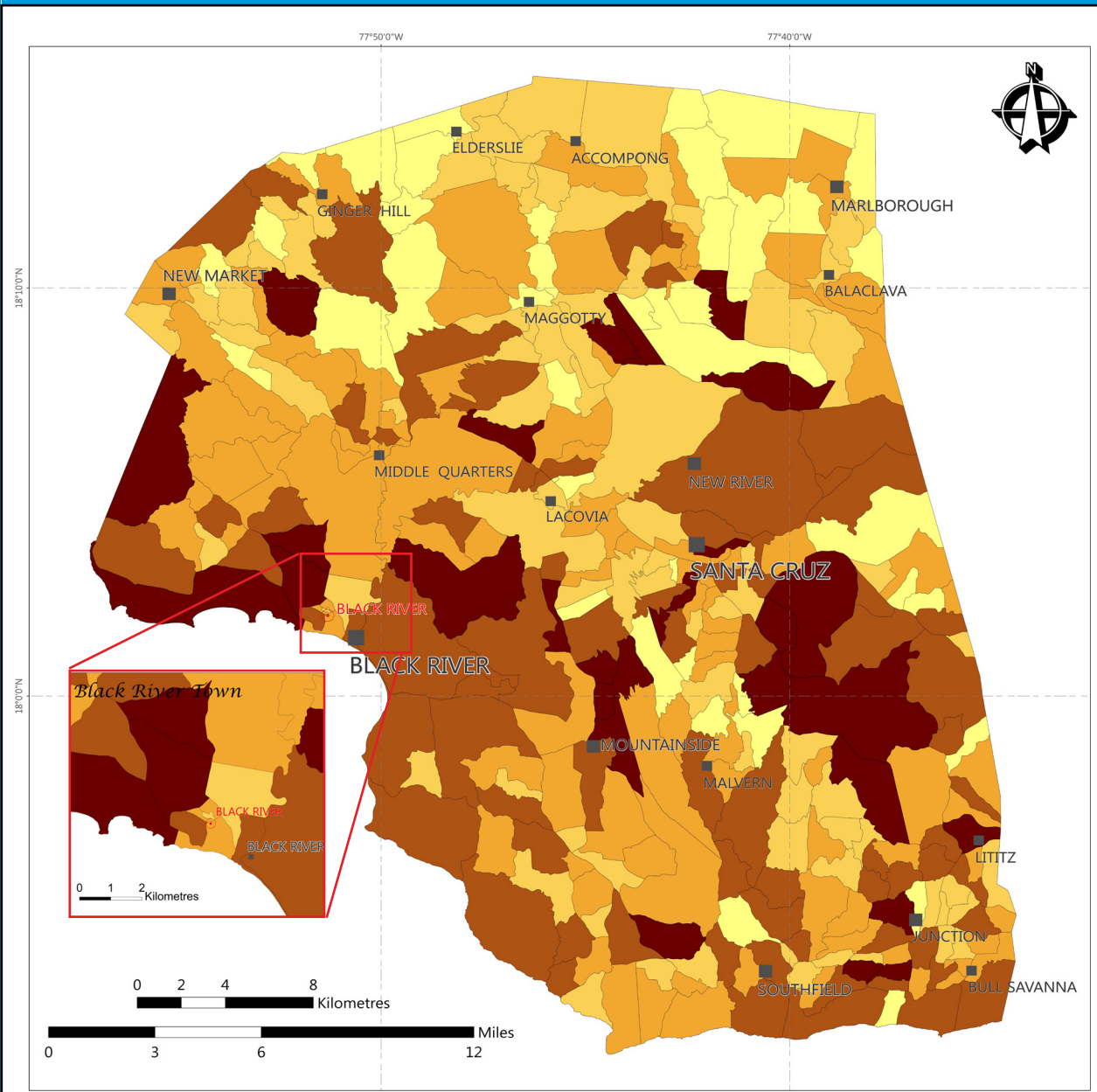
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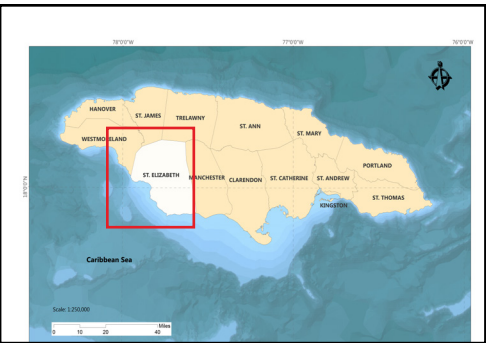
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 National Geographic, Esri, DeLorme, NAVTEQ, UNEQ-WGC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013



KEY

○ Parish Capital

Settlement	Total Population
Major Town	58 - 252
Minor Town	253 - 383
Town	384 - 528
	529 - 700
	701 - 1325



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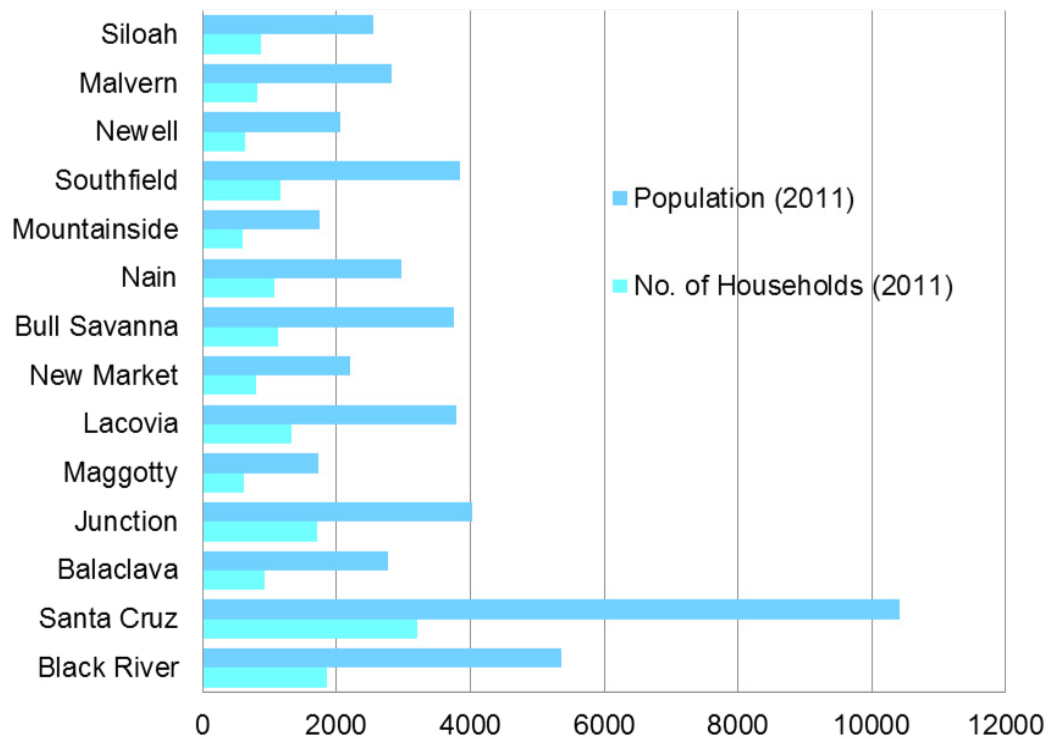


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Figure 3

Special Areas of St Elizabeth



Source: STATIN 2012

The total number of households and populations are shown above for the 14 Special Areas identified by the Population and Housing Census (STATIN, 2011). The most populated centre is clearly Santa Cruz, while Black River, the capital of St. Elizabeth, is the second most populated, containing almost half of the Santa Cruz population. Junction, Lacovia, Bull Savannah and Southfield are other development regions with significant populations. The majority of the population of St. Elizabeth (67%) live outside of these development areas and are therefore not represented in this graph.

Across the country, there has been a downward trend in annual growth rates observed since the 1980s (Population Task Force [PTF], 2010). In recent years, these growth rates have fallen below one percent due mainly to declines in fertility and continuing external migration from the country.

The annual growth rate of St. Elizabeth between 2001 and 2011 was 0.27 percent, (0.27%) with a total increase of 2.6 percent of the population over the course of the decade (STATIN, 2012). This population increase was less than the country's total percent change of 3.46 percent (an annual growth rate of 0.36 percent). This is because many other parish populations are increasing at faster rates. St. James, for example, has the highest rate of growth with a 0.51 percent annual growth rate between 2001 and 2011. Hanover and Westmoreland also have more rapid population increases than St. Elizabeth. Table 2-4 shows the rate of growth in the last decade in St. Elizabeth compared to the country as a whole.

In regards to the working population, or those between the ages of 15 and 64 years, it was estimated that this group comprised about 60 percent (60%) of the island's total population in 2001 (1,564,586 people). This age group is expected to increasingly make up a greater proportion of the total population in the future. By 2015, it is estimated that 66.8 percent of the population will be part of the working population, and this will fluctuate to about 65.6 percent by the year 2030 (PTF, 2010).

Table 3

Population Change from 2001-2011

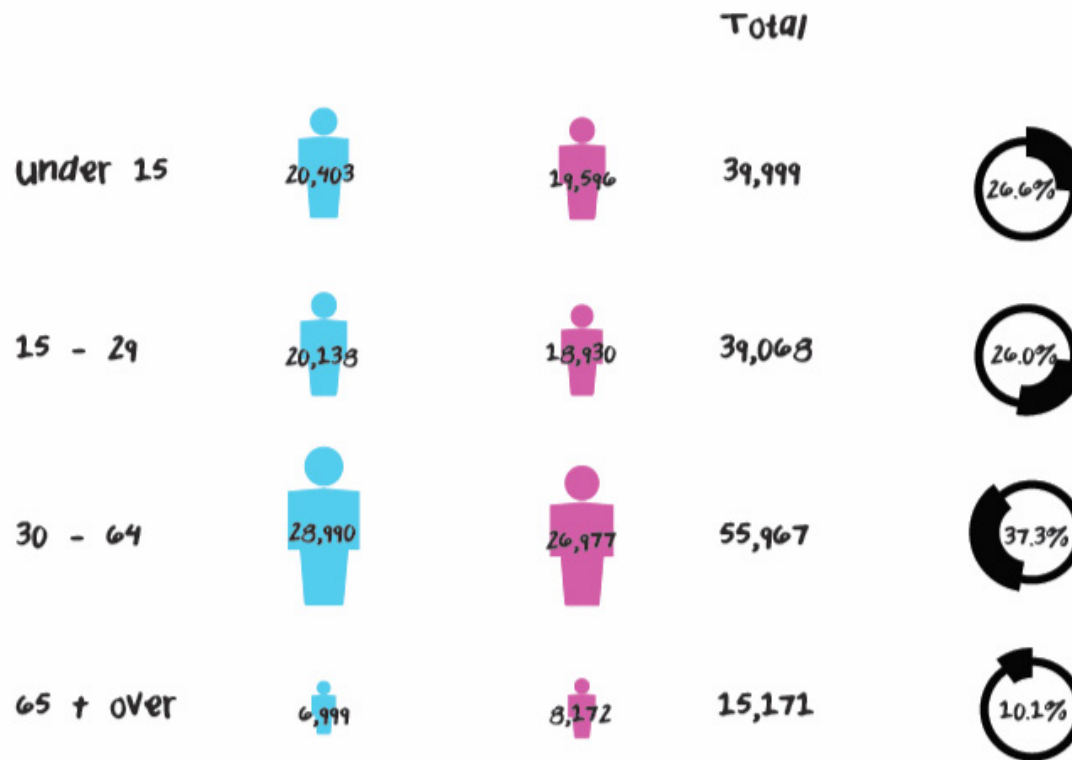
	St. Elizabeth	Jamaica
2011 Total Population	150,205	2,697,983
2001 Total Population	146,404	2,607,632
Numerical Change	3,801	90,351
Percentage Change	2.6	3.46
Annual % Rate of Growth	0.27	0.36

Source: STATIN 2012

During the years that there is an expected excess of people in the working population relative to the dependent child and elderly populations, the society will be in an advantageous position demographically. It has the opportunity to use this excess working population for developing the economy. This population bulge will reach its peak in 2025 with about 66.5 percent of the total population making up the working population group (PTF, 2010).

The 2011 census revealed that there are 103.8 males to every 100 females. In the 30 years of age group as it relates to gender disaggregation 26.9% were males and 25.5% females, the 60 years and over group had 7.3% females to 6.7% males and the 30- 59 group with 16.1% females to 17.4% males reflecting the close equality between the genders in St. Elizabeth.

Figure 4
Population of St Elizabeth by age + gender



Source: Population Census STATIN 2011

The most populated age groups are those between the ages of 10 and 19 for both females and males (Figure 4). This means in the next 10 to 20 years there will be a significant increase in the working population and those in their child bearing years. This population bulge will put St. Elizabeth in a demographic advantage, creating an optimum population, because the independent population will outweigh the dependent youth and aging populations. The data also shows that there are fewer females than males between the ages of 40 and 49; however, for groups over 70 years old, more females represent the population.

Plan Framework

3.1 Vision

The St. Elizabeth PDC held a series of community planning and visioning workshops throughout the Development Areas. The workshops consisted of presentations from the St. Elizabeth Parish Council, Social Development Commission and St. Elizabeth Health Department alongside visioning and solution-based activities.

The workshops were intended to demonstrate to residents the value of their opinions and their ability to affect change in their community. Stakeholders and planners from the PDC and the Parish Council were allowed to experience the community planning process in regards to the goals of local government reform and to understand their importance to the process.

The following goals and strategic objectives became apparent throughout the research, consultations and planning decisions made in producing the plan:

3.2 Goals + Strategic Objectives

3.2 Goals + Strategic Objectives

<p>Goal 1: Natural Environment</p> <ul style="list-style-type: none"> • Increase public awareness and promote sustainable environmental practices • Management and protection of protected species and areas • Discourage harmful practices to the environment • Encourage preservation of endangered species • Enforce regulations with stricter policies 	<p>Goal 2: Disaster Mitigation & Management</p> <ul style="list-style-type: none"> • Solutions to flooding and bush fires • No-build zones in flood prone areas or hazard-vulnerable areas • Reduce the impact of disasters on communities within the parish
<p>Goal 3: Social Environment and Facilities</p> <ul style="list-style-type: none"> • Upgrade of facilities • Improved skills training facilities and effective training programmes • Provision of mixed income and special needs housing facilities • Relocation of settlement in vulnerable areas • Enable community unity • Development management maintenance of multiple purpose community centres • Increase in policing • Improved sanitation and garbage collection • Increase assistance to senior citizens and special needs citizens • Improved accessibility • Better management and staffing • Provision of recreational spaces, sporting facilities and green spaces for all communities 	<p>Goal 4: Built Environment</p> <ul style="list-style-type: none"> • Provision & maintenance of basic infrastructure • Adequate and reliable potable water supply • Better storage and access to water • Upgrade and maintenance of roads • Improve drainage • Alleviation of traffic congestion and better parking facilities in major towns • Improve connectivity • Consistent electrical energy supply • Exploration and adaptation of alternative energy sources • Introduction of recycling initiatives • Introduction of compost or dry toilets • Proper treatment and disposal of toxic waste
<p>Goal 6: Land Use Management</p> <ul style="list-style-type: none"> • Protect agricultural lands • Promote mixed use development • Preserve land for future best use practices 	<p>Goal 5: Economic Environment</p> <ul style="list-style-type: none"> • Improved assistance to farmers • Increased development of agro-processing facilities and food storage • Improved irrigation systems • Improvement in farming techniques • Development of communities & small scale eco-tourism • Preserve & restore heritage sites • Expansion of tourism opportunities in northern section of parish • Improve marketing of tourism attraction • Creation of job opportunities • Increase in commercial and industrial diversity
<p>Goal 7: Governance</p> <ul style="list-style-type: none"> • PDC and CDC more active in communities • Better representation from Councilors • Strengthen and promote the establishment of community-based organisations for community planning and economic development 	



Magdala House



Black River Iron Bridge



Dimension of the SELSDP

4.1 Natural Environment

Assess: St. Elizabeth is home to numerous unique environmental features: the Lower Morass, the Black River, caves, waterfalls, the Great Pond, lengthy coastlines and lush forest areas.

Challenges: These natural features are susceptible to natural and development pressures. Hurricanes, earthquakes, flooding, bush fires, droughts, landslides and storm surges have proven to cause massive harm to vital infrastructure, due to the parish's vulnerability.

Responses: The creation of a Parish Disaster Plan to guide management, mitigation and the prioritisation of goods and resources. Reforestation of the Santa Cruz and Don Figueroa Mountains, also the Northern areas of the parish to curb soil erosion and limit land slide activities.

Ensure proper shelter management. Audit and regulate community centres to be utilised as shelters in the event of a disaster.

Improved management of disaster stores.

Establish 'eco- schools' to provide an improved school environment through recycling, waste reduction, alternative energy sources, water catchment and gardening programmes.



Water

Establish leak monitoring and response units in collaboration with the NWC, in order to curb the amount of water lost on a daily basis through conservation strategies and efforts. The standpipes which have been checked are to be mapped via GIS and each tagged with an identification number and contact information, to allow for easier reporting in case of leaks or damage.

Fire hydrant audit to be conducted.

Water supply could be improved through joint public/ privately funded projects and/ or initiatives, examples rebates and tariffs.

Maintain irrigation storage reservoirs to conserve water during seasons of low demand, to meet crop irrigation requirements.



Solid + Sewerage Waste Management

Assessts: There is one active disposal site in the parish, located in Myersville and operated by the National Solid Waste Management. Covering 3.7 hectares, the site is located approximately 9 miles from major town Santa Cruz and collects approximately 27 tonnes of waste annually. Collection by truck is the predominant method of garbage collection at 50% of residents employing this method, as reported by the Social Development Commission. To ensure the dump does not fill beyond its capacity and prevent scavengers from disrupting the facility, individuals must purchase a permit to gain access.

Challenges: Expansion in waste management infrastructures has not followed the increase in population and economic growth within the parish. With 17 trucks allotted to Manchester and St. Elizabeth (Southern Parks & Markets waste shed), it proves inadequate in servicing the area and highlights the limitations in the carrying capacity for the National Solid Waste Management Authority to transport waste. Subsequently, a growth in new development will also increase the quantity of demolition and construction waste. There is an increase in the presence of electronic waste due to strides in technology, coinciding with an absence in accurate disposal methods. There is also an absence in the proper disposal coupled with the improper discharge of effluents from commercial residences and industries, agricultural waste, domestic sewage and solid waste all contribute to the degradation of water sources.

A notable 43% of residents reportedly burn their garbage as a method of disposal. This has significant consequences towards the environment and health implications, due to emissions of fumes resulting in respiratory problems and bush fires in dry climate prone areas. Despite burying being reported by



SDC as being a disposal method for 1% of the parish, it still proves to be a threatening practice to the high water table in areas and the effect on water supply.

Currently the parish does not have a centralised sewage system set in place. However, new development; such as the housing development in Luana have established a small scale system to serve the scheme. The system needs to be reviewed and monitored.

Responses: Disposal sites must be constructed with an impermeable lining to protect the underlying ground and surface waters. Establish a strategic approach to recycling and reusing waste materials (organics, paper, plastic) and introduce centralised skips and transfer stations to serve all communities to improve waste collection.

Introduction of alternative treatment systems in the form of reed bed systems and composting toilets, which does not use water and is best suited for warm climates and suitable for St. Elizabeth for its high temperatures and lengthy dry periods. Wastewater collection and treatment facilities will encourage the reuse of water to meet non-potable water demands for irrigation purposes and fire extinguishment.

Public sanitary conveniences to be established and maintained within all major towns and public bathrooms detailed in building plans.



Roads + Transportation

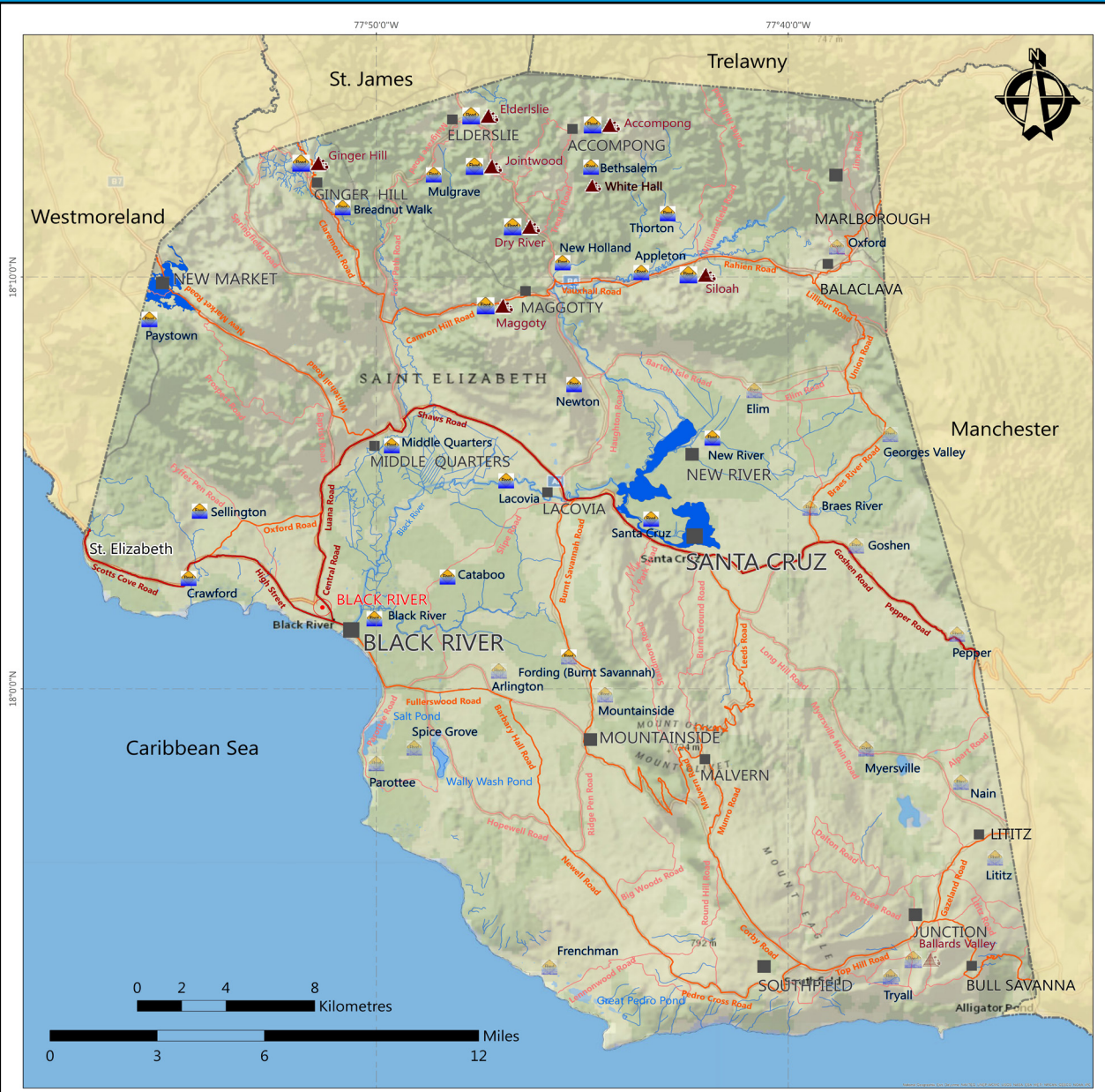
Assess: The parish is comprised of extensive road networks and a myriad of parochial roads, forming good inter-parish accessibility. The main arterial road connects Manchester and Westmoreland via Santa Cruz and Nassau Mountains.

Master plan for the South Coast Highway through St. Elizabeth is in motion.



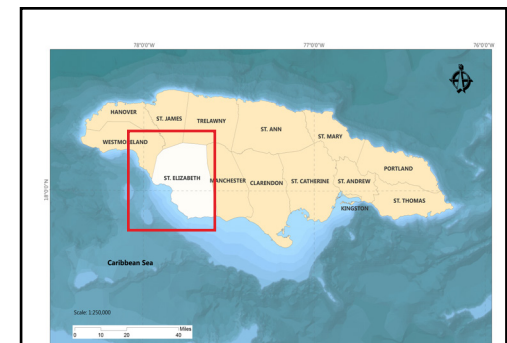
Climate Change

St. Elizabeth is vulnerable to the impact of climate change and climate related hazards; change in precipitation levels, increase in drought conditions, rise in sea level and sporadic weather changes. It is vital for the parish to be prepared for possible effects through mitigation and adaptation.



KEY

Parish Capital	Roads
Settlement	A CLASS ROAD
Major Town	B CLASS ROAD
Minor Town	C CLASS ROAD
Town	Flooding Zones
Rivers & Streams	
Hazards	Ponds & Lakes
Flooding	
Flooding/Landslide	Parish Boundary
Landslide	



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 Creation Date: July 2014
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Prepared for:



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 National Spatial Data Management Division, 2011: Office of Disaster Preparedness and Emergency Management, 2014;
 National Geographic, Esri, DeLorme, NAVTEQ, UNEO-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013

ENVIRONMENTALLY SENSITIVE AREA

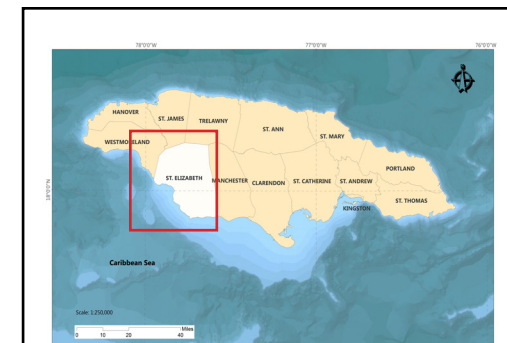


KEY

- Parish Capital
- Major Town
- Minor Town
- Town
- Rivers & Streams
- A CLASS ROAD
- B CLASS ROAD
- C CLASS ROAD

KEY

- Environmentally Sensitive Area
- Ponds & Lakes
- Parish Boundary



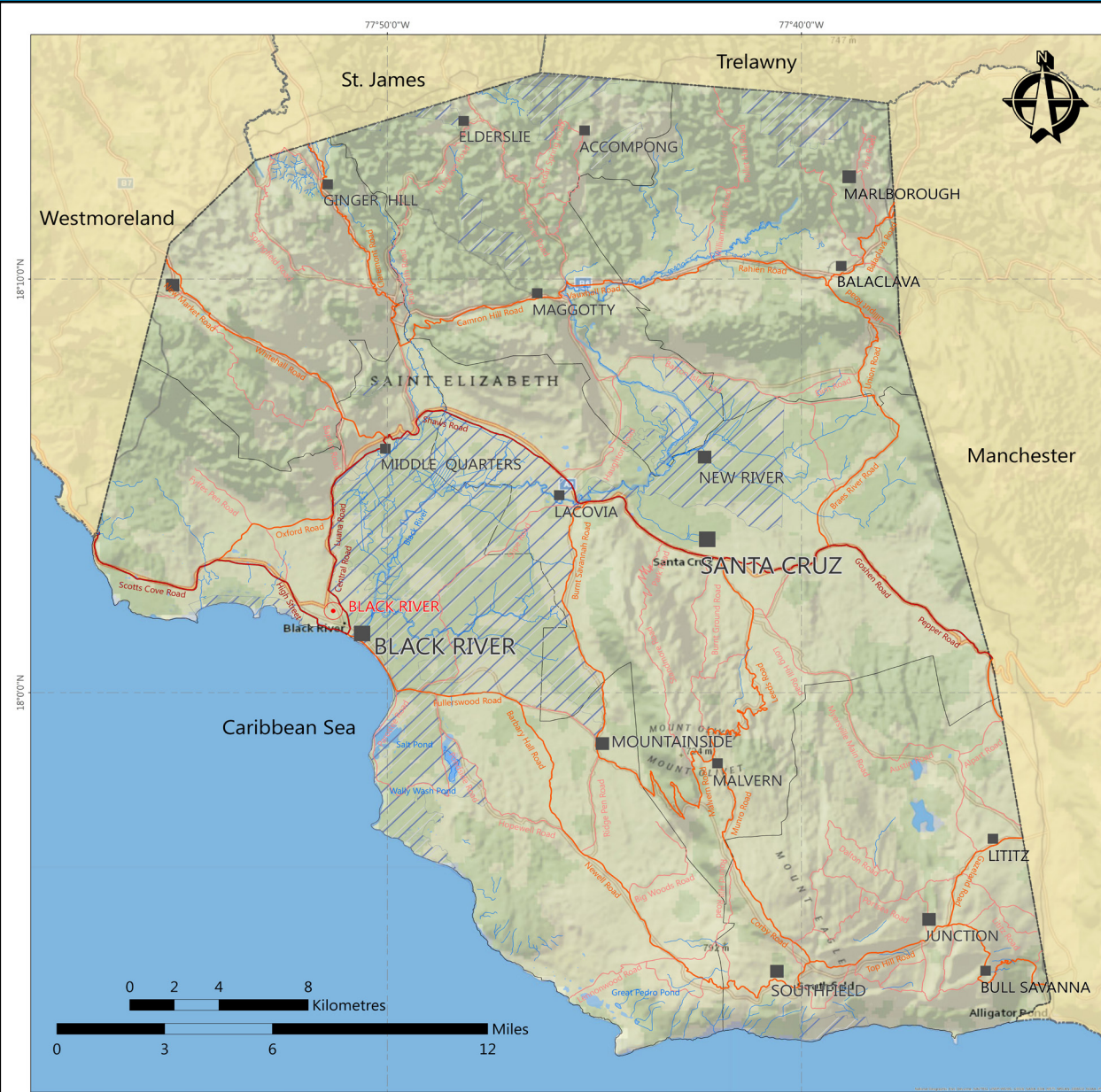
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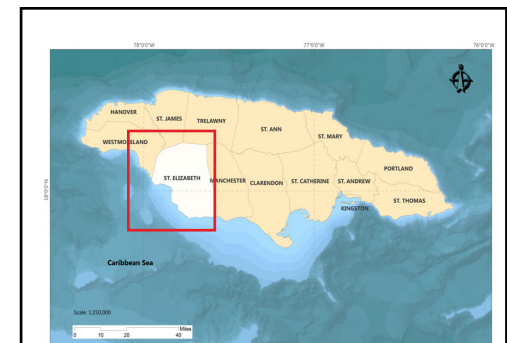
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KEY

Settlement	Protected Areas
■ Major Town	Protected Areas
■ Minor Town	Ponds & Lakes
■ Town	Parish Boundary
Rivers & Streams	
Roads	
A CLASS ROAD	
B CLASS ROAD	
C CLASS ROAD	



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4.2 Social Environment + Facilities



Housing

Assessts: The parish has high home ownership [68.6%] and is statistically on par with that of the entire country which has 63%. Housing construction has continued to increase throughout the years with modern tools and materials.

Challenges: Limited housing types and a breakdown in the control and management of land tenure. Informal settlements gradually growing in the parish: as of 2013 there were 20 such sites surveyed.

Responses: Consider greater investment in housing and increasing housing options across a wide range of densities while employing cost effective techniques, improving access to home financing products and modern 'green' materials making housing affordable, which is a factor fundamentally linked to a supply and demand disparity. Housing within the parish has expanded and housing quality has improved steadily, with natural disasters, increased income levels coupled with exposure to technologies influencing design, nurturing a culture of green builders and sustainable construction practices. The percentage of homes built with concrete and block reinforced with steel rebar has increased, with the average use in construction within the parish in 2009 at 72.9%. The renovation of abandoned and derelict buildings, eliminating the need for construction can also be explored to exploit repurposing methods.

In 2001, the parish of St. Elizabeth had 41,687 housing units, 98% of which were separate detached housing and 40,701 dwelling units. Many of the units were single-family type housing and dwelling units. As of 2011, there was an increase of about 8000 housing and dwelling units, bringing the total unit count to 49,388 and 48,067 respectively (STATIN 2012). Highlighting the need to plan ahead in order to meet the needs of an increased residential growth in urban areas. In 2001, the average number of people residing in a household was 3.5, which has since decreased to 3.0 as of 2011.

Establishment of special needs housing to provide accommodations for vulnerable groups of people and enabling an environment where policies can be created for people with special needs to access



adequate shelter and care. Care should be taken to ensure projects are sustainable and viable. Spatial distribution or mapping of special needs people in order to assess distribution of facilities and their location in relation to schools, clinics, etc.

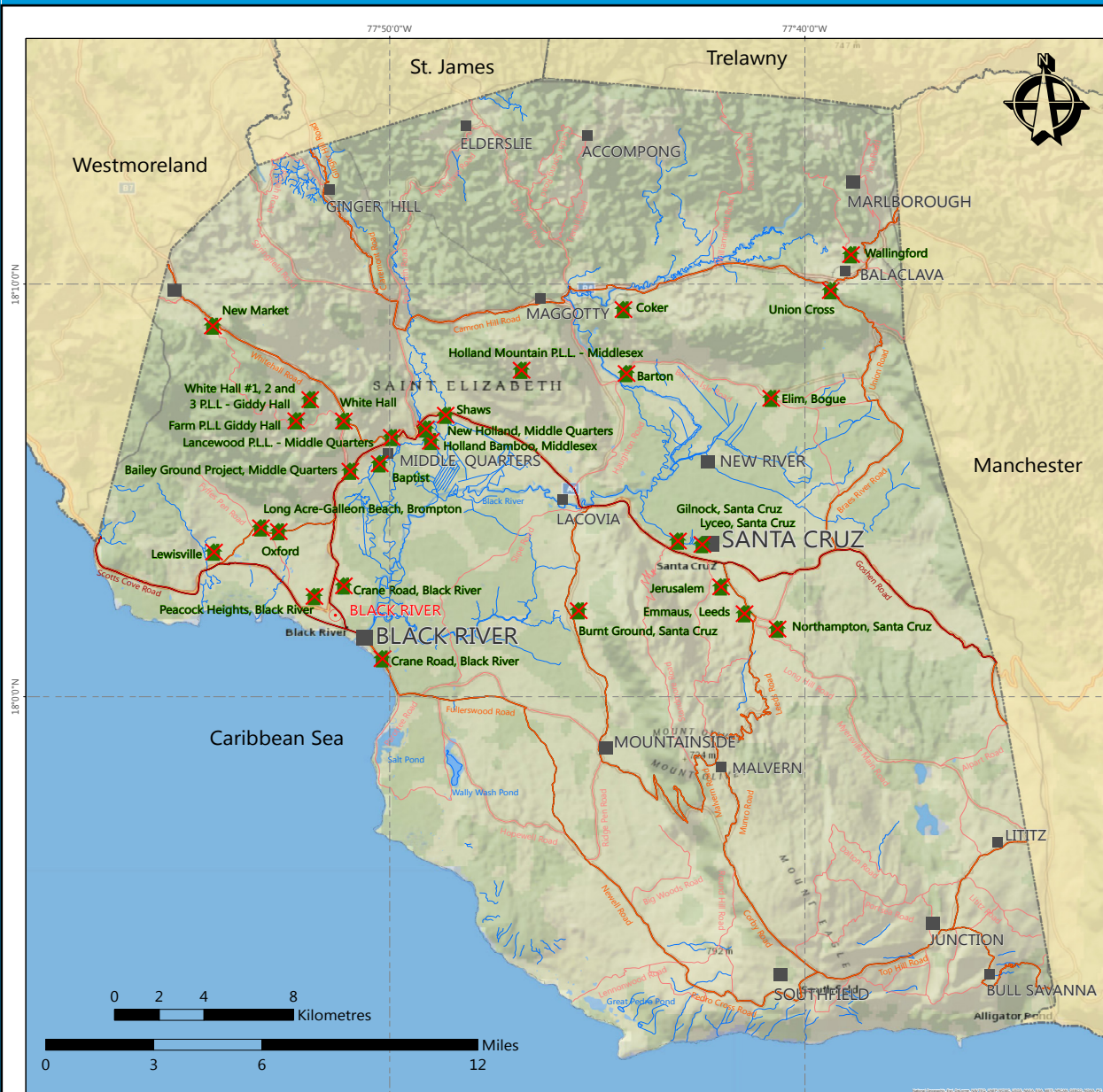
- Orphans & vulnerable children
- Seriously ill
- Old & infirm
- Physically disable
- Intellectual & psychiatric disabilities
- Victims of domestic abuse
- Homeless
- Substance rehabilitators
- Juvenile offenders

Squatting is the illegal or unauthorised occupation of land or housing. Residential squatting is the developing of an area without legal claims to the land and/ or permission from concerned authorities (Rapid Assessment of Squatting Report). Failures in the provision of adequate housing programmes and poor land management have led to the emergence of informal shelters in St. Elizabeth. Black River, Middle Quarters and Santa Cruz are plagued with the most informal settlements of all the areas. The regularisation of squatter settlements in St. Elizabeth is a component of housing provision and an essential aspect in the growth of prosperous communities. Squatting is the informal means in which segments of the population meet their housing needs, however this practice is a threat to the environment, public services, health and inhibits development of tactical locations. Identified sites are to be verified and regularised, involving relocation or resettlement activities through community expansion and the provision of alternate land options.

Establish social housing schemes towards the provision of affordable accommodation to people of low incomes, under the Poor Relief Department to be efficiently monitored and managed.

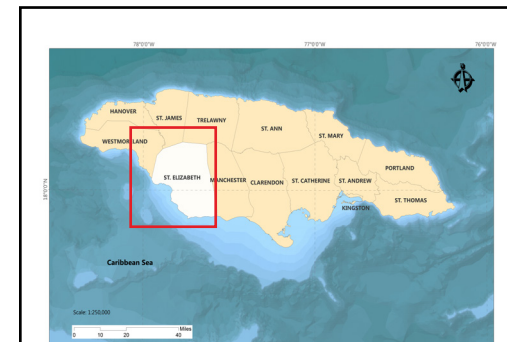
Provision of affordable land management and ownership, alongside flexible pro-poor tenure types to be developed. Ensure the accessibility of affordable and transparent land registration.

SQUATTER SETTLEMENTS



KEY

- Parish Capital
- Rivers & Streams
- Settlement**
- Major Town
- Minor Town
- Town
- Squatter Settlement**
- Squatter Settlement
- Ponds & Lakes
- Parish Boundary
- Roads**
- A CLASS ROAD
- B CLASS ROAD
- C CLASS ROAD



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Health

Assess: St. Elizabeth has an increasing life expectancy resulting from a greatly developed and accessible health care system. The Black River Hospital serves the parish as well as sections of Westmoreland, St. James and Manchester.

Additionally there are also 24 health centres across the parish offering a variety of services based on their ranking [Type I-IV].

Challenges: Areas without a health centre or infrequent hours of operation force residents to travel to other communities to access health care, proving to be an issue in both time and affordability. Residents have highlighted issues within health facilities, such as:

- Limited staff
- Overcrowding
- Poor infrastructure
- Delays in patient care
- Inadequate medical equipment & furniture

Responses: Over haul of the hospital: in improved access, increase in medical supplies, upgrading of infrastructure and equipment, exemplary service to be provided and the enhancement of the facility to serve communities and visitors. Consider the construction of a state of the art psychiatric treatment facility providing care and rehabilitation. Locating an alternative hospital site, or the expansion of the Santa Cruz Health Centre to serve a greater capacity.



Education

Assess: St. Elizabeth has 167 early childhood institutions, 83 primary institutions of which 5 are primary and junior high and separated into public and private preparatory schools. There are currently nine (9) high schools throughout the parish. These schools are: of Education or private entities and limited amount of institutions catering to special needs children.

- Black River High
- Newell High
- Munro High (Potsdam)
- Hampton School (Malvern)



- Balaclava High
- Lewisville High (New Market)
- Lacovia High
- B.B. Coke High School (Junction)
- Maggoty High School

There is also an agricultural school in the Elim community; the Sydney Pagon Agricultural High School and a technical school; St. Elizabeth Technical High School located in Santa Cruz.

Vocational training prepares learners for jobs centred on practical or manual activities; it is traditionally non-academic and is often related to a specific trade, vocation or occupation. Vocational training is an activity providing the necessary skills, knowledge and attitude to perform in a particular profession. To be viable in today's society it is important to not only depend on academics but also build on skills in the vocational and technical areas.

The vocational and technical schools in the parish are:

- Jamaica Foundation for Lifelong Learning (New Town)
- HEART Trust/NTA Derrick Rochester Campus (Junction)
- Black River Vocational Training Centre (New Town)

Tertiary schools in the parish offer a wide variety of programmes for persons interested in obtaining certification at the Degree level; such schools are:

- Bethlehem Moravian Teachers College (Malvern)
- All American Institute of Medical Sciences (Black River)
- University College of the Caribbean (Santa Cruz)
- University of the West Indies Open Campus (Lititz)

There are two (2) special needs schools in the parish, Maranatha School for the deaf in Top Hill facilitates the hearing impaired and the School of Hope at Santa Cruz Primary and Junior High. The growing importance of computer literacy in schools is reflected in its importance as a part of the curriculum and with the help of the Jamaica Library service; members of the public are able to access



computer and internet service at their local libraries.

Challenges: Schools within the parish are affected by poor attendance, overcrowding, lack of security, limited technological teaching aids, inadequate staffing, limited materials and school supplies, poor infrastructure, outdated facilities (pit latrines), absence of pedestrian infrastructure, poorly maintained school grounds, ill-equipped playgrounds, limited community and parental support, lack of financial support to institutions whether via grants or donations from the Ministry of Education or private entities and limited amount of institutions catering to special needs children.

Responses: Education is vital to the overall development of individuals and a society. The parish caters to students at all levels of the education system however; it falls within the pyramid style hierarchy of education. Here the wide base of the pyramid represents early childhood institutions which are the most common with the narrowing of the pyramid at subsequent levels. Enrolment and attendance levels vary depending on the community however both seem to be significantly higher in urban areas than in their rural counterparts. Additionally, while enrolment increases from the early childhood to primary and secondary levels it falls dramatically at the tertiary level. Primary schools and early childhood institutions require support from the Ministry of Education, parents and communities at large so as to function and improve the literacy rate and targets set to promote advancement to other educational levels.

Performance and adequate distribution of special need schools in the parish is lacking. Two (2) institutions that facilitate special-needs students are previously mentioned (Maranatha School for the Deaf and the School of Hope on the Santa Cruz Primary and Junior High premises). The St. Theresa Basic School is one other Early Childhood Institution that has engaged specially trained teachers on staff to assess children suspected of being disabled in some form, and more schools establishing learning centres, literacy, reading and numeracy programmes to assist with such issues. The exploration and extension of the curriculum in secondary, technical and agricultural schools to include non- traditional subjects, improvement in sports and highlighting skill sets is aimed at developing students who are globally competitive and well- rounded. At the tertiary level the institutions represented are both in the traditional academic form alongside vocational or skills training facilities. Of the 4 tertiary institutions and 3 vocational training facilities, skills- training are offered on a less formal basis within various communities throughout the parish. Community Visioning Workshops held in 2014 revealed communities hindered by low skill level, illiteracy and low employability. Educating the 18- 24 age group is vital



in the execution of planned economic priorities and diversification of the job sectors to reflect both current and future labour markets, resulting in job creation to reduce ‘brain drain’ in the parish.

The identification and creation of a spatial framework for the development of educational facilities and infrastructure in St. Elizabeth will facilitate the correct conditions to generate employment opportunities for tertiary and vocational students.

School feeding and/or breakfast programmes to benefit from local agriculture and farmers by creating partnerships and utilising agricultural outputs while eliminating waste from overproduction.





Safety + Security

Assess: St. Elizabeth is served by eleven Police stations located in the communities of Black River, Santa Cruz, Junction, Pedro Plains, Balaclava, Malvern, New Market, Lacovia, Nain, Maggotty and Siloah. In addition to these there are also community based security groups such as neighbourhood watches through which community members police their own communities to maintain the safety of residents and property.

Marine Police and Coast Guard bases are located at the Hendriks Wharf in Black River. The Jamaica Defence Force (JDF) Coast Guard is responsible for the protection and security of St. Elizabeth's coastline. Operating on an international 24- hour radio station allows them the opportunity to monitor distress frequencies and monitor approximately 90,000 square miles of water from our land.

Challenges: In many instances there is tension between the police and community members which discourages residents from co-operating with investigations.

Escalating incidences of criminal activities threatens the prosperity of St. Elizabeth, as it affects individuals, communities and the parish at large. Resurgence in crime has resulted in the most common criminal activities reported; including robbery and break-ins. It should be noted that carnal abuse and larceny categories were calculated with data missing from one or more months while the data for aggravated assault was only recorded for the years 2010 to 2014.

Responses: Coinciding with the Vision 2030 Security and Safety Sector Plan, with plans for growth in St. Elizabeth and the possibility of crime and violence increasing within rapid unplanned 'laissez faire' growth of communities, it is vital to provide safe communities through modern and effective ways to maintain law and order, thus decreasing the influence of criminal networks and empowering families and communities to solve conflict in positive ways. Focusing and addressing on the socio-economic, social and poor physical factors within communities will result in positive effects trickling down. A bottom- up approach to crime fighting by promoting non- violent methods for problem solving, camaraderie amongst community members and social activities are starting points to tackle crime and violence at the local level.

The Jamaica Constabulary Force (JCF) continues to work with community groups namely neighbourhood watch, police youth groups, home owners associations, church and school groups.



Revitalising dormant neighbourhood watches and the establishment of new groups, as well as merging existing groups with specific community- based groups, will assist in crime fighting efforts.

Community policing addresses crime on a localised scale through policing strategies on a variety of methods. It requires active participation with the police and the local government, civic and business leaders, residents, health organisations, public and private agencies, churches and schools. Each individual will bear responsibility for the safeguarding of the community; through public consultations, adoption of a mutual problem- solving methodology and mobilization of the public to assist the police, in order to strengthen the relationship between the police and community members in order to mitigate the underlying causes of crime.

Safety of an area can be enhanced by other methods in crime prevention, such as Crime Prevention through Environmental Design (CPTED), which is a concept focused on deterring criminal behaviour through environmental planning. It examines criminal activities and ways in which features of the environment can act as a catalyst for opportunities that are undesirable, by altering aspects of a site, building, visibility, location and how the area is used.

Conditions to consider:

- Control access by creating real and perceptual barriers to entry and movement, offering indicators about who belongs in a place, when they should be there, where they are allowed to be, what they should be doing and how long they should stay
- Take advantage of design to provide opportunities to see and be seen from adjacent properties or the site perimeter, and the ability to see parking areas, walkways and buildings
- Using design to define ownership and encourage maintenance of territories through administrative support in the form of rules and regulations about use and maintenance

The Ministry of Agriculture and Fisheries and Ministry of National Security have established the Praedial Larceny Prevention Unit. Collaboration and inclusion of this unit in the St. Elizabeth police force forms an alliance in fighting farm theft through the development of strategies to protect farmers via internal and external stakeholders, information sharing and use of innovative security methods. Encouraging farmers to register with the Rural Agricultural Development Authority (RADA) and the Jamaica Agricultural Society (JAS) in order to be regularised and access to the National Identification



and Traceability System (NAITS) to assist in animal tagging.

Include security rating indices for buildings and developments in existing and future planning process.

Ensure the protection and security of local marijuana farmers and implement strategies to monitor growth & transportation.

Review the assignment of police vehicles suitable to a specific terrain.





Fire Safety + Prevention

Challenges: Many areas throughout the parish experience drought conditions for extensive periods of time. These areas pose serious bush and illicit fire threats from exposure to human and natural activities. Fire stations are located in only 3 of the 6 development areas (Black River, Santa Cruz & Junction) and more notably there are none in the north- western sections of the parish, susceptible to bush fires.

Responses: Develop fire risk management plans for specified agencies and community members to be aware of the fire seasons, susceptible areas, shelters, evacuation routes and the available equipment, personnel and resources.

Construct cleared and ploughed fire roads with fire- resistant vegetation and defensible spaces between buildings and agriculture lands.

Provision and management of water reserve tanks in susceptible communities for extinguishment.

Fire trucks and water tank trucks periodically posted in specific areas (base being police stations).

Ensure hydrants are connected to a main water supply, are operational, and analyse the spacing and intervals between hydrants.

Assessments: The most shared recreational spaces within the parish are the two Parish Council managed parks (Black River Mini Park & Independence Park) and the Treasure Beach Sports Park which highlights the strong sporting traditions within the parish. Numerous designated and informal parks and green spaces are found in the development areas, used by community members for leisure and sporting activities.

Many community centres double as skills training centres. Accessibility and availability of skills training centres for both genders will ensure better job training. There are a total of 43 Community Centres in St. Elizabeth many of which are multi-use facilities doubling as basic schools or training centres. 3 of the 5 community centres in the Balaclava DA are used as basic schools. Such is the case in 2 of Santa Cruz's 10, 1 of Maggotty's 3 and 4 of the 9 in the Black River DA. In New Market, 2 of the 3 are wood or artisanal workshops and 1 of the 13 in Junction serves as a skills training centre.



Recreational Spaces + Community Centres



Challenges: Limited importance is placed on the maintenance of parks and green spaces; green spaces are unkempt, poorly lit, littered with garbage and overgrown. Green spaces in most communities are under- utilised and do not possess the features and equipment needed for active utilisation.

Community centres are poorly maintained, inaccessible and under- utilised in most communities, resulting in degradation of infrastructure and facilities. Limited funds to support maintenance is the main issue.

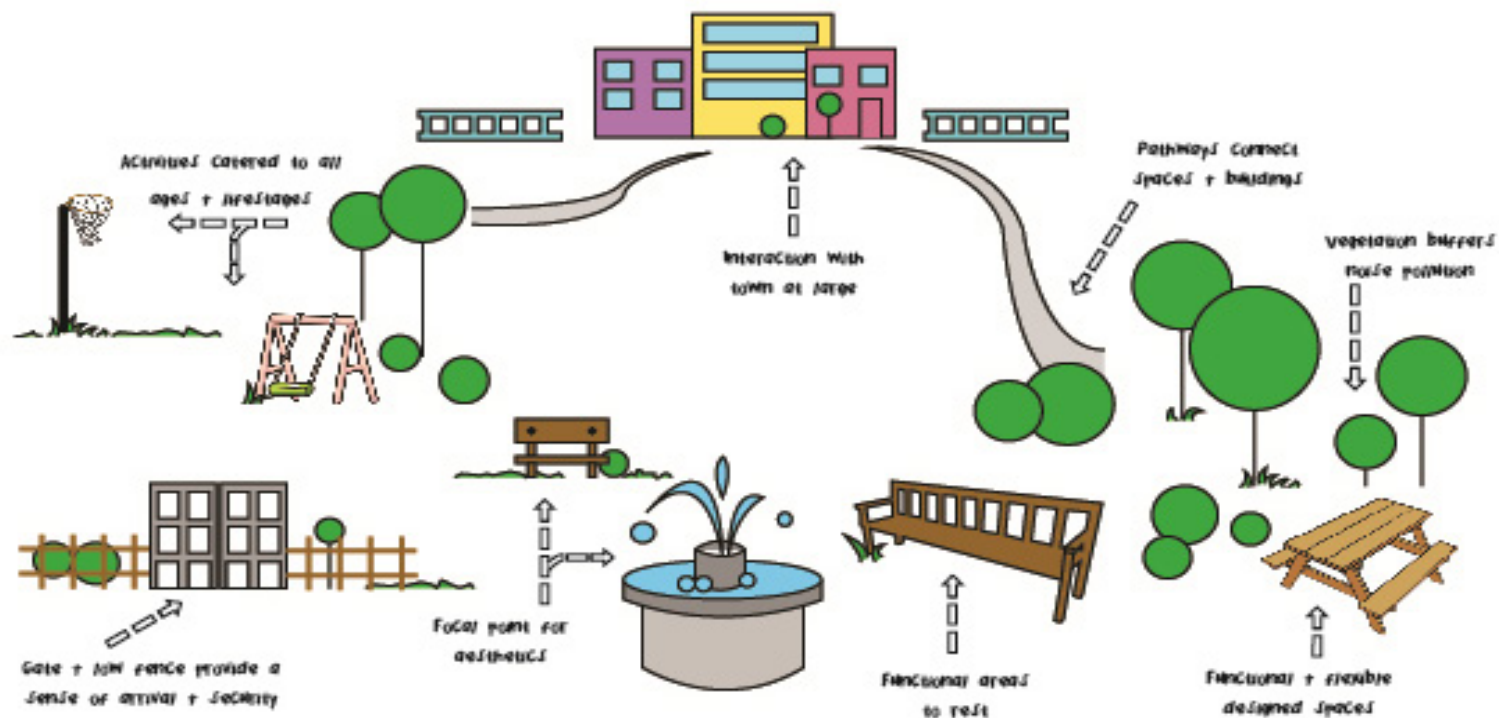
Responses: Ensure the management and maintenance of community centres and green spaces (usually adjoining property). Establish management committees. ascertain what qualifies a space to be a park or green space, and accurately title as such. Properly outfit parks with the standard equipment for recreation, safety and hygiene. Plan and deliver good quality public recreational spaces and sporting facilities to benefit the health, well- being and overall needs of the communities.

Explore suitable centralised locations for a public sports park/ facility (Goshen & Gilnock) and cricket, football or other niche sporting training grounds in the New Market and Maggoty areas.

Commence the revitalisation and rehabilitation of Holland Bamboo, in the replanting and protection of bamboo shoots, the relocation of the vendors to a centralised location and creation of a public multi- use park and garden space. Periodic drainage maintenance to be carried out throughout Holland Bamboo.

Educate the communities on the need to take pride and responsibility in the maintenance and aesthetics of their community centres and green spaces.

Introduce ‘eco- corridors’ along roads and buildings in major towns to connect the environment to developed areas.



CREATING A PUBLIC SPACE TO CREATE COMMUNITY



Burial Practices

Challenges: Parish. The cemetery is currently at capacity and poorly maintained. The cemetery in Myersville remains mostly empty due to the culture of the people preferring family plots and burials on residential land. This practice will impede future land development and impact land valuation.

Responses: Introduce the green burial practice throughout the parish. Allows for the decomposition of bodies by eliminating the use of embalming fluids and placed in coffins made from biodegradable materials. The practice allows for easier reclamation of the land after a specific period of time for other land use purposes.

Locate other suitable land options and establish relationships with churches to accommodate burials for private and informal use. Explore the cultural connection and implications of residential burials. Ensure the effective management, security and maintenance of burial grounds by the council.

Educate the public on the benefits and cost effectiveness of cremation practices.



Cultural Heritage

Assesses: The cultural richness of St. Elizabeth is a desirable contribution to the history of Jamaica. There are numerous features and structures of historic interest, stemming from pre-Emancipation to post-Independence; including: heritage buildings, fortifications, arts & craft, Taino artefacts, traditions, folklore, medicinal & homeopathic practices and oral historic accounts.

Challenges: There is a general failure to efficiently restore and maintain aspects of the parish's cultural heritage, resulting in the inability to capitalise and promote for economic gain. Historic buildings of architectural merit are in disrepair due to damages caused by natural disasters (hurricanes) and vandalism. Taino sites have been destroyed by development practices and individuals ignorant to their value.

Responses: Placing communities at the heart of development, through the building of rooted and cohesive communities in the preservation of the built and natural heritage. Establish conservation programmes to protect, monitor and manage structures and nature reserves from future development.

Efficient and effective planning to ensure developments are viable and relevant, while retaining

the heritage and enhancing the unique identities of communities. Be cognizant of cultural diversity amongst people and different areas.

Cultural heritage holds significant economic value and, if preserved, maintained and marketed correctly will enhance the tourism offerings of the parish whilst providing new business



Governance

Assesses: St. Elizabeth is governed by the Parish Council at the local level, and represented by Members of Parliament from the central government. Parish council is responsible for maintaining parochial roads, public sanitary conveniences, minor water supply, property tax collection, markets, permits & licensing, public cemeteries, infirmaries, parks and public beaches. The Council also provides local services, such as: community stand pipes, provision of minor water, street lighting, garbage collection and the trucking of water to dry areas.

The Local Authority is also the main regulatory body governing building and subdivision approvals and development controls.

There are numerous community- based organisations within St. Elizabeth. These organisations strive to support and strengthen capacity building by lobbying for backing to local authorities and community based projects, thusly improving civic pride and engagement.

Challenges: Limiting funding and competing needs restrict the ability by local authorities to provide adequate services.

Inadequate support in some communities from elected Councillors.

Responses: Promoting partnerships between civil society and private sector.

Ensuring service delivery is stable, efficient and effective; supported by customer service training for all personnel.

Encourage participation from all stakeholders in decision- making and planning processes.

4.3 Built Environment + Infrastructure



Water Supply

Assess: The National Water Commission (NWC) produces approximately 380 million gallons of water monthly, sourced through twenty- one wells and six surface water sources (Water Supply Plan, 2011). The NWC supplies water to roughly 54% of the parish, an increase from the 44% recorded in 2001 (STATIN, 2012; NWC, 2011).

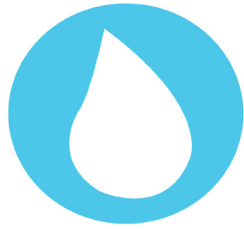
In 2001, of the 40,934 households 44% had piped water. The latest census indicated a 15% total increase, a yearly increase of 1.5% inferred from an increase in domestic customer accounts up from 18,055 to 20,764.

46% of residents receive water from private catchment sources. The remaining 54% is supplied by the NWC via private pipes or publicly accessible stand pipes. The Black River, YS Falls, South Elim River and Wally Wash pond are some of the most significant groundwater sources in the parish, supplying 94% of total water output. Saline and brackish water is available in limestone aquifers west of Nain. A combined average of 13.2 million gallons of water is extracted from all wells per day while water produced from ground and surface water surfaces is 14.1 million. The daily required amount is 12.7 million gallons therefore there is a daily surplus of 1.4 million gallons.

Challenges: Of the 14 million gallons of water produced only 5.5 mgd are consumed, the remaining 7.2mgd is considered a technical loss of the resource in the parish.

Many residents of the parish are constrained by inadequate or no access to piped water and those who do, and are NWC customers are served only 16 hours per day. This irregular supply has led to residents bearing the cost of personally storing and treating water they purchase. Additionally, majority of the parish (62%) do not have access to treated water for consumption.

Responses: Enforce the construction of tanks for the storing of water by all residents and commercial residences. Construct and maintain existing catchment systems in communities, highlighting the economical alternative of underground catchment. Educate the people on the benefits of simple rain water catchment systems for their domains.



Establish leak monitoring and response units in collaboration with the NWC, in order to curb the amount of water lost on a daily basis through conservation strategies and efforts. The standpipes which have been checked are to be mapped via GIS and each tagged with an identification number and contact information, to allow for easier reporting in case of leaks or damage.

Fire hydrant audit to be conducted.

Water supply could be improved through joint public/ privately funded projects and/ or initiatives, examples rebates and tariffs.

Maintain irrigation storage reservoirs to conserve water during seasons of low demand, to meet crop irrigation requirements.



Black River Court House



Transportation

Assessts: Public transportation is supplemented by a network of taxi services to serve the parish. Coasters and mini buses run to major towns and service schools by transporting students in batches to and from their respective institutions. Revitalisation of the Lionel Densham aerodrome will improve and introduce a new transport option targeted at tourists, serving the parish and south coast at large.

Challenges: Stakeholders across all development areas identified the same issues and grievances in the community consultancies

- Poor road conditions (main & secondary arteries)
- Lack of proper street lighting, street furniture and side walks
- Congestion within major towns due to improper parking facilities and limited space
- Frequent flooding due to poor drainage
- Derisory provisions for pedestrian safety and movement
- Inadequate road maintenance procedures
- Little to no provisions in place for non- motorised transportation

Road networks offer low levels of connectivity in certain parts of the parish due to poor road condition and the restricted capacity of arterial routes.

The design and route marked by the South Coast highway at present cuts through numerous protected and environmentally sensitive areas.

Road and transport issues need to be addressed in order to maintain the adverse effects on the environment, economy and communities; allowing for better access to services and journey reliability. Proper inclusion of road safety planning methods, in order to effectively meet the mobility needs of special need citizens. Ensuring the construction of barrier- free facilities through pedestrian overpasses, sidewalks for the blind, ramps and roadside wheelchair waiting positions.

Responses: Ensure the review and monitoring of proper highway construction:

- Preservation of farm lands
- Consideration of adjacent land use
- Coordination of utilities (planning for future roads)



- Recognise and protect sensitive environmental features
- Establish corridors for the highway ahead of construction commencement in order to consider environmental and economic parameters
- Applying and enforcing the best management practices and planning considerations to control run-off pollution during construction, operation and use.
- Creation of a maritime logistics hub, using available land space in the Font hill area.
- Construction of a small scale quay to allow ships and boats to dock parallel to the shore.



Energy

Assess: Electricity is the main source of power for 86% of the parish by the Jamaica Public Service Company Limited. The parish has two renewable energy sites: the Maggotty Hydroelectric Power Plant and the 4 turbine JPS Munro Wind Farm. These contribute a combined 9 megawatts to the national grid. Blue Mountain Renewables has started work on a 34 megawatt wind farm in Munro within their 20year power purchase agreement with the JPS Co. Ltd.

The Rural Electrification Programme provides electricity to poor rural communities which often do not have the infrastructure to facilitate the service. At the end of 2008 the REP saw to the electrification of 265 houses throughout St. Elizabeth.

Challenges: The high cost to develop and maintain alternative energy sources is a major deterrent among residents of St. Elizabeth.

Poor or inconsistent supply of electricity continues to be an issue, alongside the illegal abstraction of electricity.

Adoption of renewable energy infrastructures suitable for the parish, through the development of wind, wave, solar and biogas for energy related purposes. Introduce biodigester technology, as a means to link waste management strategies and form a fuel source for energy.

Responses: Adoption of renewable energy infrastructures suitable for the parish, through the development of wind, wave, solar and biogas for energy related purposes. Introduce biodigester technology, as a means to link waste management strategies and form a fuel source for energy.



Telecommunication + Internet

Assesses: Mobile communication is limited or non-existent in certain areas due to insufficient cell tower coverage.

Approximately 16% of residents own a computer or laptop, while 82% do not. Of this 16%, almost half do not have access to the internet (STATIN 2012). Most residents also view the service as unattainable and expensive due to cost attached.

Challenges: LAN lines are available in all the constituencies except for the North Western constituency, where just 1% of the population has access.

Responses: Mobile phone usage within the parish is approximately 91%. Cellular phone service is provided by Digicel and LIME networks via an extensive network of cell towers and LAN lines. In specific communities libraries, churches and schools are outfitted with computers and internet to be utilised by students and the general public.

4.4 Economic Environment



Agriculture

Assesses: St. Elizabeth is one of the main contributors to the agricultural sector of the country, responsible for the cultivation of 21% of all domestic crops and approximately 120,000 tonnes of produce annually (MOAF 2012). Crops produced extensively throughout the parish are sugar cane, cassava, tobacco and various vegetables which include carrots, cabbage, cucumber, pumpkin and tomatoes. Large scale livestock farming is also practised where the main animals farmed include goats, sheep, pigs, cattle and horses (Environmental & Engineering Manager Ltd. 2011). Known as the 'Bread Basket', St. Elizabeth's agricultural sector employs much of the population with about 24,800 registered farmers (RADA 2009).

Information about farmers and their land holdings are registered on a voluntary basis with the Agricultural Business System (ABIS). RADA reports there are 43,370ha of land devoted to livestock production which encompasses 1,100,000 heads of livestock. This provides employment for some 19,101 farmers (RADA 2013). Poultry is the largest livestock group in the parish (600,080 head count) with 4755 poultry farmers.

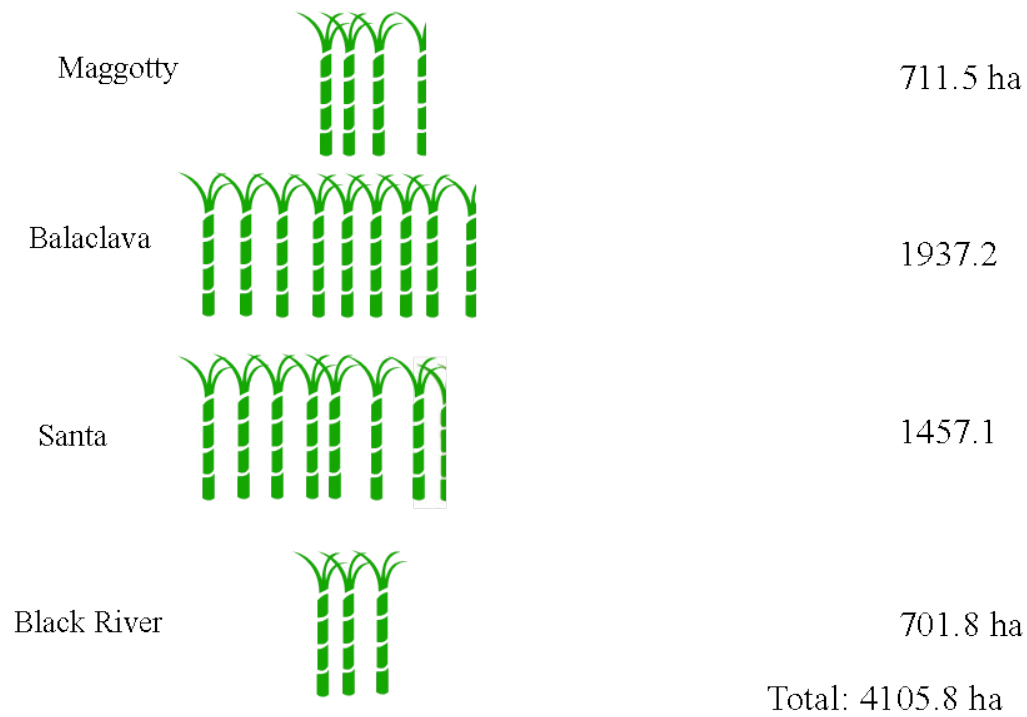


Based on soil fertility and overall suitability, 32,000ha of land in St. Elizabeth are considered to be arable under the USDA Land Capability Classification System. 47% of arable land is dedicated to intensive mixed cropping, 15% is used for sugar cane cultivation and a further 14% is pastoral land (Ford, et al., 2009).

The sugar industry is the oldest in the parish and still plays a vital role in the economy of the parish. The Appleton Estate is an active sugar factory located in Siloah; while the other factory base in Holland has been closed. In 2013 the Appleton Sugar factory was reported to have upwards of 2436 ha of land under sugar production. Expansion of the belt within the parish is hindered by terrain, availability of water and existing social, environmental and urban factors. However, the sugar belt does stretch extensively throughout the parish, falling in the Balaclava, Maggotty and Santa Cruz Development Areas with a little area falling in Black River region of Middle Quarters.

Figure 5

Sugar Cane farming by area





Challenges: Land fragmentation challenges intensive farming as the use of machinery for cultivation and harvesting is difficult on small plots of land. The viability and output of agricultural potential as arable lands are over-used or misused for residential, commercial or industrial purposes; reducing agricultural and potential economic outputs.

The country's GDP depends heavily on the agricultural sector however the many challenges faced reduces overall productivity. A few of these challenges include trade liberalisation, increased competition coupled with low productivity, high importation levels and ever increasing cases of Praedial Larceny. Additionally the sector also has to contend with frequent natural hazards and limited advancements in agricultural research. Subsistence crops may be severely affected by changes in precipitation, increased temperatures and salinization.

- Several key challenges affect the quality and level of production within the agricultural sector:
- Praedial larceny
- Improper farming practices and low levels of technology
- Inadequate infrastructure- water resource management, drainage systems & poor access roads
- Poor agricultural waste management
- Less than 40% of persons who practice farming are registered with RADA
- Inaccessible or unreliable markets

Responses: The National Vision 2030 plan as outlined the following goal: to create an efficient, competitive, diversified value- added industries while strengthening the contribution of the industry to long- term development and national food security.

The SELSDP shares the same vision outlined in the national plan and proposes strategic objectives to realize this goal.

Summary of strategies proposed by the SELSDP to reduce and eliminate the challenges faced by the agricultural sector in St. Elizabeth:

- Review land classification to protect lands of strategic agricultural value
- Green harvesting (no more slash and burn)



- Specify/ delineate specific crops to be grown in areas (co-ops)
- Promote investments in and use of new agricultural techniques, such as hydroponics and green-houses
- Incorporate agricultural activities such as farm tours, into community tourism programmes
- Explore agri-economics
- Implement the practise of ‘climate- smart’ agriculture to protect crops from the elements and increase yields
- Implement irrigation systems to assist in efficient storage and supply
- Develop and maintain agro- processing industries to curb waste in overproduction
- Diversifying the local economy into small and medium enterprises in agri- business; increasing productive and sustainable employment opportunities
- Strengthen the economic diversity and environmental sustainability of sugar dependent communities
- Encourage and train young people to view agriculture as a viable employment option
- Establish training programs for farmers in sustainable land management strategies
- Regulate and manage the change of agricultural lands within the subdivision application process
- Ensure all new subdivisions make allowances for agricultural lands to be preserved
- Reduce the food import bill by diversifying and marketing the agricultural sector, allowing for food security
- Facilitate the production and distribution of locally produced food through farmer’s markets and cooperative food buying programmes



Fishing

Assets: Fishing is an important economic activity for many communities in St. Elizabeth with approximately 1023 registered fishers (5% of the island's total) and 171 registered vessels. River fishing within the parish is unmatched throughout the island and sea fishing also widely practiced. Shrimping is notably popular with the community of Middle Quarters being dubbed the shrimp capital of Jamaica, earning a whopping J\$3,000,000 yearly.

The Galleon Bay Fish Sanctuary is the only sanctuary in the parish and was established in 2009 by the Ministry of Agriculture and Fisheries. It encompasses the coastal area between Crawford, Galleon Beach, Malcolm Bay and Hodges Bay. In 2011 the management of the sanctuary was handed over to BREDS. The sanctuary was created to protect coral reefs, mangroves, sea grass beds, turtles and other endangered marine life. Additionally, it allows for the replenishment of fish stock in an area which can easily see fish populations plummet due to the community's reliance on fishing as an economic activity with a total of 120 fishermen. There is no fishing within the sanctuary and those found doing so are penalised and the catch confiscated.

Challenges: The introduction of invasive alien species into new habitats; such as rivers, separating them from predators, diseases and parasites that kept them in balance within their native environments. These nonindigenous species pose a significant threat to aquatic ecosystems. The National Environment and Planning Agency have highlighted nonindigenous species causing extinction and/or reduction of native species and destroying their habitats:

- Water hyacinth
- Wild ginger
- Suckermouth catfish
- Australian red-claw crayfish
- Lion fish

The fishing sector; and its sub-sector aquaculture, are characterised by poor management and lack of better practices promoted. An inadequacy in the proper marketing of the sector and inability to enforce legislation affects overall financial earning opportunities.



Responses: Explore prospects at the small scale level in the areas of salting, smoking, drying, canning and fresh freezing.

The GTB Sustainable Development Plan has outlined further challenges faced and responses.



Manufacturing + Service Industries

Assessments: Agri-businesses and food production in St. Elizabeth ranges from baked products, purees and nectars, bagged juices and drinks, essences and flavourings, syrups to exploration in charcuterie and meat preservation. It is important for these businesses to practice obtaining goods from local farmers, supporting a sustainable economy within the parish.

Challenges: The service and construction industries require diversification through sustainable practices, specialised jobs and skills training and a competitive market. The location and spatial distribution of these businesses affects and influences the effectiveness of service, product deliveries and consumer support.

Support in this industry will improve operations by generating money saving opportunities and production, allowing for growth in employment. Operations of small businesses should support local ecology, utilise recycled products and materials, minimise energy use and waste and enhance the unity between business owners and community members.

Responses: Creation of a Parish Investment Manual.

Encourage township entrepreneurial development and business, and ensuring cultural development is a key driving force in local job creation.



Tourism

Assets: St. Elizabeth boasts a diverse terrain, from beaches and sandy coves, the largest wetland habitat in the Caribbean to cool mountainous regions. The landscape and resources coupled with the parish's rich and diverse culture, provides the foundation for an economically sustainable tourism product.

The parish has significantly increased its room capacity for tourists and is strongly encouraging the development of a community- based tourism for visitors. It is speculated that over half of the estimated 1,000,000 tourists who visit Jamaica every year are interested in the south coast (EEM Ltd. 2011). The Appleton Estate rum distillery, the Black River, Lovers Leap and YS Falls are only some of the popular tourist sites within the parish. In recent years the Upper and Lower Morass have been developed to attract tourists and wildlife enthusiasts.

Challenges: Numerous issues plague the tourism sector in the parish;

- Unpredictable and damaging weather conditions
- Poor customer service
- Limited marketing of tourism products
- Incidences of criminal activity
- Limited tourism opportunities in the northern section of the parish
- Community members do not respect or value the tourism product
- Poor infrastructure and property maintenance, alongside deplorable road conditions

Responses: The location, culture and landscape of St. Elizabeth allows for the development of varied tourism products and services:

- Heritage tourism
- Eco- tourism
- Community tourism
- Faith-based tourism
- Experiential tourism
- Agro- tourism
- Sports & health related tourism
- Resort & cottage- based tourism
- Hostels and “couch-surfing”



- Establishment of a competitive and sustainable tourism sector to create employment opportunities, earn foreign exchange and creation of linkages between agriculture, sports, construction and service industries.
- Develop diverse tourism offerings in the Northern and Southern sections of the parish, through trails, hiking and tours.
- Creation of an agro- tourism strategy.
- Introduce and expand hotel accommodations in Santa Cruz, Junction and Black River.



Mining

Assess: Bauxite mining has been a major economic earner for St. Elizabeth since the 1950's, with the discovery of bauxite deposits under the supervision of the Kaiser Bauxite Company. Mining activities shifted to Alpart, who began operations in Nain in 1969 until 2008, when the plant closed due to the effects of the recession. The plant as of 2015 has commenced the process of re-opening and commencing operations.

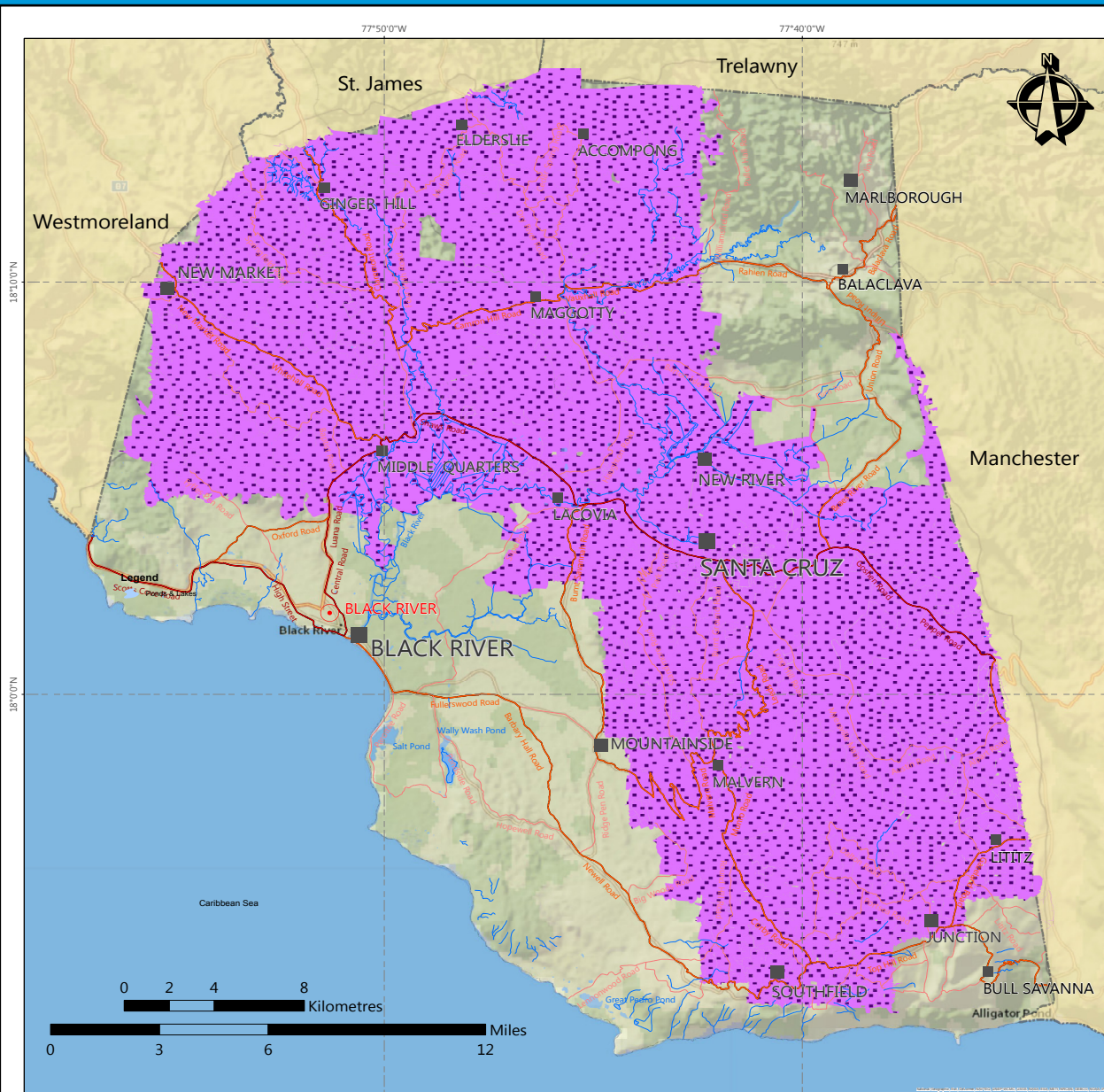
The parish is rich in limestone, as a result of the geological formations. Quarries within the parish provide materials for the construction industry, calcined & hydrated lime for fillers, bauxite refinement and agricultural purposes. The lower morass, specifically Hodges, Black River and Parottee have extensive silica sand deposits. Registered quarries according to the Bureau of Standards are DaCosta Quarry and Hodges Aggregates & Power Limited.

Challenges: The demand for minerals in construction and development has led to the proliferation of illegal quarry sites, which pose considerable environmental threats, such as air pollution, noise pollution, land degradation and loss of wildlife and habitats. Even those who operate legally do not adhere to the set stipulations of governing agencies. The GTB Sustainable Development Plan speaks to the illegal mining of sand dunes along the coastline.

Responses: Establish mining zones in remote locations with natural barriers to form buffers and remediation strategies.

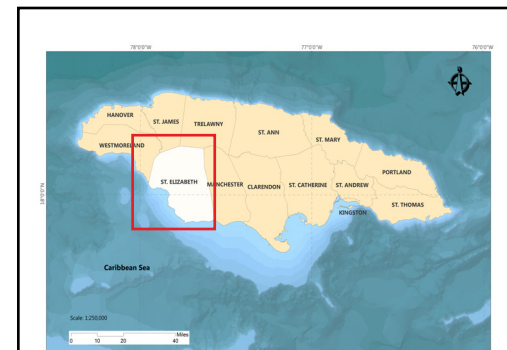
Plans for mineral extraction are to outline geological evidence of the site's suitability and must detail plans and intent for the restoration of the site.

MINING BEARING LANDS



KEY

- Parish Capital
- Major Town
- Minor Town
- Town
- Rivers & Streams
- Roads
 - A CLASS ROAD
 - B CLASS ROAD
 - C CLASS ROAD
- Mining Bearing Lands
- Ponds & Lakes
- Parish Boundary



Produced by: Christina Francis Lowe
 Creation Date: March 2015
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Prepared for:



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Source:
 National Spatial Data Management Division, 2011: Alumina Partners of Jamaica (ALPART), 2015;
 National Geographic, Esri, DeLorme, NAVTEQ, UNED-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013



Market Facilities

Assests: There are a total seven markets within the parish with one in each development area with some being more active than others. The markets provide a safe space where vendors and consumers converge, exchanging agricultural produce, dry goods and clothing for cash.

Challenges: Some markets within the parish are in need of renovation as they provide little infrastructure and protection from the elements. Many markets are underutilised as vendors choose to sell their produce along the road. This usually has implications for pedestrian safety and may lead to vehicular collisions. Additionally it causes contention between vendors and police; whose job it is to herald them into the market and prevent sale of goods on the street.

Responses: Market, staff and operate the markets to full capacity in order to obtain a sustainable revenue flow.

Ensure the safety and security of vendors and consumers.

Establish public and private partnerships.

Introduce composting facilities for the market vendors.

Provide modernised facilities and infrastructure, creating markets that become commercial hubs, pulling sellers and consumers alike within the town centres.

Providing support in energy (alternative sources), transportation of goods, post- harvest storage and packaging.



CENTRAL MARKET

BLACK RIVER MARKET
NICOLE AUDEN / CARIBBEAN SCHOOL OF ARCHITECTURE (2014)

Wise



BLACK RIVER MARKET
NICOLE AUDEN | CARIBBEAN SCHOOL OF ARCHITECTURE (2014)

Snapshot Development

5.1 Black River

Brief Overview

The Black River development area covers the south west coastline and is the largest development area within the St Elizabeth Parish. The area consists of 13 communities; Parrottee, Crawford, Slipe, Black River, Middle Quarters, Pongside, Watchwell, Bigwoods, Pedro Plains, Treasure Beach, Newell, Mountainside and Barbary Hall. As of 2011, Black River had a population of 7,253 persons. The town of Black River, located on the central coast of the development area, is the capital of St Elizabeth Parish.

History

Black River is dissected by the river after which it is named. Originally called the Rio Caobana (Mahogany River in Spanish), it later became “Black River due to the dark hue the riverbed turns the water. The town of Black River is one of the oldest towns in Jamaica and is the home to a lot of heritage and history. Attracted to its natural harbour and suitable river system, the English Leydon brothers

established a town there in 1685 and soon became an exporting hub for the island.

Significantly, Black River was the first town in Jamaica to have access to electricity in 1893, allowing its growth to become one of the largest (second only to Kingston) towns in Jamaica with significant national and economic importance. Examples of this era still exist in Black River, with various examples of Georgian architecture (such as depicted opposite) still visible today.



The Magdala House, Black River



Natural Environment

Black River experiences significant ecological diversity, offering great economic and social potential for the area but also resulting in varying environmental concerns in development and growth. The Black River Lower Morass faces serious long-term natural and man-made threats, with particular concerns raised for the ecological inhabitants of the area. Moreover, the location of Black River along the coast line allows storm surge and strong winds to be a great threat to built infrastructure. Similarly, the relatively flat topography of Black River leaves both the natural and man-made environment vulnerable to flooding, with the communities of Parrottee, Watchwell, Bigwoods, Pedro Plains, Treasure Beach, Newell, Mountainside and Barbary Hall all experiencing flooding. Consequently, the communities of Black River have requested wider drains to be installed in the township of Black River and for greater vigilance on development in flood-prone areas to be carried out to ensure greater community resilience to flooding.



Upper High Street, Black River





Social Environment & Facilities

Social Services & Education

Employment within Black River is largely comprised of agriculture, fishing, trade, services, and small retail and is dominated by self-employment. The communities of Black River, despite the varying opportunities for eco-tourism and agro-processing in the area, lack the required skills to take advantage of the economic prospects. Subsequently, several requests for skills training were made throughout the Black River community consultations. Despite training being offered in Black River and Middle Quarters, the skills offered were deemed inadequate and unfeasible for the community's needs. The community of Pedro Plains has requested involvement from the HEART institute in facilitating training in Black River.

Health Care

The communities of Black River have access to the Black River Hospital, one of the secondary health care facilities in St Elizabeth Parish. However, service in Black River is deemed very poor due of the lengthy waiting hours and unfriendly personnel.

Garbage Disposal

Garbage disposal was identified as a major issue for the communities of Black River with only one truck servicing the area. Feedback from community consultations suggests it's resulting in poor sanitation for the area and that more frequent services needs to be enforced. Heavy pollution was identified in the township of Black River, particularly on the coastal road of High Street. Recycling initiatives and better temporary storage systems for residents were recommended to ease the pressure on waste management systems.

Crime & Public Safety

Communities of Black River are serviced by the Black River Police Station as well as the Pedro Plains police station. However, the servicing of the Pedro Police Station is poor, largely due to ill working phone lines. Residents of Black River have expressed concerns that the Police force is not visible and have slow response time, and that the municipal police force are inefficient.



Economic Environment

Black River's Employment base consists of agriculture, agribusiness, fishing, eco-tourism, commerce and administrative services. It has experienced a period of economic transition from an active sea port town to a quieter administrative centre. Nonetheless, the river, coast and environmental landscape of Black River act as important resources for future economic growth and development.

A strong foundation in fishing and agriculture in the district can allow for economic growth and development in the areas of agro-processing and Eco-tourism. Black River's unique environment allows for expansion on the sound tourism base already established, namely the Black River safari. However, growth in these areas should be highly regulated and monitored to avoid damage to the fragile local ecosystems.

Moreover, community consultations highlighted the possibility of establishing a craft market in Black River to compliment the existing food market.





High Street Black River - restricted to one way traffic and the busiest street in the town

5.2 Santa Cruz

Brief Overview

The Santa Cruz Development Area is located in the North Eastern section of the parish of St. Elizabeth. The area consists of (9) communities. The nine communities are Holland, Lacovia, Burnt Savannah, Santa Cruz, Leeds, Malvern, Braes River, Goshen and Pepper. At the time of the SDC House-count in 2014, the DA had an estimated total population of 43,641 and 10,085 houses. Santa Cruz is St. Elizabeth's largest urban area with the largest concentration of households and persons approximating 15,889 persons and 4,033 houses respectively.



The center of the Area is the town of Santa Cruz, as it is the major social and economic centre of the other 9 communities as well as the other 5 surrounding Development Areas in the parish. Most persons in St. Elizabeth use the town to either access goods or services or to use its vending and commercial facilities. It is also the largest urban centre in the parish and has one of the largest land sprawls in the parish.

History

The communities of the Santa Cruz DA evolved from a number of large properties which existed in the area. Most of these properties produced logwood for export and cattle. The area contained some of the oldest, most fruitful and lucrative properties of the time. The Area also was home to some of the wealthiest families in the parish. Lacovia, Goshen, Pepper and Holland were among the oldest properties.

Lacovia was St. Elizabeth's first capital. It was the site of the Quarter sessions and Petty session's courts. At that time Lacovia was used as an inland port for shipping sugar, logwood, and fustic down the river. With the growing importance of Black River as a seaport and area of commerce, coupled with the presence of a group of wealthy residents, this status was changed. Lacovia then became in later years sleepy back water, a ghost of its former self.



Santa Cruz is believed to be one of the few Jamaican settlements whose name has not been corrupted by English settlement. The strategic position of the settlement meant that it was a principal place for trading pre and post Emancipation. What is now Santa Cruz is inclusive of the original settlement as well as properties which existed in the area.



Commute along Main Street, Santa Cruz

Natural Environment

The development area is surrounded by three mountain ranges; these being the Lacovia Mountains, the Santa Cruz Mountain and the Don Figueroa Mountain. This accounts for a quarter of the Development Area's terrain and includes the communities of Malvern, part of Santa Cruz and a part of Leeds. The remaining communities are located on mainly flat land. The Santa Cruz DA lies partly in the Essex Valley watershed as well as the Black River Watershed. The Upper Morass, a large area of swampland, is also located mostly within its boundaries. There is a games reserve located within the Upper Morass but crocodiles no longer inhabit the area in large numbers. They have been reduced by the use of the morass for farm land and the continued use of pesticides, bush fires and loss of habitat.



The highest point in the development area Malvern is located at the top of the Santa Cruz Mountain at an elevation of 2,375 ft above sea level. Immediately north of Santa Cruz, the land drops to a level of 50ft. forming part of the Great Morass which is an outstanding feature of the topography of the Development Area. The swampy nature of this area has led to a decrease in the velocity of the New River. As New River approaches the town of Santa Cruz it becomes less visible and during heavy rainfall, floods the surrounding communities. Santa Cruz is underlain by tertiary limestone to the south and east and is called the New Port Formation. Calcareous alluvial deposits are found to the north in the low lying areas. The Newport Formation is characterized by the presence of bauxite deposits.

There are two dominant fault directions in the Santa Cruz area; being to the North north east (NNE) and North east (NE) sections. The dominant fault direction in the Santa Cruz Park area and extending to the Santa Cruz Mountains are to the North north west (NNW).



There are some sections within communities such as Goshen, Braes River and Santa Cruz which are flood prone and consist of swamp lands. In most communities flooding is a major natural hazard. The tributaries within the area are also prone to blockage due to human intervention. There are very few patches of swamp forest left in the Upper Morass and the Santa Cruz Mountains have lost most of its tree cover due to deforestation. Deforestation is regarded as the main cause of the flooding that takes place particularly in the town of Santa Cruz. The cutting of trees and the clearing of land on the Malvern Mountains have resulted in quick and heavy run-off when it rains, which floods the town. Although the town's centre floods often, the water does recede quickly, unlike districts of Brighton, New River and along Pagon Drive. This is due to the low-lying location of these areas. Flooding is a regular feature in Goshen and Braes River, as these areas collect run off from the Don Figueroa Mountains in Manchester. Lacovia and Holland also experience flooding activities due to poor drainage conditions. These flooding activities have a direct impact on the parish and road linkages, as the major road network connecting Kingston to the western parishes on the south side go through St. Elizabeth. During storm systems or rainy periods this affects traffic as the road from Gutters to Santa Cruz, Holland Bamboo and a section of the main leading into Santa Cruz from Lacovia at Rocky Hill regularly floods, stranding motorists. The road linking Santa Cruz to Balaclava also floods in three major sections near Wilton, between Georges Valley and Braes River. In finding solutions, improved maintenance and management of drains and other water resources was suggested in community consultations.

Bush fires, predominantly in the Malvern community, occur every year and have become a growing concern for residents. Poor farming practices such slash and burn are known causes for fires. Limited water supply and service vehicles prevent rapid extinguishment. The need for micro dams and a catchment system in Malvern and Santa Cruz were suggested to alleviate flooding and towards fire extinguishment.

Social Environment & Facilities

Demographics

The population of the Santa Cruz Development Area, 43,641 (SDC House count 2014) is distributed across communities from Burnt Ground to Lower Prosper, Abrahams, Trevmar Park and part of the Santa Cruz commercial area being the most populated with 3888 people. The communities of Ashwood to Wilton; comprising of Ashwood Drive, Lyceo, Longwood District, Longwood Estate, Pound Hill, Lovely Point and Gilnock, which form Sector 2 of the SDC Housing Density profile in 2004 are the least populated areas with a combined 1253 people. Santa Cruz, the largest urban centre in the Parish, has approximately 15,889 people and is a dormitory community with many large housing developments and subdivisions.



There are significantly more male headed households in the Development Area with percentages of 59.2% males and 41.8% females. The gender split in the general population was, however, almost evenly distributed. Seventy percent of Braes River's households were headed by a man. This was followed by 69% in Malvern and 62.1% in Lacovia. Santa Cruz was the only community in the DA where there were more female headed households than male, 42% male to 58% female.

In terms of the gender split in the general population, Santa Cruz's female dominance was also seen as there were 47% males to 53% females in the general population of that community. Malvern also had more females in its general population recording 46% males and 54% female. Despite the male dominance in Braes River's household head population, in the general population the gender balance was much more evenly spread recording 52.3% male to 47.7% female(See table 4).

Table 4

Gender Split by Household Heads and Community Members

Community	Gender Split Household Heads		Gender Split Community members	
Santa Cruz	42% male	58% female	47% male	53% female
Braes river	70% male	30% female	52.3% male	47.7% female
Burnt Savannah	60% male	40% female	60% male	40% female
Goshen	70% male	30% female	52.35 male	48.65% female
Holland	53% male	47% female	53% male	47% female
Lacovia	62.1% male	37.9% female	50% male	50% female
Leeds	58% male	42% female	51% male	49% female
Malvern	69% male	31% female	46% male	54% female
Pepper	60% males	40% female	52% males	48% female



Source: SDC Household Survey 2014

Education

The Santa Cruz DA is the education hub of St. Elizabeth, with numerous educational institutions across all levels; 56% of which are early childhood institutions (see Table 5). There are two (2) high schools (Hampton and Lacovia High), St. Elizabeth Technical High School, Sydney Pagon Agricultural High School, two (2) primary and junior high schools (Malvern and Santa Cruz Primary and Junior High), five (5) all- age and preparatory schools, seven (7) primary schools, thirty two (32) early childhood institutions and two (2) tertiary schools (International University of the Caribbean and University College of the Caribbean).



In the Santa Cruz DA 46.5% of the household heads reported receiving training in a specific activity, occupation or trade. Due to the urban characteristics of much of the Development area those skills were more widely diversified than those of the other Development Areas.

Approximately 63.2% of the households in the Development Area reported having no qualifications. Within the general population the level of education is generally at the secondary level as compared to the primary level. The percentage of Household Heads with tertiary education is extremely low in St. Elizabeth. The Santa Cruz DA has the highest ranking household heads with tertiary education accounting for 3.8%.

In community consultation sessions, residents expressed literacy issues between the ages of six (6) and twelve (12) and a lack of skills training institutions in the DA. It was suggested that a HEART/NTA be in Santa Cruz and that community centres offer homework help and after school programs.

Table 5

Number of Schools in Santa Cruz DA by type

Type	Number
Technical	1
Agricultural High	1
High	2
Primary & Jnr high	2
All age	5
Prep	5
Primary	7
ECl and Basic	32
Tertiary	2





Health Care

There are six (6) health centres in the Development Area; located in Santa Cruz, Lacovia, Pepper, Braes River, Burnt Savannah and Malvern. The Santa Cruz Health Centre is a Type 3 facility providing numerous services such as, family health, curative, dental, environmental health, child guidance and mental health facilities. The Lacovia Health Centre is a Type 3 facility also. Pepper and Malvern Health Centres are Type 2 facilities and Braes River and BurntSavannah are Type 1's. The SDC Santa Cruz Profile 2015 revealed that in 2014, approximately 55.3% of thje household heads used private doctors, with 31.9% stating they use the services provided by government health centres. Residents identified the need for the Burnt Savannah Health Centre to undergo an upgrading of both infrastructure and equipment.

Garbage Disposal

Approximately 76.3% of residents in the Santa Cruz DA reported to use the services of the National Solid Waste Management Authority (NSWMA). However, during community consultations residents from all the communities expressed dissatisfaction with the frequency the national Solid Waste Management Authority collects waste due to limited trucks and poor scheduling. Households reported in 2014 that 19% have to resort to burning their garbage. A centralized garbage disposal site was suggested.

Crime & Public Safety

The Development Area is served by five police stations; Santa Cruz, Braes River, Goshen, Pepper and Leeds. The most frequently committed type of crime is burglary, indicated by 42.5% in the SDC Santa Cruz Profile 2015. The least recorded type of crime is that of assault with a deadly weapon at 2.5%. The communities of the Development Area have a generally low crime rate excepting for Santa

Cruz, Lacovia and Burnt Savannah which account for the majority of serious crimes committed in the Development Area. Break-ins and robbery were the most prevalent major crimes in the DA. Police presence is improving throughout communities, but community members expressed a need for more patrols in Leeds, Lacovia, Malvern and Santa Cruz. A police post near the primary school in Pepper was also suggested. Regularizing vendors and the removal of stalls along the major road in Santa Cruz was requested.



Economic Environment

The majority of community members (27.5%) were employed as service, shop and market sales personnel. Fewer than twenty percent (19.7%) were professionals, 18.2% skilled agricultural and fisheries workers, 10.6% were employed in craft and related trades whilst 9.4% were employed in elementary occupations, 7.2% were clerks and 5.9% as plant and machine operators.

Agriculture

Approximately 66.6% of Household heads who were employed in the Santa Cruz DA. Overall, 62% of the households in the Santa Cruz Development Area were involved in farming. The major tenure of land used in farming was family owned accounting for 55% of the lands farmed in the area (see table 6).

Table 6

Percentage Distribution of Households involved in farming and major tenure of land used for Farming by DA

Development Area	Community	% involved in	Major Land tenure of
Santa Cruz	Santa Cruz	70%	60% family owned
	Goshen	64%	93% family land
	Pepper	38%	32% family owned
	Braes River	56%	27% family owned
	Lacovia	65%	26% family owned
	Holland	72%	40% family owned
	Leeds	60%	
	Malvern	52%	91.1% family owned
	Burnt Savannah	79%	74% family owned
	DA Average	62%	55% family owned land

Source: Social Development Commission Household survey 2014



According to the household heads surveyed in 2014 by SDC, approximately 38.7% of the households in Santa Cruz grew ground provisions, 20.2% grew cash crops, 18.5% reared livestock and 7% grew green bananas. Minute percentages were that of beekeepers (1.2%) and (1.8%) grew fruit.

Built Environment & Infrastructure

Housing

There have been significant increases in housing in some communities. For example, Burnt Savannah had 630 houses in 2009. In 2011 the number of houses grew to 796 houses and a slightly lower number of households numbering 779. Braes River in 2009 had 584 houses. By 2011, the number of houses climbed to 726. The housing quality in the parish has improved steadily over the years.

The experiences learnt from several hurricanes including the landmark Hurricane Gilbert in 1988, Hurricane Charley and Ivan one month apart in 2004, Wilma, Emily, Dennis in 2005 as well as Hurricane Dean and Gustav in 2007 and 2008 respectively has prompted improvements in construction techniques and more adherences to standards. Additionally, increased income levels, remittances, migration and increased travel and exposure has greatly influenced housing construction and design. Consequently the percentages of houses built with concrete and steel reinforcement with steel rebar has risen. The average use of block and concrete in the construction of houses in the parish was 72.9% in 2009 and the average use in the Santa Cruz DA was 90.9%.



Block and steel construction has become the norm especially in the Southern belt and the communities of the Santa Cruz Development Area. Additionally, this DA accounts for the majority of private and NHT funded housing Developments. The majority (68.6%) of the households in St. Elizabeth owned the house they resided in, whilst 17.8% lived rent free and 11.6% rented. When compared, the findings for the Santa Cruz DA are consistent with that established trend. Squatting was reported in only three communities, Holland, Santa Cruz and Lacovia.

Transportation & Road Network

Santa Cruz is strategically located along the main route of the south to west highway linking Kingston, Mandeville, Savanna la Mar and Montego Bay. It's central location also provides a link for the communities of St. Elizabeth, as most traffic and public transport pass through the town, forming a transportation hub. The main roads are asphalt paved, but some parochial roads are in poor condition. Interior roads in Brighton, Burnt Ground and Longwood areas were constructed by residents to access their homes and agricultural lands. Problems with road conditions and upgrading are compounded by limited maintenance practices. Public transportation is the main mode of transportation in the Santa Cruz Development Area; licensed taxis were used by 60.7% of residents whilst robot taxis were used by just under a third (31.8%). 33.3% of residents reported to owning a vehicle with just fewer than two percent (1.8%) of community members reported to use motor cars not owned by them. The drainage system is very inadequate. The increased cutting down of trees on the Santa Cruz Mountains and the indiscriminate placement of houses and plazas which block the natural drainage in

the area creates some of the problems. During heavy rainfall, large volumes of water flow from Leeds along the main road leading into Santa Cruz's town centre before flowing into the New River drainage area via Pagon Drive (By-pass road). Oftentimes no vehicular traffic is possible until the water runs off.



Water Supply

Almost thirty percent (29.5%) of the Development Area's households receive water from public sources that are piped into their homes. 27.9% require the use of private catchments and 12% using privately sourced water piped into their dwellings. Approximately 4.9% use public standpipes. Other sources of water supply are through the purchasing of water (2.2%) and 1.6% receive water that is trucked to the community.



Road infrastructure conditions along Holland Bamboo Avenue

5.3 Junction

Brief Overview



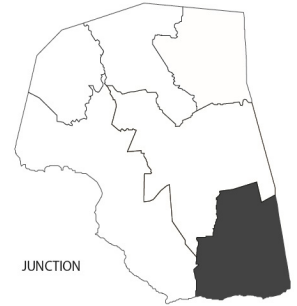
The Junction Development Area is in the south-eastern section the parish and constitutes most of the south-eastern constituency; it comprises 14 communities and 92 districts. The communities are Junction, Southfield, Nain, Red Bank, Rose Hall, Potsdam, Ballard's Valley, Bull Savannah, Warminster, Russells, Lititz, Myersville, Hopeton and Top Hill. To the South it is bounded by the Caribbean Sea and to the West by the Black River and Santa Cruz DAs. It is bounded by the Santa Cruz DA to the North and by Manchester to the East.

It is the 3rd largest Development Area by acreage behind Black River and Santa Cruz. In 2009 it had 23.6% [37,310] of the parish's total population with community of Junction having the largest population; 5,780 persons. The dominant economic activity within the area is agriculture however other activities include fishing, bauxite mining, community tourism, cottage industries and agro-processing.

History

The racial mixes between African and European races are quite apparent in the people within the DA. Interracial copulation also occurred with Meskito Indians who were brought to Jamaica to aid in the capture of Maroons and were awarded land grants in Southern St. Elizabeth for their service. Ballard's Valley derived its name from Colonel Thomas Ballard of the Army occupation of 1655 who was given lands in the parish as well as St. Mary. Berlin near Munro was named by a German settler and its first owner- Henry Cerf while

the name Lititz is from Moravia in the Czech Republic, given by Missionaries in 1754. Morningside was named from a district in Edinburgh, Scotland and Warminster most likely got its name from a district in Wilts, England.



Natural Environment

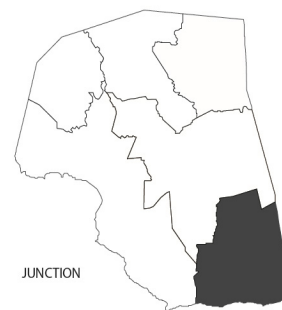
The DA is very mountainous with the community of Potsdam at the height of the Santa Cruz Mountains; however sections of Ballard's Valley extend into the sea. There are vast areas of unoccupied land in Bellevue and Warminster and a mud lake [made by ALPART] bordering Lititz, Nain, Red Bank and Myersville.

The communities within the DA generally register low rainfall mainly due to their location in the rain shadow of the Santa Cruz Mountains. The soil type of the area is predominantly stony-loam and supports the growth of a wealth of crops. Much natural vegetation has been removed to accommodate farming; leaving many areas vulnerable to wind damage. Mineral Deposits found within the DA include bauxite, white limestone and clay. Additionally significant fertilizer deposits in the form of bat-guano and cave phosphates have been found in caves at Yardley Chase. These caves are located at the foot of the popular visitor attraction- Lover's Leap and the Lover's Leap lighthouse.

Social Environment & Facilities

Social Service

Of the forty three (43) community centres in the parish, the DA has the largest concentration with thirteen (13). Additionally there are five (5) health centres, twenty three (23) educational institutions, six (6) Post offices, a further six (6) postal agencies, two (2) police stations

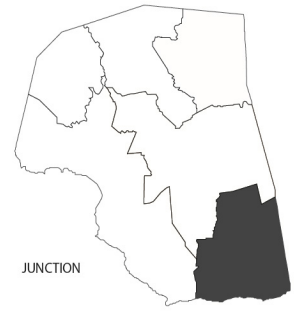


a fire station and one (1) cemetery. The DA also has eleven (11) play fields, five (5) sports complexes, six (6) financial institutions, five (5) libraries and two (2) heritage sites. Community consultation sessions that were held within the Development Area in September 2014 saw participation from residents from of Rose Hall, Southfield, Red Bank, Potsdam, Russells, Nain, Myersville, Warminister, Bull Savannah, Top Hill, Lititz, Ballards Valley and Hopeton.

These helped in the assessment of the challenges and vision residents had for their respective communities and the DA at large.

Although there are thirteen (13) community centres, residents of Red Bank, Potsdam, Southfield and Rose Hall expressed their communities' need for a community centre or renovation of existing ones. This suggests that community centres may be concentrated in some districts while in other areas there aren't any. In the communities with centres, persons recommend that they are used to facilitate skills training for persons without tertiary education to make the population more employable.

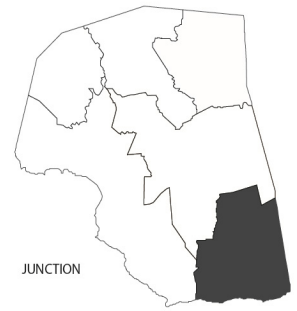
Residents from all the communities which participated spoke to the inactivity of many existing community groups and expressed their desire for these groups to contribute more to the social development of their communities.



JUNCTION



A bustling Junction Town centre



Lovers Leap-1600 feet

Table 7: Social Services within the Junction Development Area

Types	Number	Location
Health Centers	5	Bellevue, Southfield, Myersville, Portsea, Junction
Schools:		
Tertiary	1	Lititz
Secondary	3	Junction, Potsdam, Bull Savannah
Jnr. High	1	Nain
All Age	3	Southfield, Lititz, Rose Hall
Primary/Prep	15	Potsdam, Top Hill, Warminster, Nain, Southfield, Myersville, Russells, Hopeton, Lititz, Bull Savannah, Ballard's Valley, Red Bank, Junction
Basic		Potsdam, Top Hill, Warminster, Nain, Southfield, Myersville, Russells, Hopeton, Lititz, Bull Savannah, Ballard's Valley, Red Bank, Rose Hall
Post Office/	6	Junction P.O, Southfield P.O, Top Hill P.O, Nain P.O,
Postal Agency	6	Rose Hall P.O, Munro P.O, Red Bank P.A, Bull Savannah P.A, Warminster P.A, Russells P.A, Myersville P.A, Hopeton P.A
Police Station	2	Nain, Junction
Fire Station	1	Junction
Community Centre	8	Potsdam, Warminster, Russells, Junction, Nain-(New Building, Nain), Lititz, Myersville
Sports Complex	5	Nain- (Nain- Ray Gendron-Netball & Basket Ball), ALPART Sports Complex), Bull Savannah-Uprising Sports Complex, Junction-Cheapside Sports Complex, Queensbury (Church Sports Facility)
Cemeteries	1	Myersville- (Buena Vista Memorial Park)
Markets	1	Junction
Financial Institutions	6	BNS, NCB, RBC, JMMB, St Elizabeth Credit Union, JNBS
Playfields	11	Rose Hall-(Nief Mountain), Ballard's Valley -(Manley Horne Park, Tryall Cricket field), Potsdam- (Potsdam Community Centre, Munro), Warminster, Junction-Cheapside, Nain-(New Building, ALPART), Lititz-(Brinkley), Myersville, Bull Savannah-(Uprising),
Heritage/Tourist Sites	2	Lovers Leap, Lover Leap Lighthouse
Libraries	5	Nain, Red Bank, Junction, Southfield, Warminster

Source: Social Development Commission Household survey 2014

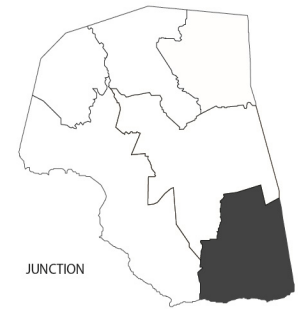
Education

The Junction Development area (DA) contains several educational institutions, a third of which are early childhood institutions. There are three (3) high schools, two (2) being government- operated [BB Coke High & Munro College] and one private [St. Vincent Stambri Catholic High School]. All communities within the DA have at least one primary, all-age, preparatory or Junior High School. The Marantha School for the Deaf is one of the two only special needs schools in the parish. It accommodates hearing impaired students and uses the curriculum recognised by the Ministry of Education. In 2009-2010 Academic year the school had four (4) teachers and twenty (25) students enrolled, however it can accommodate up to sixty (60) students.

In community consultation sessions, residents expressed that some schools within the area were in need of repairs. It was also revealed that in most cases, formal education stopped at the secondary level and in others, persons dropped out of high school without attaining any qualifications. In this situation residents recommend remedial classes to be held at community centres across the DA.

Health Care

The Development Area has five (5) health centres located in Junction, Portsea, Myersville, Bellevue and Southfield. While some of these are operating at a sufficient standard, others namely those serving the communities of Junction, Rose Hall, Russells, Nain, Warminster, Hopeton and Myersville are in need of improvements. During community consultations it must be noted that persons within these areas expressed alarm and concern about the high numbers of cancer-related deaths and also expressed for some clinics and health centres to be expanded or otherwise maintained. For illnesses requiring care beyond what health centres can provide however, residents must travel to the Black River Hospital. Additional medical services are also provided by private doctors.



Crime & Public Safety

In 2009 residents within the DA perceived their crime rates to be generally low and felt safe within their communities. However community consultations in 2014 revealed new concerns from residents who believe crime rates were on the rise. This was particularly so for praedial larceny. This is an area of concern being that the DA's main economic activity is farming. Communities experiencing praedial larceny include Rose Hall, Red Bank, Russells, Nain, Myersville, Warminster & Hopeton.

To limit criminal activity, residents suggest that the police and residents seek to establish better relationships. Additionally the police must be more responsive and accountable to residents and in turn residents must work harder to ensure that they assist the police.

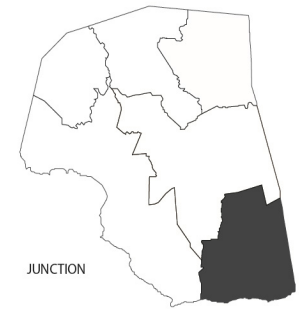


Table 8

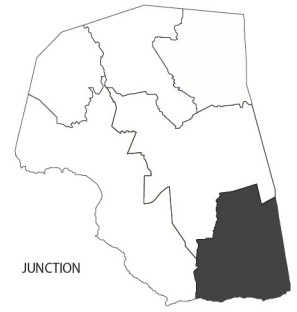
Major crimes (reported) for the Police Districts in Junction DA 2009-2010

Police Station	CRIME	2009	2010	Police Station	CRIME	2009	2010
Junction	Murder	4	4	Nain	Murder	3	1
	Shooting	5	0		Shooting	5	0
	Robbery	18	6		Robbery	31	4
	Rape	1	2		Rape	6	1
	Carnal Abuse	0	0		Carnal Abuse	2	0
	Break-ins	54	58		Break-ins	22	14
	Larceny	0	6		Larceny	1	2

Source: SDC 2009 - Community Survey

Though the figures show no discernible increases in crime in these two years it can be seen that break-ins are the most reported crimes in the two police districts.

Figure 6 — Safety rating of Junction DA



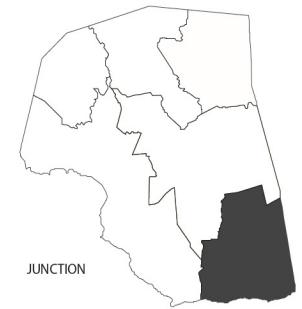
Source: SDC 2009 - Community Survey

Economic Environment

Dominant economic sectors within the DA include agriculture and commerce; sports tourism is an emerging activity supported by the presence of several sporting venues and a vibrant sports culture. The DA has made huge advancements in its commercial sector being that in the 1970's the area was focused almost entirely on agrarian pursuits. Even so, agriculture is still the

leading employer of residents.

There are eight (8) financial institutions operating in the DA, however these are mostly concentrated in the community and Southfield. In community consultation meeting many residents voiced the need for more financial institutions to need to travel long distances to access them.



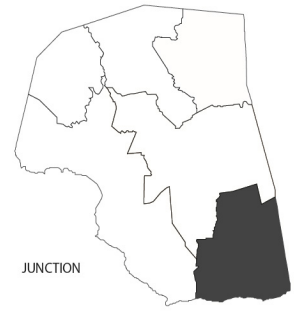
Employment

Approximately 70% of the household heads surveyed were employed. 49% were employed as elementary workers; approximately 15% were employed as professionals, senior officials or technicians and about 10% worked in craft and related trades. A further 5% were plant and machine operators while 4% found employment in service shop and market sales. The remaining 17% did not specify their occupation. Approximately 34% of the persons surveyed said they received financial assistance from at least one or a combination of the state, remittances from overseas or friends and family locally. Employment was most significant in middle aged and elderly categories but declined as the population got younger. About 16.8 % of the persons have never worked in their adult lives, many have been unemployed for a number of years. In 2009, self-employment was the significant type of employment in the Junction Development Area for both males (34.2%) and females (17.5%). This was followed by full time employment. Contractual employment was the least represented, recording minute percentages for both genders.

Agriculture & Mining

Approximately 65% of households in the DA are involved in farming activities. 85% of land used for farming is family owned, 10.1% is rented, 3.4% leased and 1.1% is used rent free. Approximately 65.2% of these produce for sale at markets as well as use within their own homes while 14.6% produce for home use only and 5.6% for sale only. Community consultation revealed that many farmers are finding it difficult to produce at their full potential for various reasons. These include limited capital, frequent droughts and lack of water which affects persons from Bull Savannah, Top Hill, Lititz and Ballards Valley. It is suggested that better

loan options be made available to farmers to aid in sustaining their farms and ensuring increased crop yields. Since 1969 bauxite mining through partnerships between Kaiser Bauxite, Anaconda and Reynolds provided jobs for the residents of the DA. Alpart developed an extensive land rehabilitation and agriculture programme and were very active in the community. During its operation it brought water to many communities within the area who prior to their operations were without it. However it also came with various drawbacks. Most of these stemmed from the daily operations of the plant and the mud lake left in the area even after its close. In community consultation sessions residents from the communities of Russels, Myersville, Nain, Warminster and Hopeton complained dust nuisance and health issues caused by the Alpart's mud lake. They recommended frequent wetting of the lake to ameliorate the situation. The plant was operational until 2009 when the financial crisis forced its closure. During that time, persons were forced to seek other avenues of employment. It was however reopened in March 2015 under the management of UC Rusal Jamaica, a russian company, which saw to the reemployment of residents.



Farming in the Junction DA

Source: SESDP 2015



Alpart Processing complex, now UC Rusal Ja.

Source: Google images

Built Environment & Infrastructure

Housing

St. Elizabeth's housing quality has improved steadily over the years. The experiences learnt from the lashings of several hurricanes including the landmark Hurricane Gilbert in 1988, Hurricane Charley and Ivan one month apart in 2004, Wilma, Emily, Dennis in 2005 as well as Hurricane Dean and Gustav in 2007 and 2008 respectively has prompted improvements in construction techniques and more adherences to standards. Additionally, rising income levels within the area accommodated advancements in the construction techniques and materials being used. The DA has therefore seen increases in the amount of structures being made with concrete and reinforced rebar. In 2009 the use of concrete in construction amounted to approximately 73%, the average use in the Junction DA was approximately 90% which was the second highest in St. Elizabeth.

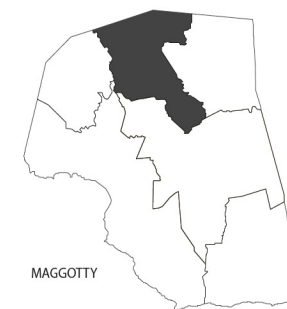


Overall, 88.1% of the dwellings in the Junction development Area were in satisfactory condition in 2009. The combined percentages of 26.3% very good, 27% good and 34.8% fair account for the statuses of the houses. The conditions of the houses are a reflection also of the use of concrete and block on the outer walls of 85.8% of the houses in 2009. During community consultations within the DA, poor road conditions and inaccessibility to water and the internet were some of the dominant issues raised by residents represented by all the communities present. Another popular issue raised by all residents except those from Bull Savannah, Top Hill, Lititz and Ballards Valley was the lack of potable water. While in some cases the infrastructure [pipes] is in place, delivery to residents is still an issue. As a result most persons have to rely on private catchments and public tanks managed by the parish council to a lesser extent. Additionally in light of rising concern about crime, residents expressed the need for adequate street lighting. Communities with this issue are Rose Hall, Southfield, Red Bank, Potsdam, Junction and Bull Savannah. It was also noted that the community of Gazeland was without electricity.

5.4 Maggotty

Brief Overview

The Maggotty Development area is located in the north-western portion of the parish. The DA constitutes a part of the south-western region of the Cockpit Country. It falls almost entirely in the Nassau Mountain and Valley and is bordered by the parish of St. James to the north, Lacovia to the south, Aberdeen and Quickstep to the East and Ginger Hill to the West. For the most part the area is hilly with karst topography which runs down into the riverine communities of Maggotty and Newton. The DA is comprised of 8 communities namely, Maggotty, Accompong, Elderslie, Newton, Merrywood, Mulgrave, Carisbrook and White Hill. According to the SDC, in 2009 the DA had a total population of 11,178 residents. The SDC (2015), established that Maggotty is the largest community within the DA with 2,976 residents followed by Newton which has 1,768 residents and Carisbrook with 1,685 residents. The community with the smallest population is White Hill with 640 residents. Population size within each community is dependent on terrain and access to utilities and services with hilly remote settlements having smaller populations than those on plains near heavily used roadways. The main economic activities are (1) agriculture with many small scale farmers and (2) commerce with residents operating small shops or bars.



History

The oldest settlement in the DA is believed to be the Accompong community which dates as far back as the mid sixteen hundreds (1600's) when the English attacked the Spanish settlers in Jamaica. Accompong was formed after the Spanish sensing their imminent loss of the war, set their slaves free so they could conduct frequent attacks on the English until the Spanish could amass a large enough force to retake the colony. The settlement grew as the freed slaves [called maroons from the Spanish word Cimarron; wild] carried out



Jamaica Public Services
Company Ltd.
**MAGGOTY
HYDRO DAM**

Maggoty Hydroelectric Plant which generates 7.2 Megawatts of electricity

frequent raids on the plantation and helped to free large numbers of Africans from slavery under English rule. In the late 1800's the DA became somewhat of a transportation hub with the opening of the railway and two railway stations in Maggotty and Ipswich. The latter became one of the most vibrant areas in the parish based on transportation, communication [post and telegraph] and other related activities. Today the track still lies within the community as a permanent part of its history.



Natural Environment

Communities within the Maggotty DA generally appear in isolated clusters along the roadway. For the most part communities have karst topography. The communities of Elderslie, Retirement, and Accompong are exceptions as they are characterised by clay soil type which coat limestone bedrock. These areas have in recent time experienced land slippage due to improper land clearing methods for agriculture.

The DA experiences more rainfall than the rest of the parish, particularly during the hurricane season (June to November). This can be attributed to convectional rainfall within the forested area called Shauna, located between White Hill, Maggotty, Merrywood, Mulgrave, Elderslie and Retirement. A drought period usually follows the hurricane season but is not as severe as that seen in Southern St. Elizabeth. However there have been some changes in the weather pattern evidenced in July 2014, where the area received 50 to 100mm of rainfall.

Bush fires and water pollution have been the most potent threats to the Maggotty DA's environment. The quality and quantity of white limestone in the parish prompted the establishment of a lime facility on the grounds of the former Revere Bauxite factory in Maggotty. The facility is now closed however in its tenure it has been accused of dumping or leaking large quantities of oil causing pollution of

the river. Another threat is the Appleton Estate located in Siloah. In periods of rainfall dunder from facility escapes from storage ponds and may be washed into the river. Another major concern stems from the fact that many communities in the DA do not have access to potable water and consequently are without flushable toilets. These residents therefore depend on pit latrines to dispose of human excreta. In areas with high water tables such as New Holland in Maggotty, pitlatrines threaten underground water sources and have further implications for health.



Another problem is decreasing fish stock. Dwindling fish population has been caused mainly by industrial pollution from dunder and fertilizer run-off and over fishing. A commercial shrimp raising project near Siloah saw the introduction of “hard back” shrimp to the river. This new variety of shrimp has led to the decimation of the local soft body shrimp which once populated the river. A similar project saw the release of tilapia into the river which had similar consequences on the river’s fish population. The biggest threat however has come from the release of algae eaters into the river; this sucker type fish has wreaked havoc on the indigenous species of the area. Community consultation sessions held in January 2015 revealed the most pressing issues as it relates to the natural environment were drought and land titling. Residents from Mulgrave, Merrywood, Elderslie, Retirement and Newton spoke of the extended periods of drought the DA usually faces. Additionally farmers within the area are not aware of the various techniques used to maximise on agricultural output in dry periods. Residents from Mulgrave, Elderslie and Retirement expressed the difficulty usually experienced when trying to legally obtain land.

In Elderslie and Retirement residents said the difficulty with acquiring land stemmed from owners’ unwillingness to sell even though the land is not being used. In Mulgrave the issue lies with absentee owners and not being able to contact them to negotiate sale. Residents in Merrywood expressed their need for better maintenance of the community’s green space while residents from Maggotty expressed

concern about the continued pollution of the river which has resulted in death of fish populations as well as a foul odour from the river. The green sludge which forms on the water's surface is not only unsightly but residents fear it might be dangerous. Additionally Maggotty residents suggest that reforestation be done in the town.



Social Environment & Facilities

Social Service

There are a total of four (4) community centres within the DA located in Retirement, Accompong, Elderslie and Newton. However, these cannot sufficiently serve all the communities and its residents. In all the DAs, residents had complaints about their lack of a centre or the need to improve upon the ones already in existence. Residents of Merrywood, Mulgrave, Carisbrook and Maggotty expressed their need for centres where skills training could be offered to make them more employable. Skills training would focus on areas where community members already have some amount of expertise such as whickering, wood carving, carpentry, I.T, welding and plumbing. Community centres in Elderslie and White Hill are in need of repairs. White Hill's centre which also doubles as an Early Childhood Institution is also in need of electricity, water and a functioning roof. Other issues raised by residents included community involvement and empowerment programmes geared at young people and females in the Mulgrave community. Residents in Mulgrave and Elderslie said there was little to no involvement from community members in community based organisations and activities. The opposite was true in Maggotty where residents said community involvement was growing.

Education

There are a total of twenty (22) schools in the Maggotty Development Area with at least one school in each community.

Some of these schools were built through funding from various churches and established on church grounds. Schools in the DA consist of one(1) high school, (Maggotty High) and two (2) primary and Junior High schools with either in the communities of Elderslie and Accompong. There are also seven (7) primary schools and twelve (12) Early Childhood Institutions. In community consultations residents complained of the low skill level within the community and expressed the need for skills training programs to equip persons for the world of work.



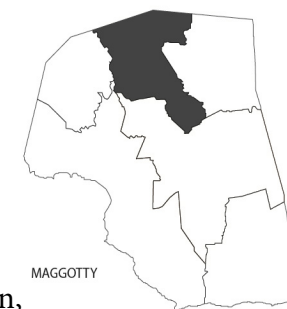
Health Care

The Development Area has a total of three (3) health centres; one is privately owned by the Holy Spirit Catholic Church in Maggotty while the other two are government owned. The two public facilities are located in the communities of Maggotty and Elderslie. According to the SDC, in 2009 the DA had a total population of 11,178 residents spread across eight (8) communities; all of which are to be served by these two facilities. During community consultations residents in all communities except Maggotty had concerns about the inaccessibility of health centres. Residents from Merrywood, Mulgrave, Retirement, Carisbrook and Newton all expressed their communities' need for a health care facility due to the distance from their respective communities to the health centres in the DA. For residents in Mulgrave and Merrywood in particular, it is difficult to access the facilities in Maggotty and Retirement due to the long distance and the unavailability of public transportation. Residents from Mulgrave suggested that their community centre could double as a health centre on specific days of the week where medical professionals could visit and give medical care and advice. Residents in Elderslie complained that their health centre was understaffed, under-equipped and needed to be upgraded to better serve the community.

Garbage Disposal

Most of the Maggotty Development Area is characterised by rugged terrain, bad road conditions and dispersed settlement patterns. As such the Na-

tional Solid Waste Management Authority finds it difficult to adequately serve residents of the DA. As such only 9% of households have garbage collected by the NSWMA. The majority of residents [68%] disposed of garbage by burning in (SDC 2009). A further 12% of residents bury their garbage, 5% dump their garbage on site and 2% use other methods of disposal. During community consultation sessions residents from Elderslie, Retirement and Newton, all expressed dissatisfaction with the frequency with which the Authority collected waste from their respective communities. Residents want garbage to be collected not only more frequently, but to also follow a set schedule.



Crime & Public Safety

The crime rate within the DA is relatively low with 25 crimes being committed in 2009. In the following year there was a 20% decrease to 15 crimes. There was a high feeling of safety within the communities as residents expressed that even in years to come they felt they would not become victims of crime. In 2009 the crime categories most frequently committed were shooting and break-ins with 6 occurrences each. However in the following year there was just one shooting and break-ins decreased to 5 reported cases. There were however slight increases in all other categories (robbery, carnal abuse & larceny) except rape which remained constant at 0. Community consultation sessions in January 2015 gauged the crime situation in each community and for the most part, community members still felt a sense of safety within their communities. In Merrywood, Mulgrave and Elderslie, residents said that crime was not an issue. However in Newton praedial larceny has recently become a problem. Community members are served by the Maggotty Police Station who they say make regular patrols within each community which reinforces their sense of security.

Economic Environment

Employment

In 2009 the majority (33.2%) of residents in the development area were self-employed on a full-time basis and another 15.5% were employed full-time (SDC Community Profile, 2009). Unemployment is therefore a major cause for concern with approximately 58% of residents without a job. During community consultation sessions with DA residents, out-migration, lack of job opportunities, low level of skill and limited capital for investment in business ventures were indicated as some of the problems which perpetuated unemployment.

Residents suggest training initiatives for skills which would make residents more employable and in areas for which many residents already possess some skill namely wood carving and the creation of craft items. Residents also desire a market to sell their products in order to facilitate income generation. Many residents suggested that DA's economy could benefit from the establishment of agro-processing factories which produce by-products of crops which are farmed extensively throughout communities of the DA. Residents of Merrywood suggested fruits such as guavas and bananas, in Elderslie crops would include banana, ginger, ackee, mango and june plum; while residents in Maggoty and Carisbrook suggested the establishment of a peanut factory.

Retirement and White Hill residents proposed the establishment of a garment making facility and residents from Elderslie and Mulgrave recommended small-scale industry in the form of a block making factory and a stone supply hub to a grit factory in a neighbouring community. A popular suggestion was the development of eco or adventure tourism within the parish. Potential attractions include the caves in Ipswich as well as the historic train track and station. Not only does the area feature these historic sites, it is also has pictur-



esque natural beauty to which adventure or eco- tourist would gravitate to.

Agriculture & Mining

The main economic activity practised in the Development Area is agriculture with over 70% of households being engaged in farming activities. The main crop produced is peanuts. The DA is the largest supplier of peanuts in St. Elizabeth which is seen as a reputable peanut producing parish. The main producers are the communities of Newton and Carisbrook. Other crops produced in the DA are ground provision, corn, bananas and pimento. 52% of persons engaged in farming do it for home use and for income generation, 37% farm for personal use only and a further 5% farm for sale on both the local and international market. Another 4% produce for personal use and sale on the international market and 2% farmed solely for sale on the local market. The Maggoty market was once a major market regionally and an important part of the market network which included Maggoty, Balaclava, Santa Cruz, Thompson town (Clarendon) and Mandeville (Manchester). The decline of the railway and the ascent of Santa Cruz as a commercial centre have led to the virtual abandonment of the Maggoty market. In the past the DA played an active role in the industrial sector of St. Elizabeth. with a bauxite facility which was closed then later re-opened as a lime production facility (Revere) ; this however was also closed. Today there is one active limestone quarry in Cameron Hill in Maggoty. The economy is rounded out by small scale commercial activity with the presence of small shops (bars) and restaurants.

Farmers in the DA produce a combination of fruits, spices and ground provision and as mentioned before, Maggoty is the parish's foremost peanut producer. However, dialogue with community members revealed that farmers are in need of assistance to improve the quality and quantity of their agricultural product. Issues include lack of capital, poor irrigation water supply and extensive dry seasons





which farmers are ill-equipped to deal with. The Maggoty market was closed due to inactivity, and now farmers and vendors are without a place to sell their produce and are forced to travel outside of the DA to other markets. This incurs increased transportation costs on farmers and also increases the risk of losses from products being damaged in transit. In the past, attempts have been made to re-open the market. However this was not met with much enthusiasm from residents. Therefore it is unclear how best to move forward with this matter. In response to the frequent droughts within the DA, residents suggest that farmers should adopt methods which produce high yields in spite of dry conditions used by farmers in southern St. Elizabeth. In Mulgrave it was suggested that farmers be given revolving loans to help as a solution to their financial problems. In 2009 approximately 61% of households in the Maggoty Development Area reported that they did not make use of any financial institutions. This may be due to the fact that there are no such institutions within the Development Area. Statistics from the same year also indicated relatively high dependency rates. Dependence on assistance from the government accounted for 34% while remittances (6%), support from family members (19%), and salary of other family (3%) accounted for a combined 28%. These figures showed 62% of residents were dependent on other sources for financial support (SDC Community Profile, 2009).

Built Environment & Infrastructure

Transportation & Road Network

Licensed Public carriers were the most used mode of transportation for the residents of the Maggoty Development Area with just over 46% of the population utilising them. A significant 32.4% of the residents said they used illegal “robot” taxis while 22% said they used a combination of the two. 8.5% of residents said they used buses while another 6% travelled by private motor cars. Just over 10% of residents in five of the nine communities in the DA walked to their destinations. In White Hill, 16% of respondents walked to their



destination and the same was true for approximately 11% of Accompong residents.

Additionally 6% of residents in Retirement and 3% of those in Carisbrook said walking was their main mode of transportation. These figures coupled with the limited use of private vehicles can be seen as an indicator of income levels within the Maggoty DA. Parochial roads within the community are in need of attention as testified by residents within the DA. In areas like Merrywood and Mulgrave where road conditions seemed to be the worst; residents explained how the conditions of the roads hindered development of the area and incurred financial expenses on residents and motorists to the extent where public taxis hardly operate within the area. Additionally, these roads lack proper road signage and street lights.

Housing

Houses within the Maggoty DA were traditionally constructed of wood due to the low cost and over-all availability of the material. Other materials used were nog and Spanish wall. Houses were made on raised platforms of either wood or stone and usually had a verandah with fretwork, a detached bathroom and cooking area. More recently housing construction has shifted from the use of nog and Spanish walls to concrete blocks and steel rebar. Increased use of improved housing material can be attributed in parts to increasing income levels and remittance from family members, land owners and farm work labourers living abroad. Although they are no longer constructed many wattle and daub houses still exist with some being occupied by care-takers on behalf of absentee owners. In the assessment of housing conditions within the DA, 47% were deemed to be in fair condition, 20% were in good condition and a further 9% were in very good condition. 14% of houses in the DA were in poor condition and 4% were in very poor condition. Residents of Elderslie highlighted that within their community there were many dilapidated houses in need of renovation. Home ownership within the DA is fairly high with approximately 76% of residents owning their own homes and another 66% owning the land their home is

built on. Approximately 23% of the residents lived on family-owned land and 16% said they lived for free. The latter is a reflection of the aforementioned dependency level within the DA and migration.

Electricity

The DA is a major contributor to the country's power grid as it hosts a 7.2 megawatt hydro-electric power plant. The weir of the plant is located just outside the Maggotty town centre. The Survey of Living Conditions (2007) reported that 90.3% of households in Jamaica had electricity; however the figure is significantly lower in Maggotty where just over 82% of residents have access to electricity. A popular alternate source for lighting homes in the DA was kerosene lamps which were used by 15% of residents. Community consultations revealed that there are still some areas in the in the DA without electricity who must use other means of lighting their homes. Particularly noteworthy is the WhiteHill Community centre which also accommodates Early Childhood classes.

5.5 New Market

Brief Overview

The New Market development area is located in the North-Western section of the Parish and is bordered by St. James to the North, Westmorland to the West and the communities of Brompton and Ipswich to the South and East respectively. There are 61 districts and 6 communities within the DA; namely New Market, Springfield, Giddy Hall, Ginger Hill, Brighton and Pisgah. As of 2009 it had a population of 13, 502 residents, the largest community being New Market (3,584) followed by Springfield with 2,379 persons. The smallest community was Pisgah with 1,256 residents (SDC House Count, 2009). The DA has been plagued by a number of disaster events which has done much to shape its development and disaster preparation and response island wide. The main economic activity of the DA is agriculture; indeed the DA boasts the largest outdoor wholesale market in the Western section of the island.



History

Arguably the most significant event to happen in the DA's history was the 100 year flood, known as the 1979 Great Flood. In 8 to 10 hours there was approximately 865 mm of rainfall causing severe flooding. This led to the death of 44 people and caused roughly J\$70 million in infrastructural damage and property loss. The flood has influenced disaster preparedness across the country and the formation of the Office of Disaster. After the destruction visited on the DA by the flood the Urban Development Corporation (UDC) was instrumental in the rehabilitation and reconstruction of the area. The Corporation was responsible for the construction of much of the social infrastructure in place within New Market including the police station, post office, market, community centre, health centre, the High School and they established the district of Lewisville where the town of New Market was relocated. The area of the town

established prior to the 1979 flood became known as Old New Market. Historically, natural disasters have played a huge role in the development of the DA and to date still do. Since 1979 communities again experienced extreme flooding in 1986, 2000 and 2010.



Natural Environment

The Development Area is predominantly hilly with white limestone bedrock overlaid in some areas with sedimentary or shale rocks which break down to form clay soils. The rock and soil type within the area have been sighted as the main contributors to the severe flooding which has been experienced. There are no notable ground water sources within the DA and therefore residents rely on rainfall and water harvesting as a source of water as they are not served by the National Water Commission. There are numerous ponds within the DA however the most famous are the two sister ponds found in the New Market community. In periods of prolonged or intense rainfall the ponds have been known to overflow their banks and flood the roads rendering them impassable. The DA has large expanses of forested areas however these have come under pressure from a plethora of stressors which include past hurricanes, bush fire, slash and burn done by farmers and persons harvesting lumber from trees. The New Market DA is susceptible to a range of natural disasters including flooding, hurricanes, landslides, droughts, earthquakes and freak storms. According to the SDC (2009), 32% of residents indicated that flooding was the disaster most likely to affect their communities. While some areas like New Market are highly susceptible to flooding, other communities like Springfield do not have this problem and are more affected by wind damage and drought. The majority (49%) however said that hurricanes were the natural hazard most likely to affect their communities. Hurricanes have become more frequent since 2004 when the Island was lashed by hurricane Ivan. Hurricanes are usually followed by flooding; particularly in the community of New Market where the Two Sisters Ponds are located. The ponds have the tendency to overflow causing flooding of the roads and surrounding community. The community has been the site of several major floods which have

claimed numerous lives and cost millions in property damage. Although the area has no natural swamps, when flooding occurs waters may take weeks or months to recede creating temporary swamps.



Social Environment

The New Market DA has one Health Clinic, ten schools, seven churches, one post office and a postal agency. Additionally there is a police station located in Lewisville, three community centres and one market which is the largest outdoor wholesale venue in the western section of the country.

Education

The Development Area has 10 schools with one (1) High School in Lewisville, two (2) All Age schools, two (2) Primary schools and five (5) Early Childhood Institutions. The Lewisville High school is the only secondary institution in the DA and was established in 1979 by the Urban Development Cooperation following the Great Flood. It is a Government owned institution which subscribes to the Government specified curriculum. Enrolment rates have increased for the school surpassing the schools capacity (250 students) in the 2009 to 2010 academic year with 710 students enrolled. The school was expanded to include an additional block with nine (9) classrooms; this brought the capacity to 800 students. Analysis of the schools performance in CSEC examinations for the 2006 to 2011 period shows below average (over all passes) performance in every year except 2006. This is indicative of cultural trends in education within the DA. Analysis of DA resident's education attainment level, the majority of the residents are not educated past the primary

level. In New Market and Giddy Hall 74% of residents had primary level education and in Ginger Hill and Springfield the same was true of 72% of the residents. Brighton had the most residents with a primary level education with 80%. Only 1% of the DA's population had obtained a tertiary level education. During community consultations held in September 2015 residents revealed that there were persons in Springfield trained by HEART and a few others in Pisgah who had tertiary level education. Residents of New Market, Brighton and Giddy Hall also spoke of plans which were in place to establish a HEART-run training centre at the Fraser Primary school. They recommended that the centre offer skills training in welding, mechanics, electrical, masonry, carpentry, craft, wood work, cosmetology and other lucrative fields which would be likely to result in employment for those who received training.



Health Care

There are three health centres in the DA which serves all the communities located in New Market, Springfield and Ginger Hill. There are a range of stressors which impact these facilities and their ability to function properly and serve the DA effectively. According to the SDC (2009) having to wait extended periods to be served was the main obstacle in accessing health care services. In the community of New Market the second most important issue was financial constraints while in Giddy Hall it was a tie between poor transportation and health centres' distance from the residents' houses. For Springfield residents the second most popular obstacle was distance followed by poor transportation and in Ginger Hill transportation was a second factor which prevented access to health care. During community consultations residents' suggestions for the improvement of health care service delivery included an overall upgrade of the clinic, the inclusion of dental care offered at the clinic and more frequent visits from a doctor as currently the doctor only works on Mondays. Specifically residents want the health centres in Ginger Hill and Pisgah upgraded to better serve residents.

Garbage Disposal

The most popular method of garbage disposal was burial with 46% of households utilizing this method. Disposal through the NSWMA was done by 26% of residents, making it the second most popular disposal method. Garbage collection does not follow a regular schedule therefore garbage is allowed to accumulate for a long period. When this occurs garbage is either dumped on site (18%), in gullies (3%) or buried (6%). One percent (1%) of residents said they recycled their waste. Residents from New Market, Brighton and Giddy Hall are not adequately served by the NSWMA. Concerns were raised that collection is only done along the main road, while interior communities are sometimes neglected. Additionally community members proposed that more skips are placed throughout the community so that routes will be extended and garbage will be disposed of by more appropriate means. In Springfield and other communities many residents resort to either burning of burying their garbage which potentially threatens the environment and the health of those with respiratory conditions.



Crime & Public Safety

According to data received from the SDC's New Market Community Profile (2009), crime is not a major issue within the DA. For the 2009 the crime category with the highest reported cases was break-ins with 4 cases, this increased to 13 cases in the following year. In 2009, 3 of the 4 reported break-in cases were resolved; however in 2010 only one of the 13 reported cases was resolved. Murders (from 1 to 0), Shootings (1 to 0), Robbery (3 to 2) and carnal abuse (2 to 0) decreased from 2009 to 2010 while Larceny and rape increased from 1 to 2 cases in both categories. It is important to note that these figures represent the cases which were reported to the police and does not consider cases that residents failed to report. Additionally, in a cultures such as Jamaica's where being a police informant is frowned upon and the relationship between residents and police can be shaky; unreported cases might be

numerous. The New Market Police Station serves the 6 communities within the DA, their districts as well as nearby districts in the parish of Westmorland. The police station is located in the district of Lewisville but without a court house all cases are tried at the Black River Court House.



During consultations with residents from the development area, persons raised concerns about the emergence of scammers within their communities and the growing number of praedial larceny cases.



Economic Environment

Employment

25% of the head of households in the DA were employed on a full time basis and another 25% were also self-employed working full time. Household heads employed part-time accounted for 10% of the population while self-employed household heads who work part-time accounted 10.7% of the DA. 21% were employed seasonally and just over 8% were employed contractually. It is assumed that the high number of self-employed persons (35.7%) was due to the large number of famers in the DA, particularly in Ginger Hill where pineapple is farmed extensively. Consultation sessions revealed the community's concern about the low level of skill among DA residents, large number of idle young persons, and high migration rate out of communities such as Springfield and Pisgah as persons leave to go on farm work programmes. The residents hope skill training initiatives currently being discussed will improve the skill level of the community and offer them more employment opportunities.



Economic Activity

Residents of the DA are engaged mainly in agricultural pursuits as their main source of income. Farmers in the area are engaged mostly in cash crops (pumpkins, cabbages, sweet potatoes, coco and vegetables) and livestock farming of cattle, poultry, pigs and goats. The majority of farmers do it for sale at local markets. Until very recently, farmers have also been involved in the production of long term fruits such as papaya which were sold at local markets as well as to hotels, specifically those in Montego Bay. Communities of the DA are renowned for their pineapple production which they sell retail or to wholesale to retail pineapple vendors. Farmers within the DA are in need of assistance in order to increase their agricultural output and ward off the range of human, financial and environmental threats being faced by the sector. Residents suggest that low interest loans are offered to farmers and that they are given assistance with purchasing fertilizers, seeds, insecticides and affordable irrigation options.

Farmers sell their produce at the Lewisville Market; the largest outdoor retail market in Western Jamaica. Market Days Extend from Sundays to Wednesdays and provides farmers from within and outside of the parish with a place to sell their farm produce, meat and dry goods. There is only one financial institution within the DA located in New Market; The National People's Co-Operative Bank of Jamaica. Residents in the community establish partner plans amongst community members as a way of saving money. In

community consultations community members expressed their desire for additional financial institutions, mostly in the form of ATMs which would facilitate quick hassle free banking transactions. which would facilitate quick, hassle-free banking transactions.



Built Environment & Infrastructure

Building & Land Tenure

Home ownership is fairly high within the DA as the majority (70%) of household heads own the houses they occupy. This exceeds national homeownership average according to the 2007 Jamaica Survey of living Conditions revealed 59.8% of household owned the houses they occupied. Additionally 12% of households lived for free, another 12% rented and 1% leased their houses. This correlates with the culture of the DA as homeownership is important to residents. Where ownership of land is concerned the majority of residents (72%) owned the land they lived on, 14% lived on family land and 12% rent the land they live on. The remaining 2% leased the land they occupied. This also correlates with the culture of the DA where high value is placed on land proprietorship. For the 14% who live on family-owned land, ownership is either shared or passed down from one generation to the next. In the communities of Brighton, New Market and Giddy Hall residents suggest that assistance with housing be provided for indigents.

Water Supply

The New Market DA depends on rainwater harvesting as its main source of domestic water. The harvesting process is accommodated by private or public catchment tanks. There are five public catchment areas located at Kilmarnock, Carr, Mocho (well), Cheltenham [Iron tank] and Payns Town [Iron tank]. The majority (89%) of households have private catchment tanks attached to their houses in preparation for prolonged periods of drought which the DA usually experiences (SDC Community Profile, 2009).

Approximately 6% of DA residents purchase water from private trucks and a further 2% get water from stand pipes served by public catchment tanks. A combined 2% (1% each) of residents received water from public catchments and public pipes running into yards. In consultation sessions with members of the DA residents of Brighton, Giddy Hall and New Market all complained of the lack of potable water. They also revealed that community tanks are not properly cleaned and maintained and suggest regular cleaning and water treatment to ensure water is safe for consumption. Residents also suggest that farmers be given discounts on purchases of black tanks for irrigation purposes.



Electricity

The main power source for households in New Market was electricity represented by the majority 80% of residents who used it. A further 10% of residents use kerosene lamps, 5% use candles, 3% use gasoline powered lamps and 1% of residents reportedly use battery powered lamps. A final 1% of residents said they use a bottle torch to light their homes. In community consultations residents of New Market, Giddy Hall and Brighton revealed that some areas were without electricity even though JPS bills them monthly for electricity use.

Poor road conditions were the main complaint for residents of all communities of the DA. Other problems extended to poor connectivity, poor drainage or little to no maintenance of drainage systems and poorly distributed street lights or in other cases a complete absence of them. Residents recommend that roads be resurfaced instead of being patched as this usually only serves as a temporary solution before the patch work is eroded. Road resurfacing on the other hand would be a long-term solution. Other issues include poor cell service and no Local Area Network (LAN) lines and therefore no access to telephone or internet services. Additionally, residents complain that the commercial areas do not have adequate space for parking and recommend that this and other problems be addressed.



Roses Valley Primary School, one of the secondary learning institutions in Balaclava DA

5.6 Balaclava

Brief Overview

The Balaclava Development Area is located in the north-eastern section of St Elizabeth and is bordered by the Parishes of Manchester and Trelawny to the east and north respectively. The Community of Braes River lies to the South of the DA and Ipswich to the West. Much of the DA falls within the Cockpit country and in the country's largest watershed; the Black River Watershed. The DA is characterised by karst limestone topography with mountainous terrain, steep gullies, sinkholes, caves and caverns, rivers and dry lime stone forests. Communities of the DA receive relatively high rainfall and with temperatures which range from community to community depending on elevation and average rainfall. The DA has 7 communities namely Balaclava, Roses Valley, Bogue, Quickstep, Thornton, Siloah and Aberdeen. The largest community is Balaclava with a population of 4,056; Thornton was the second largest community with 3,420 residents. The smallest community with 440 residents was Quickstep. The dominant economic activities done in the DA are commerce, construction, services and agriculture.



History

Development in the DA dates as far back as the 1700s with sugar production in Oxford, Appleton, Raheen and Barnett. During this period Maroons established the community of Quickstep which had dense forests that provided natural defence from the Spanish and English against whom the Maroons engaged in guerrilla warfare. After emancipation the larger plantations gradually faded out (with the exception of Appleton Estate) and smaller parcels became more dominant and peasantry or village life began. A series of churches were established across the DA by various missionaries and subsistence agriculture and related commerce became more dominant.

Social services including police services, schools and the railway were established over time. Commercial activity and communication services grew exponentially with the introduction of railway transportation which began in Balaclava in March 1892 and the telegraph. Agriculture was focused on the production of citrus, banana, logwood, pimento, sugar cane and coffee. After close to a century of operation the railway closed in the 1980s having a severe impact on the agriculture and commercial sectors, which depended on the railway for the transportation of goods. In the years which followed a range of natural, human and technological changes occurred which influenced the development of the DA and making it what it is today.



Natural Environment

The Balaclava DA is considered an environmentally sensitive area as most of the communities are contained within the Cockpit Country. Additionally it constitutes a part of the Black River Watershed and the Upper Morass (Bogue). The DA features forested areas, springs, ponds, rivers, caves, sinkholes, and swamps. In all communities surveyed in the SDC's Balaclava profiles the majority of residents surveyed believed there were no environmental issues affecting their communities. The most potent threats to the environment mentioned by residents included deforestation, blocked drains, flooding, air pollution and wind damage. Other threats included landslides/ rock falls, illegal dumping and water pollution. DA residents deemed their communities to be more susceptible to hurricanes than any other natural disaster. The hazard second most likely to affect them was flooding followed by mud/landslides and earthquakes.

In September 2014, community consultations were held in the Balaclava DA and included residents of Balaclava, Siloah, Bogue, Abdeen and Quickstep. One of the major issues raised by participants was the flooding which affects the communities of Siloah and

Balaclava due to run off from communities at higher elevations during periods of heavy rain. Additionally residents in the vicinity of the Appleton Estate reported that they experience air pollution in the form of the stench associated with the dunder produced at the factory.



Social Environment & Facilities

A summary of the Balaclava Development Area's social facilities includes twenty one (21) schools, three (3) community centres, four (4) health facilities, two (2) police stations and two (2) markets. Additionally there are two (2) recreational areas, two (2) financial institutions, one (1) cemetery, one (1) court house a combined six (6) postal agencies and offices.

Education

There are a combined twenty one (21) schools in the Balaclava DA the majority of which are early childhood institutions followed by primary and all-age schools and one (1) secondary school- The Balaclava High School. Throughout the Development Area secondary level education was usually the highest level of education attained by household heads. This was evident in three of the four communities surveyed in the SDC's 2014 Community profiles. In the Balaclava community this was represented by 39% of household heads while in Roses Valley and Bogue the same was true of 38.1% and 35.6% respectively. Quickstep was the exception where the majority of household heads were educated only up to the All-age level represented by just over 27%. Secondary level attainment was the second highest category having been attained by approximately 26% of Quickstep household heads. Tertiary education was the least represented category with just under than 10% in Balaclava,

7.6% in Roses Valley, 6.7% in Bogue and 3.6% in Quickstep. Training in an employable skill was relatively higher than tertiary level education among head of households which is probably indicative of the value communities place on skills training in comparison to higher education. In the community of Balaclava approximately 47% of the population had received skills training with only 31.6% with certification. The majority of persons trained learned their trade informally or on the job which was true for most of the other communities surveyed. In Roses Valley of the 35% of residents with skills training approximately 26% of them had vocational certification. In Quickstep only 22% of residents had skills training; approximately 42% had been certified. The exception was seen in Bogue where of the 27.5% trained the vast majority (72.2%) had vocational certification. Skills training focused on cabinet making, hospitality, garment construction and agriculture. During community consultations residents' concerns revolved around limited exposure to opportunities for vocational training, limited skills training facilities and brain drain. Concerns regarding skills training corresponded with findings where it was seen that the majority of trained persons had not been formally trained. The lack of certification places barriers on the employment potential of these individuals despite them having the required skills. Residents believe that with little opportunity for employment and to improve their lives many residents are opting to move to other areas. In most cases these are young persons who are needed to contribute to the development of the DA.



Health Care

There are a combined 3 health centres in the located in Balaclava (type III), Aberdeen (II) and Siloah which serves the employees of Appleton (I). They offer a range of services which include dental care, maternity and post-natal care, counselling and public health services. Assessments of the buildings' infrastructure show that all three are in good to very good condition.

Majority of residents in all the communities surveyed said members of their household frequently used public health services represented by (50.5%) in Balaclava, (70.3%) in Roses Valley, (60.6%) in Bogue and (50.9%) in Quick step. The remainder used a mixture of private doctors' offices, hospitals, community health aides and church run clinics. When asked about the obstacles they faced when trying to access health care, the majority of residents said they faced none. Those who admitted to facing barriers were obstructed mostly by long waiting periods. On average this affected 33% of residents with the highest number of cases in the community of Roses Valley (40%). Financial constraints were the next most popular barrier in all communities except Quickstep where only 8% sighted it as a problem. Financial constraint was a barrier for an average of 15.3% of residents with the most cases in Balaclava (21%). Other obstacles included poor transportation and distance of health facilities from homes.

In community consultation sessions residents of Bogue expressed their need for a health centre in their community or in closer proximity to their communities. According to findings in SDC's Community Profiles (2015) these residents along with those in Quickstep and Roses Valley had to travel to one of the two public facilities in the DA or to Santa Cruz depending on which option is closest to them.



Garbage Disposal

Majority of residents within the DA are not served by the NSWMA. According to the SDC (2015), only 46% of Balaclava and 43% of Roses Valley had their garbage trucked by the Authority. These figures decreased even more in Bogue with 24%, and Quick step with a miniscule 1.7% of residents served by the Authority. On average approximately 70% of the households surveyed used burning as the method of garbage disposal. Disaggregated this was represented by 93.1% in Quickstep, 78% in Bogue, 57% in Roses Valley and 50% in



Balaclava. Another disposal method utilized was burial represented by approximately 3% of households.

Recycling and dumping on and offsite were also done by a small percentage of the population. The low percentage garbage of collection by the NSWMA can be attributed in part to the terrain of the communities with narrow roads and steep gullies which make access difficult. In cases where garbage was collected the schedule seemed fairly reliable with pick-up being either weekly or bi-weekly. In community consultations residents said they wanted to see more of the communities included in the NSWMA's garbage pick-up routes and for garbage collection to be more frequent.

Crime & Public Safety

Crime statistics as well as residents' perception of safety allude to the Balaclava DA being a relatively safe area. In the community of Balaclava only a minute percentage of residents (4.6%) of residents had been victimized in the previous year. It is important to note that the majority of these crimes (80%) occurred outside the community. The crime category with the most reports was praedial larceny with 28.6% of residents having experienced it during 2014. All other crime categories [attempted burglary, robbery with a gun, serious threats with a weapon, assault with a weapon and murder] was experienced by 14.3% of the population. In Roses Valley the most committed crime from 2010 to 2013 was break –in and entering with five (5) cases. Over the same period there were two (2) murders and one occurrence of rape and shooting each. In Bogue a minute 2.9% of residents said they had been victims of crime in the year 2014 83.3% of which occurred outside of Bogue. Of these persons approximately 33% were victims of burglary, robbery with a gun and serious threat with a weapon. 3.6% of Quickstep residents reported being victims of crime in the year 2014 and when



asked if they felt they would be victimized in the following year 87.2% felt it was unlikely. Only 5.5% of respondents said they felt it was likely that they might become victims in 2015. There are two police stations in the DA located in Balaclava and Siloah. 75% of crime victims said they had reported the matter to the police, 8.4% sought help from a respected member of the community while 16.6% did nothing. In consultation sessions with community members crime was not an issue raised by community members.

Economic Environment

Employment

In the four communities surveyed by the SDC, employment was just above average; however in the case of Roses Valley only 41% of household heads were employed. Of these approximately 63% of employed residents worked full-time while part time workers accounted for approximately 25% of employed household heads. In Balaclava, Quickstep and Bogue employed head of households represented approximately 58%, 53% and a further 53% respectively. In the Balaclava community the majority of employed persons (43.8%) were self-employed. A further 32.8% were employed full-time and 17.2% had part-time employment. A minute 1.6% of residents were employed on a contractual basis and seasonally in each category. The majority (69.1%) of Bogue head of households fell in the self-employed category. A further 16.4% worked full-time while 7.3 worked part-time. The remainder was divided between seasonal and contractual workers 3.6% and 1.8% respectively. On trend with the previously discussed communities the majority (62.1%) of employed Quickstep residents were self-employed. Full-time workers represented 31.1% of the working population and



part-time and seasonal workers each accounted for 3.4%. In all cases the self-employed sector was represented by the majority of the working population. This can be partly attributed to the nature of the main economic activities practised within the DA; particularly agriculture, fisheries and small-scale commercial activities.

The significant level of unemployment within the DA was attributed to a combination of factors which included inability to work due to severe illness (18.3%) and retirement (38.3%). However, the most significant cause of unemployment was the inability to find jobs despite actively seeking, represented by 42.2% of residents surveyed. Findings from development area workshops concurred with statistics as unemployment was a major issue discussed by residents. Residents from all six (6) communities expressed their concern at unemployment rates and suggested that more employment opportunities be created to provide jobs for residents.

Economic Activity

The core economic activities practised throughout the DA are agriculture, small scale commercial activity, construction and quarrying (SDC Household Survey, 2015). In Balaclava most persons were employed as service, shop and market sales workers represented by approximately 35%. Skilled agriculture and fishery workers accounted for approximately 30% followed by professionals who made up approximately 15% of the community. Other categories represented were craft and trade workers (9.3%), elementary occupations (9.3%) and plant and machine operators (1.8%). In Quickstep, the majority (44%) of household heads were employed in agriculture and fisheries. Craft and related trade workers represented twenty percent (20%). Service, shop and market sales workers and elementary workers were represented by sixteen percent (16%) of the community in each category; professionals accounted for four percent (4%). In Bogue over a half (50.9%) were employed in agriculture and fisheries. Elementary occupations and service and sales workers were each represented by 12.7% of residents. Other significant employment categories were crafts and trade workers (9.1%) and professionals (7.3%). Approxi-



mately 49% of Bogue were employed in agriculture and fisheries and a further 21% were service and sales workers. El occupations also accounted for a significant amount of the population with 12%. In the Balaclava community only 26.6% of residents said they did not depend on other sources outside of their income for financial assistance.

The same was true of approximately 22% of residents in Roses Valley, another 22% in Bogue and approximately 23% in Quickstep. The most significant outside source of income for all cases was state assistance followed by local friends and family. Additional sources of income included remittances and windfall receipts.

Built Environment & Infrastructure

Transportation & Road Network

Public transportation was the most utilised mode of transportation by DA residents. A combination of licensed and unlicensed (robot) taxis were used in all the communities surveyed. On average robot taxis were used by approximately 39% of residents whereas licensed taxis were used by almost 67% of residents. The second most used mode of travel was by bus; represented by 16% of the residents surveyed. Travel by private automobile was minimal in the individual communities. On average approximately 14% of respondents travelled by cars owned by a household member which is an indication of motor vehicle ownership within the DA. Balaclava was indicated as having the highest number of motor vehicle owners as thirty (30%) or respondents said they travelled by way of a household member's car. Other methods of transportation included bike, taxis, bicycles, trucks and donkeys; however only a small percentage of persons utilised these. Despite the availability of various modes of transportation, a significant number of persons (16%) indicated they used none. During community consultation workshops poor road conditions were among the key infrastructural issues discussed by community members, particularly by residents of Balaclava, Bogue and Siloah. Additionally, the DA is in need of additional

street lights; particularly within the community of Bogue and in Balaclava's town area.

Housing & Land Tenure

Much of the Balaclava DA's housing stock depicts popular housing styles from the late 1800's and the 20th century known as peasant houses. There are several of these houses still in existence throughout the DA which still serve as homes for families and are in fair condition. However housing styles have evolved over the more recent decades and with it, the housing materials which are used. In Balaclava DA houses made from concrete and blocks dominated the housing stock with an average of 72% of houses having been made from the materials. The highest percentage of houses made from concrete and blocks was found in Bogue (84%) and the area with the least was Roses Valley with approximately 55%. Houses constructed with wood and or board was the second most prominent with 14%. A significant percentage (6.8%) of houses were constructed of old building materials such as wattle and daub and Spanish wall. Other housing materials which accounted for only a minute number of the houses documented included brick and zinc. The majority (51%) of houses throughout the DA were in fair condition and approximately 21% were in good condition. A significant number needed renovation as they were either in poor (19%) or very poor condition (6%); only 3% were deemed to be in very good condition. During community consultations residents discussed the potential for new housing developments and sited that space was available throughout the DA, particularly on the boarder of Bogue and Georges Valley.

Home ownership in the DA is consistent with St. Elizabeth's figures throughout the Parish with an average of 80% ownership. However ownership of the land they occupy is significantly less with an average of 62.1% of residents owning the land they live on. A significant percentage of residents live on family owned land represented by 27% of residents surveyed. Another 5.3% rented the land they occupied while approximately 2.6% admitted to living on captured land. A minute 1.3% persons reported living under



other tenure statuses while others offered no response to the question. During community workshops residents from Balaclava and Siloah sighted squatting on estate land and the presence of large expanses of unused government land as major issues. Residents of Quickstep and Aberdeen had similar problems where access to land was restricted. To alleviate these problems residents suggest that lands are sold at reduced rates and squatter settlements undergo regularisation.



Water Supply

Of the communities surveyed only a minute percentage reported having potable water particularly from public water sources. In the Balaclava community households which received water from public sources (piped into dwelling, standpipes, trucked by NWC or public catchment) accounted for 30.3%. In Roses Valley and Quickstep the same was true for 12.7% and 5.4% of households respectively. Bogue was the exception as the majority (70.5%) of households utilised public water sources. In all other cases the majority of households utilized private sources of water which included catchments, piped into dwellings and rainwater harvesting. In Balaclava private sources were used by a combined 68% with the majority (33.0%) using piped water and a further 24.8% using catchments. Privately sourced water was used by a combined 86.7% of households in Roses Valley; the majority of which (67.8%) used private catchments. In Quickstep 78.2% of households sourced their own water with approximately 60% using private catchments. During community workshops residents of Bogue were the only residents to report issues with water. They complained of low water supply and recommended that infrastructure be improved for better service delivery. Whereas households in other communities sourced their own water, Bogue residents were more reliant on potable water. However only a minute

percentage was piped into dwellings therefore a significant number (32.4%) of households used public standpipes. This was higher than the rural average for standpipe use which was 11.4%.



Electricity

Electricity was the main power source used throughout the development area. In Balaclava, Bogue, Quickstep and Roses Valley this was represented by 89%, approximately 85.6%, approximately 82% and 78% respectively. The second most utilized source of lighting for households was kerosene which was used by an average of 15.3% of households in communities surveyed. Other sources used included bottle torches, candles and battery powered lamps. During community consultations residents of Quickstep and Aberdeen expressed the need for improved access to electricity.

Communications

Telephone and Cellular phone usage within the DA is very pronounced with nearly full usage in Balaclava (97.2%). Approximately 89% had cellular phones however a much smaller percentage (11.3%) of households had land lines. A similar picture was painted in the rest of the surveyed communities. In Bogue 95.2% of residents accessed telephone services with cellular phone usage being more prominent than land lines. In Roses Valley and Quickstep telephone service were accessed by 92.4% and 87.3% of residents respectively. Where internet access was concerned, home access by DA resident was much less significant than telephone usage. In the community of Balaclava, 23% of households had home access to the internet. This however was higher than the rural average of 11.9%. In Bogue, Roses Valley and Quickstep home access to the internet was represented by 21.4%, 15.25% and 12.7% respectively. All the surveyed communities surpassed the rural average however there is room for expansion on infrastructure to make the service more accessible to residents. In community consultations residents of Bogue expressed similar sentiments.

Existing Land Use

6.1 Development Areas

Black River

Generally, natural environments such as wetlands, grasslands and woodlands dominate the Black River land uses. Although there is significant residential use, there is equally as much vacant land dispersed amongst it. Active land use is typically found in the township of Black River and along main arterial roads but is significantly absent from coastal regions. Black River's river (from which the Town got its name) is enveloped and protected from potentially harmful development by vast wetlands. Figures 7, 8 and 9 provides a detailed visualisation of the general land use patterns in Black River. This data was collected in land use surveys by the SEPDC in 2013- 2014. The land use categories will be discussed in detail below.

Residential

There are three main residential nodes in Black River. The first is established in the East of Black River in Vineyard, adhering to Crane Road. The second is within the town of Black River itself, dispersing along the projecting main roads, High street and Central road. The last settlement is found in the west in Brompton where residential land neighbours the grasslands.

Agricultural

Agricultural land is dispersed amongst grassland in Fullerswood and Salt Spring whilst also occurring on large plots of residential land to the north-east of Central road.

Commercial

Commercial areas in Black River are isolated to the immediate town centre of Black River, with some petrol stations along Central road and a few sites along Crane Road.

Light Industry

The industrial lands along Hodges road leading to Cambridge are the only sites for industrial land use; the plots sizes however are quite large.



Institutions

Institutional land uses are dominant in Black river, with several educational and financial institutions in the town. The remaining institutional sites in the development area of Black River are a school to the far north-east in Cattaboo and a school to the far south-east in Fullerswood.

Shrub and Woodland

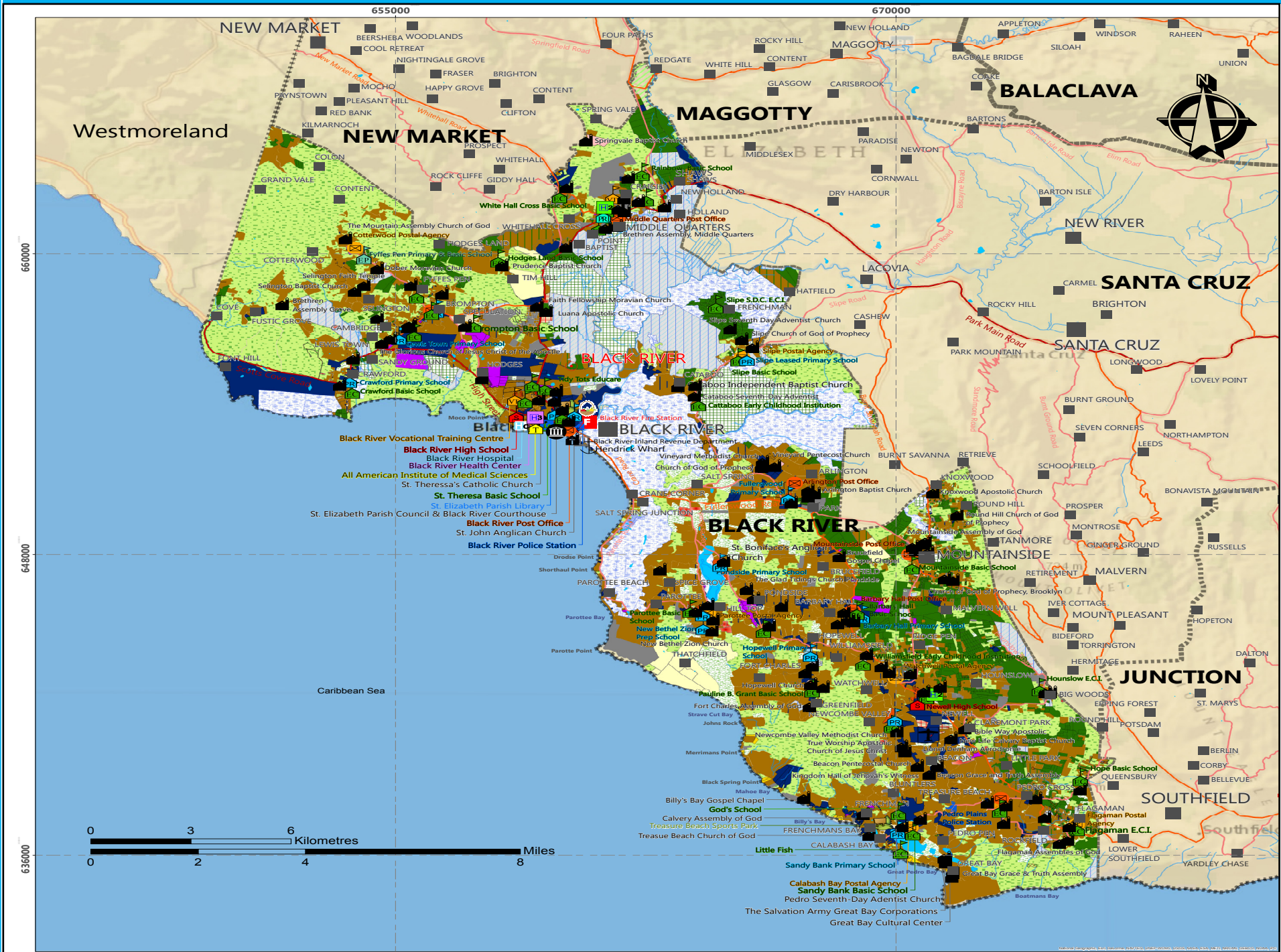
A large proportion of the east and west regions of Black River are covered by grassland, shrub and woodland.

Wetland and Ponds

A major wetland is found central of Black River, enveloping either side of the Black River, amounting to over a third of the land use in Black River.

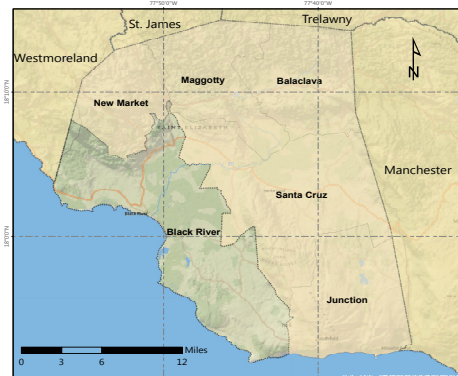
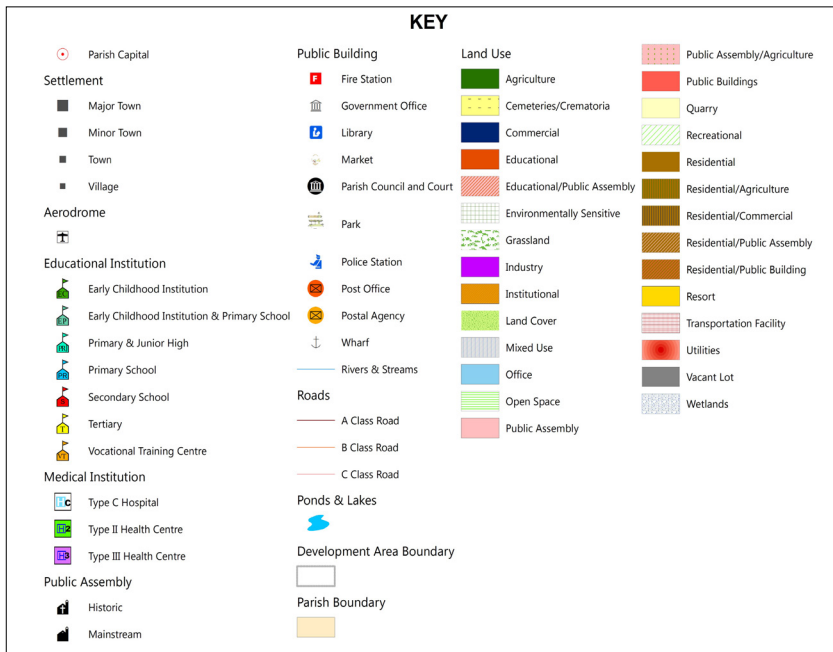
Figure 7: Black River DA, St. Elizabeth

BLACK RIVER



Source:
 National Spatial Data Management Division, 2011; National Works Agency, 2013; National Environmental & Planning Agency, 2013; St. Elizabeth Parish Council, 2014;
 National Geographic, Esri, DeLorme, NAVTEQ, UNED-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013

DEVELOPMENT AREA



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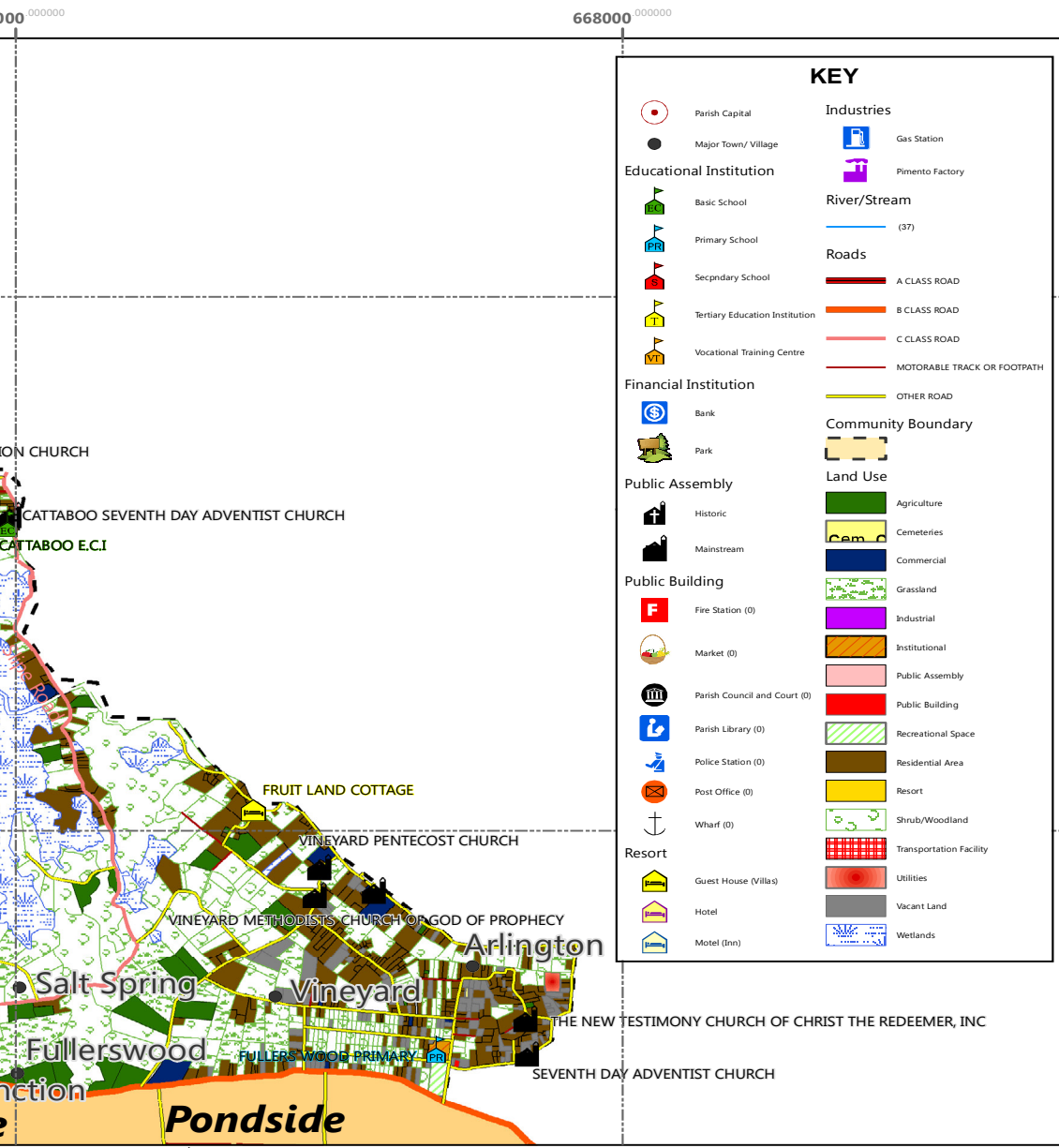
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BLACK RIVER COMMUNITY EXI

Figure 8:



EXISTING LAND USE



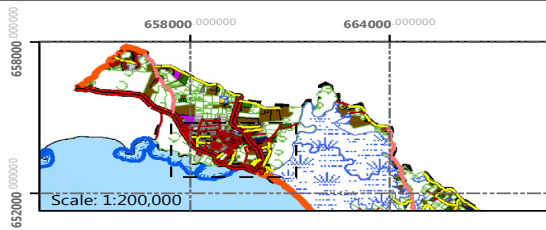
Greater Treasure Beach Sustainable Development Plan

Prepared by: Christina Francis
 Date Created: August 23, 2012
 Coordinate System: Lambert
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 Scale (Main): 1: 40,000
 Scale (Overview): 1: 750,000

Data source:
 1) Land Information Council
 of Jamaica (LICJ), 2011
 2) National Land Agency (NLA), 1998
 3) National Works Agency (NWA), 2011

Figure 9:

BLACK RIVER TOWN EXISTING LAND U



 Ministry of Local Government & Community Development



Canadian International Development Agency



National Housing Trust
...the key to your house



St. Elizabeth
Parish Council



National Environment and Planning Agency



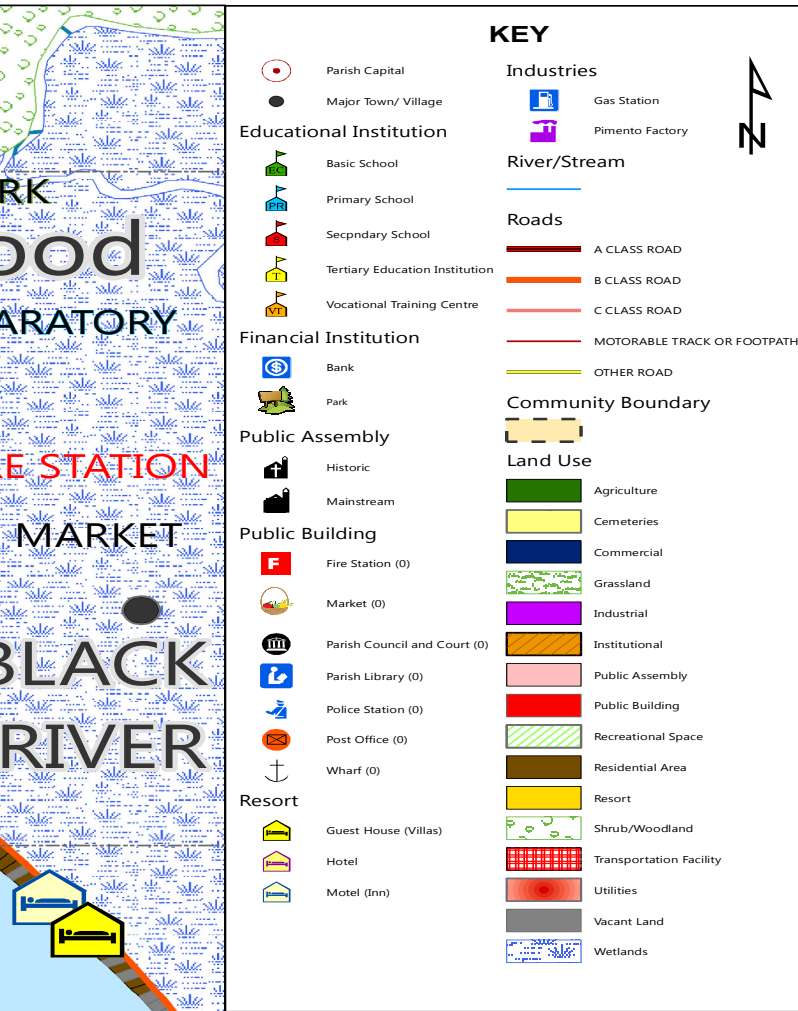
NAPDEC
National Association of Parish Development Committees



SOCIAL DEVELOPMENT COMMISSION
Building Communities...Building Jamaica

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Greater Treasure Beach Sustainable Development Plan

Prepared by: Christina Francis
 Date: August 23, 2012
 System: Lambert
 Scale: Conic
 Scale: 1: 15,000
 Scale: (view): 1: 750,000

Data source:
 1) Land Information Council of Jamaica (LICJ), 2011
 2) National Land Agency (NLA), 1998
 3) National Works Agency (NWA), 2011

Santa Cruz

In general, Santa Cruz is the most developed area within St Elizabeth with a widespread dispersal of activated land uses. With limited industry, Santa Cruz is a commercial and agriculture hub for the area. Figure 10 provides a detailed overview of Santa Cruz's land use patterns and institutional facilities. This data was collected in land use surveys by the St. Elizabeth Parish Development Committee (SEPDC) in 2013- 2014. The land use categories are discussed in greater detail below.



Residential

Residential land use is largely concentrated to the township of Santa Cruz, spreading towards the south and also outwards along Wilton road leading onto Pepper road. Residential use also exists along the western border abutting Black River. There is significant vacant land amongst the residential use in Santa Cruz and also large vacant lots exists between the southward spread of residential use from Santa Cruz and the utilities in the South. This allows for exploration of future development and growth in a highly serviced area of Santa Cruz.

Agricultural

The sizeable Sydney Pagan Agricultural High School is found to the north of Santa Cruz and is enveloped by agricultural land creating a large agricultural hub for the region. A passage of agricultural land runs southwards from here to Junction.

Commercial

Significant commercial use exists in Bartons, Dry Harbour and Retrieve.

Institutions

Santa Cruz is well serviced with schools, post offices, medical facilities, transport facilities and numerous churches, with particular high density of these institutions within the township of Santa Cruz.

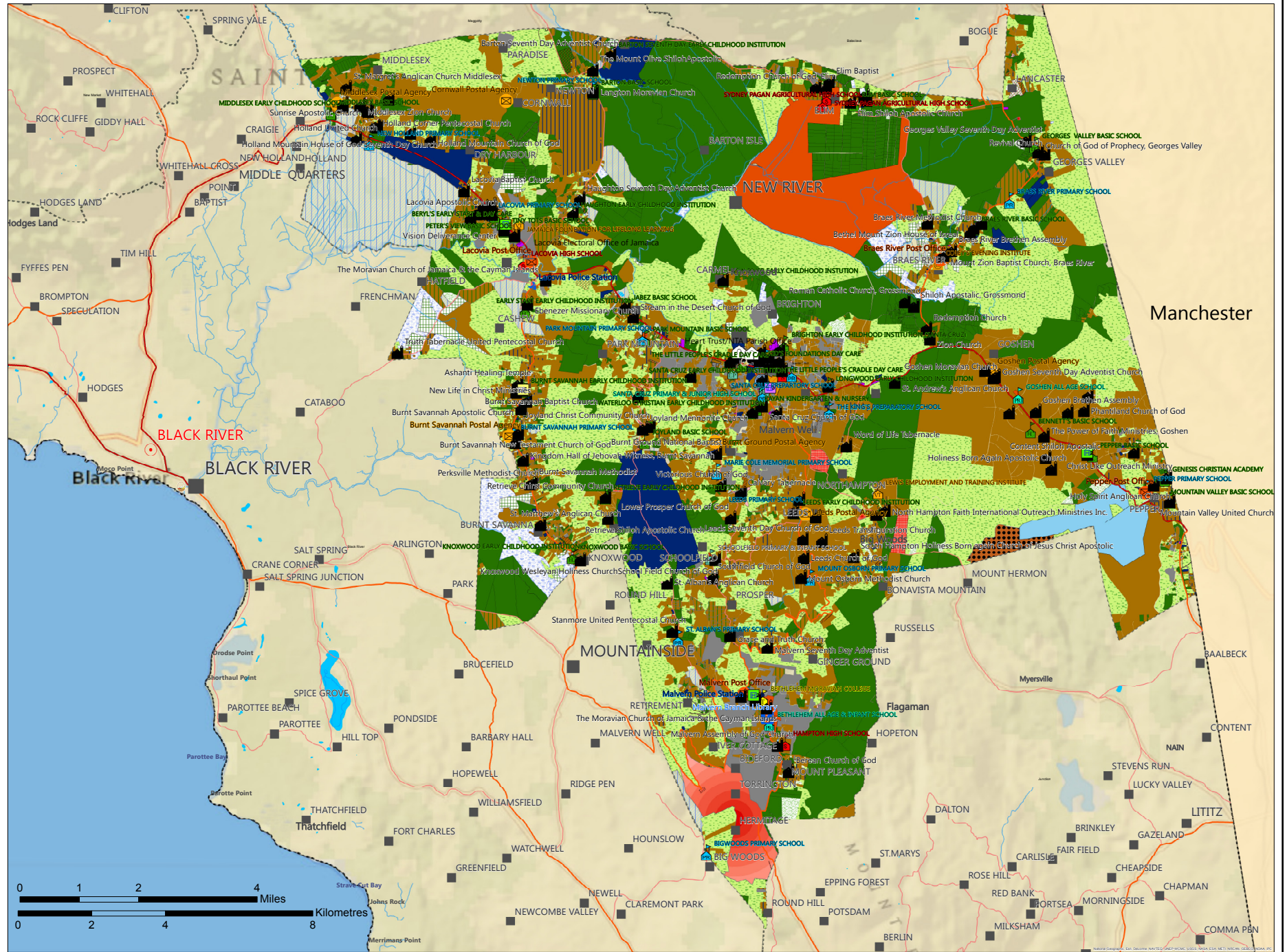
Land Cover, Lakes and Wetlands

Land cover is dispersed amongst the dense active use of Santa Cruz and a lake borders onto Junction in the south east of the development area. Small wetlands and environmentally sensitive areas exist in Braes River and Hatfield.



Figure 10: Santa Cruz DA, St. Elizabeth

SANTA CRUZ

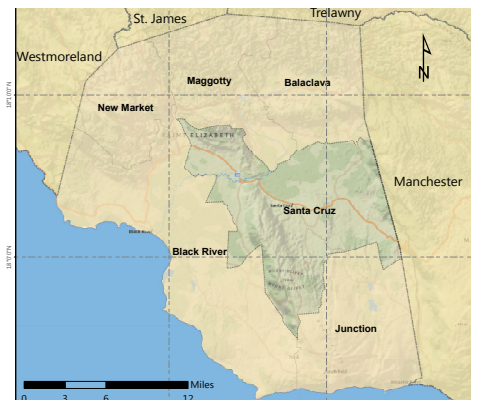


Source:
National Spatial Data Management Division, 2011; National Works Agency, 2013; National Environmental & Planning Agency 2013; St. Elizabeth Parish Council, 2014;
National Geographic, Esri, DeLorme, NAVTEQ, UNED-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013

DEVELOPMENT AREA

KEY

Settlement	Public Building	Land Use
Major Town	Library	Agriculture
Minor Town	Police Station	Commercial
Town	Post Office	Educational
Village	Postal Agency	Educational/Public Assembly
Educational Institution	Rivers & Streams	Environmentally Sensitive
Early Childhood Institution	Roads	Grassland
Primary School	A Class Road	Industry
Primary and Junior High	B Class Road	Institutional
Secondary School	C Class Road	Land Cover
Medical Institution	Ponds & Lakes	Mixed Use
Private Health Centre	Development Area Boundary	Office
Type II Health Centre	Parish Boundary	Open Space
Type III Health Centre		Public Assembly
Public Assembly		Public Assembly/Agriculture
Mainstream		Public Buildings
		Quarry
		Recreational
		Residential
		Residential/Agriculture
		Residential/Commercial
		Residential/Public Assembly
		Residential/Public Building
		Transportation Facility
		Utilities
		Vacant Lot
		Wetlands



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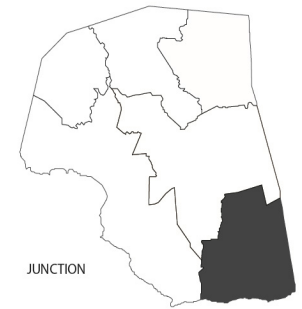
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Junction

Generally, Junction is a highly residential district with greater access to industrial uses rather than agricultural.

Junction boasts a largely undeveloped coastline, offering great opportunities for sustainable growth.

Figure 11 provides an overview of the land use patterns in Junction. This data was collected in land use surveys by the St. Elizabeth Parish Development Committee (SEPDC) in 2013- 2014. The land use categories will be discussed in detail below.



Residential

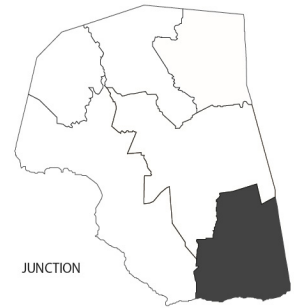
Residential plots scatter the entirety of the Junction development area with no clear settlement patterns. Significant vacant lots exist in Nain, Junction and Southfield allowing for high density residential settlements in the future. The only areas lacking residential settlements are the parcels enveloping industry in the north and coastal regions. Parcels of mixed use also exist in Junction, with a large lot on the coast leading into Black River (See Figure 11- Junction DA Land use Map)

Agricultural

Agriculture is scattered amongst the dispersed residential plots, with many sites being used for both residential and agricultural purposes. Larger plots of agricultural land are present in the north of Junction stretching from Santa Cruz to Manchester, however, agriculture within Junction is largely small scale, residential farming.

Commercial

Commercial areas in Junction represent the least dominant land use pattern with limited representation in community centres.



Industry

Large Industry in Junction is based in Myersville and also in a pocket along the coast, with large parcels of land being used for transportation facilities and landfill in the north. Markedly, industry in Junction is largely segregated from the distribution of residential use.

Institutions

Junction has many institutional facilities scattered across the district to serve the density of residential use. These include educational institutions, churches and post offices. The nursing home and health centre in Southfield, however, are the only medical facilities serving the area of Junction.

Land Cover

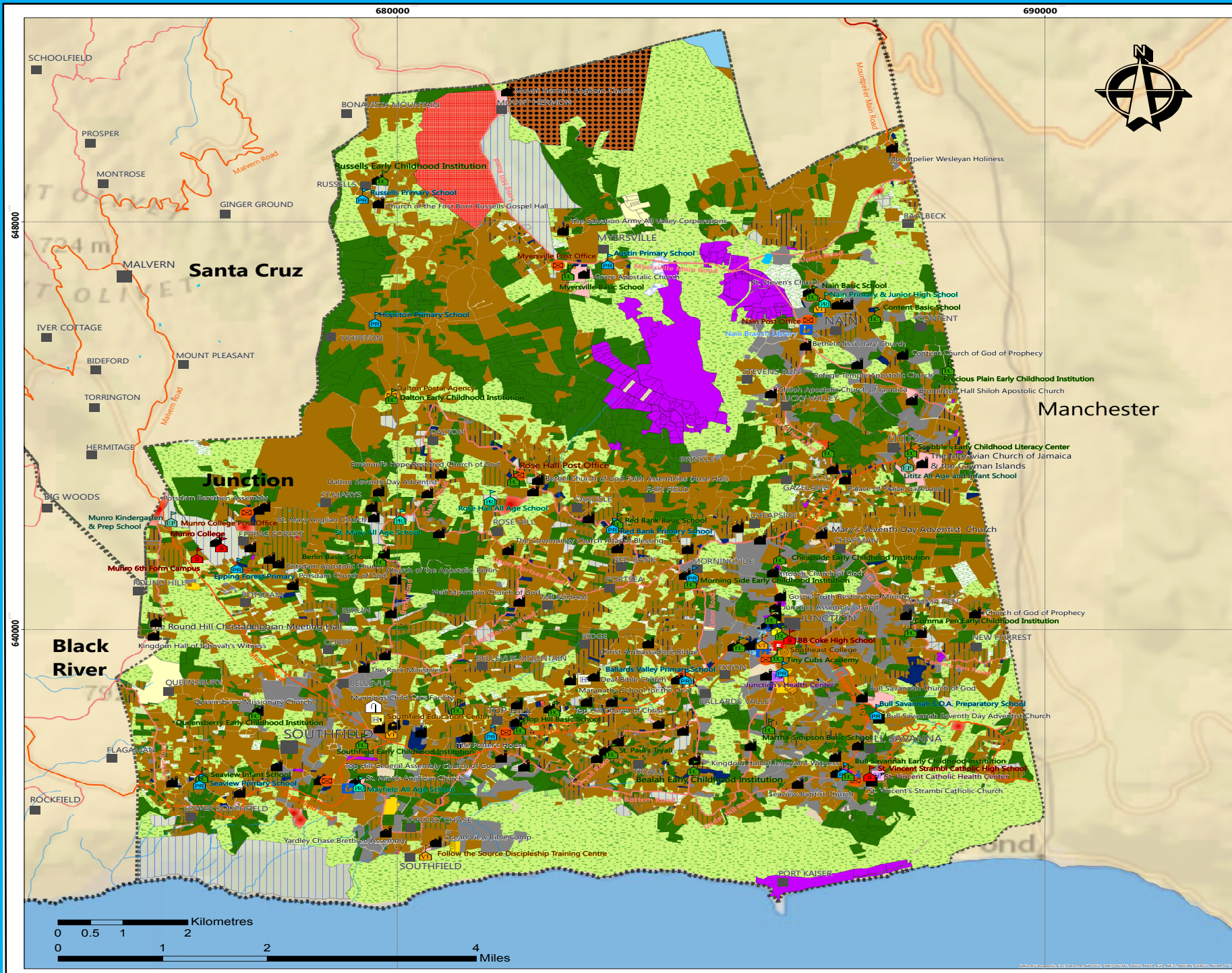
Natural, inactive land use in Junction is represented as 'land cover', which is scattered through the residential and agricultural land and aggregates in the North and along the coast. This use is slight in comparison to other development areas.

Grasslands, Wetlands and Ponds

Small patches of grassland and wetland exists near Nain and a lake is present in the northern corner, crossing into Santa Cruz.

Figure 11: Junction DA, St. Elizabeth

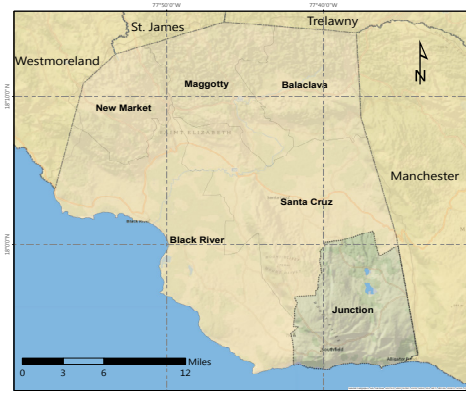
JUNCTION



Source:
 National Spatial Data Management Division, 2011; National Works Agency, 2013; National Environmental & Planning Agency, 2013; St. Elizabeth Parish Council, 2014
 National Geographic, Esri, DeLorme, NAVTEQ, UNEO-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013

DEVELOPMENT AREA

KEY		
Settlement	Public Assembly	Land Use
Major Town	Mainstream	Agriculture
Minor Town	Public Building	Cemeteries/Crematoria
Town	Fire Station	Commercial
VILLAGE	Government Office	Educational
Educational Institution	Library	Educational/Public Assembly
Early Childhood Institution	Market	Environmentally Sensitive
Early Childhood Institution and Primary School	Police Station	Grassland
Primary School	Post Office	Industry
Primary and Junior High	Postal Agency	Institutional
Secondary School	Rivers & Streams	Land Cover
Community College	Roads	Landfill/Dump
Tertiary	A Class Road	Mixed Use
Vocational Training Centre	B Class Road	Office
Medical Institution	C Class Road	Open Space
Nursing Home	Ponds & Lakes	Public Assembly/Agriculture
Private Health Centre	Development Area Boundary	Public Buildings
Special Facility	Parish Boundary	Quarry
Type I Health Centre		Recreational
Type III Health Centre		Residential
		Residential/Agriculture
		Residential/Commercial
		Residential/Public Assembly
		Residential/Public Building
		Resort
		Transportation Facility
		Utilities
		Vacant Lot
		Wetlands



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Maggotty

Generally, Maggotty is largely undeveloped in terms of residential development and agricultural use allowing the natural landscape to remain unscathed. There is however, an economic focus on industry within the Maggotty development area.



Figure 12 provides a general overview of land use patterns in Maggotty. This data was collected in land use surveys by the St. Elizabeth Parish Development Committee (SEPDC) in 2013- 2014. The land use categories are expounded below.

Residential

Residential areas within maggoty adjoin main roads in a low density manner. A large residential block exists in Accompong, representing the largest residential use in the district. In addition, mixed land use is present in the south in Merrywood and a significant amount of vacant plots are found in the north near Elderslie.

Agricultural

Agricultural patterns are similar to residential use; predominantly adhering to main roads. Agricultural land is extremely limited in Maggotty, particularly when examining it in the wider context of St Elizabeth as the 'Bread Basket' of Jamaica.

Commercial

Commercial use in Maggotty is significant when considered in the context of the lesser residential use patterns. Coker and Whitehall have access to sizable commercial land. However, the largest residential area in Maggotty, Accompong, has no access to local commer-



cial land use.

Industry

Industry represents the largest economic land use for Maggotty, with large industrial property to the east abutting Balaclava.

Institutions

Similarly to commercial land use, there is a reasonable quantity of institutional facilities for the low amount of residential land use. The institutional facilities for Maggotty include educational facilities, churches, medical facilities and postal services. Nevertheless, institutional services are potentially lacking in the district of Glasgow and Carisbrook.

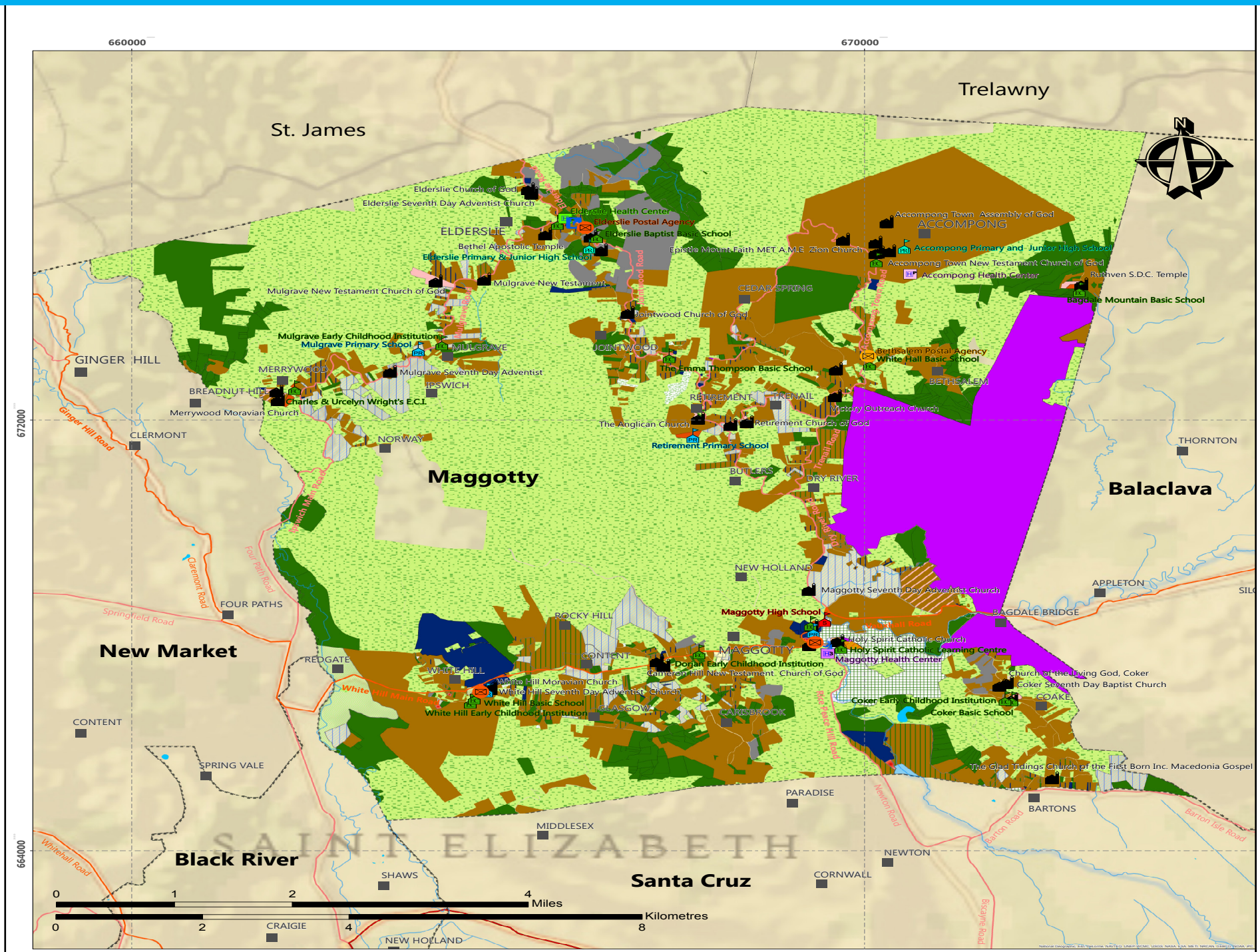
Land Cover

Over half the land use in Maggotty is categorized as Land Cover. Some grasslands are found in the community of Retirement.

Environmentally Sensitive Areas

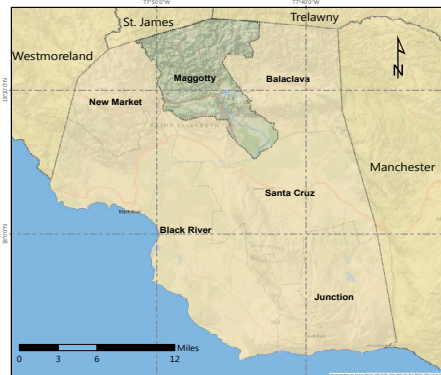
A parcel of environmentally sensitive land exists in the south-west below Maggotty's industry.

Figure 12: Maggotty DA, St. Elizabeth



DEVELOPMENT AREA

KEY		
Settlement	Public Building	Land Use
Major Town	Library	Agriculture
Minor Town	Police Station	Commercial
Town	Post Office	Educational
Village	Post Office	Educational/Public Assembly
Educational Institution	Postal Agency	Environmentally Sensitive
Early Childhood Institution	Rivers & Streams	Grassland
Primary School	Roads	Industry
Primary and Junior High	A Class Road	Institutional
Secondary School	B Class Road	Land Cover
Medical Institution	C Class Road	Mixed Use
Private Health Centre	Ponds & Lakes	Office
Type II Health Centre	Development Area Boundary	Open Space
Type III Health Centre	Parish Boundary	Public Assembly
Public Assembly		Public Assembly/Agriculture
Mainstream		Public Buildings
		Quarry
		Recreational
		Residential
		Residential/Agriculture
		Residential/Commercial
		Residential/Public Assembly
		Residential/Public Building
		Transportation Facility
		Utilities
		Vacant Lot
		Wetlands



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New Market

Generally, New Market is a significantly underdeveloped area. The district has a low density of residential use and little to no industrial or commercial uses. Large sites for agriculture are found within New Market, but inactive land cover dominates the development area. A general overview of the land use patterns in New Market can be seen in Figure 13 . This data was collected in land use surveys by the (St. Elizabeth Parish Development Committee (SEPDC) in 2013- 2014. The land use categories will be discussed in detail below.



Residential

Residential areas hug the four major roads- Happy Grove road, Springfield road, Ginger Hill road and Prospect road- many of these properties using the land in conjunction with agricultural or commercial purposes. Larger, purely residential plots adhere to the river which runs through the centre of New Market. Mixed use land is scattered amongst residential zoning, with notably large parcels found in Prospect and Whitehall. Large vacant parcels of land are also found in the west.

Agricultural

There are five large agricultural hubs in the New Market Development area. These are Ginger Hill, Claremount, New Market, Giddy Hall and one central to Brighton and Springfield- with smaller pockets dispersed throughout the district. Again, most residential land is also used for agricultural purposes.

Commercial

Commercial uses largely exist along Happy Grove road, but residential uses are often present in conjunction with commercial in the area of New Market. Additionally, commercial use is found in Rock Cliff and Ginger Hill but overall all this land use is minimal within the district.



Industry

Industry represents the least dominant land use pattern within New Market. A sole plot of industrial use is found near Clifton off Happy Grove road.

Institutions

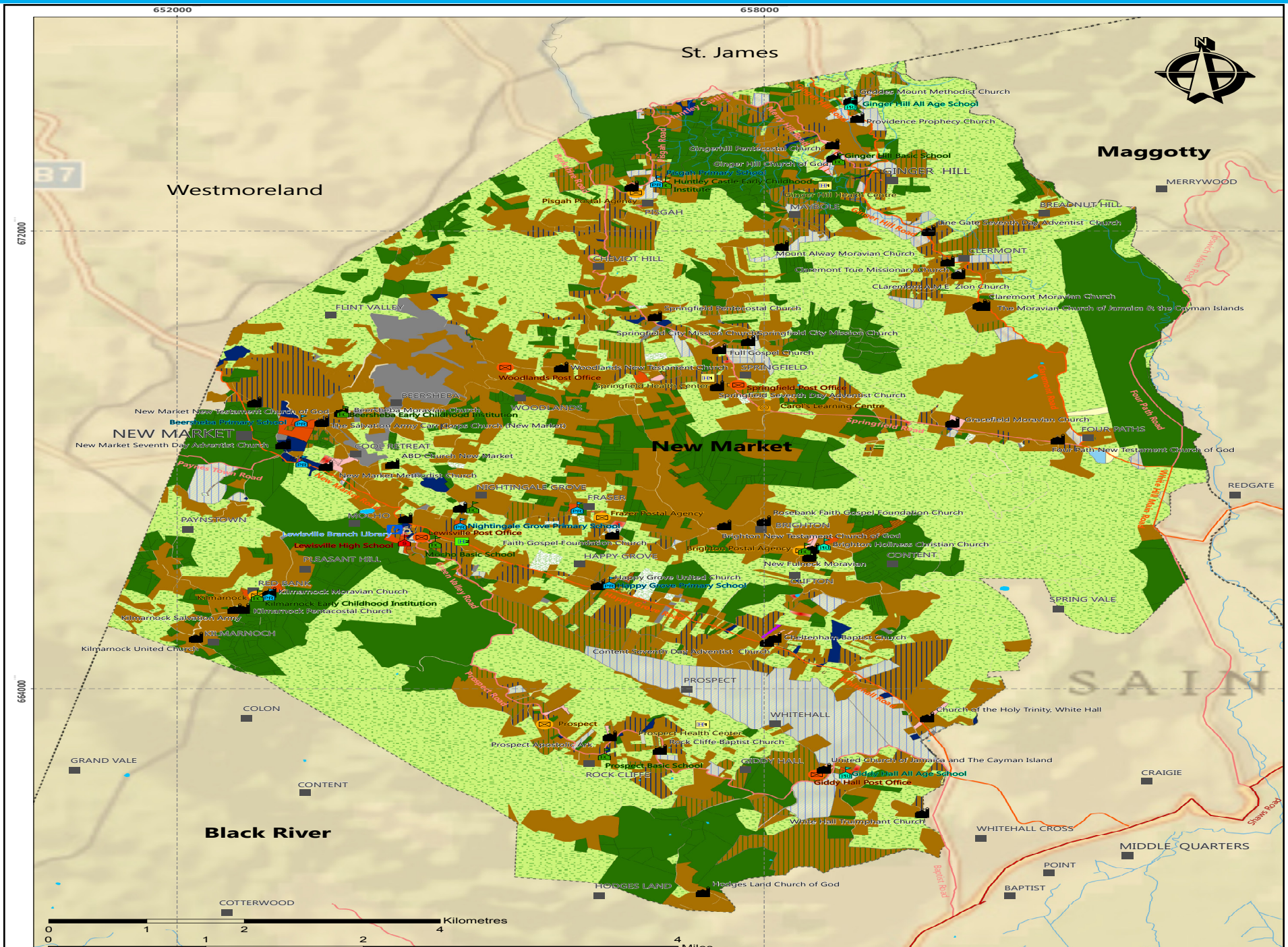
Institutional uses are concentrated to Happy Grove road, in Springfield and to the west near New Market. These include several post offices, various churches and some schools (mostly primary).

Land Cover and Grassland

Land cover represents the largest land use for New Market. Small plots of grassland exist on Happy Grove road.

Figure 13: New Market DA, St. Elizabeth

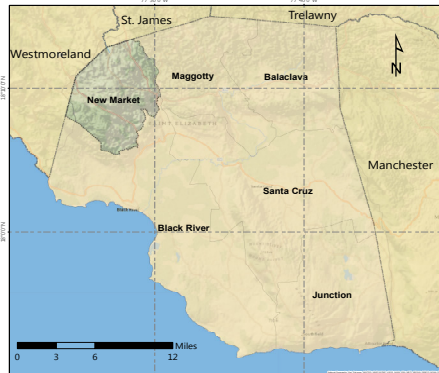
NEW MARKET



Source:
National Spatial Data Management Division, 2011; National Works Agency, 2013; National Environmental & Planning Agency, 2013; St. Elizabeth Parish Council, 2014
National Geographic, Esri, DeLorme, NAVTEQ, UNED-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013

DEVELOPMENT AREA

KEY		
Settlement	Public Building	Land Use
Major Town	Library	Agriculture
Minor Town	Market	Cemeteries/Crematoria
Town	Police Station	Commercial
Village	Post Office	Educational
Educational Institution	Postal Agency	Educational/Public Assembly
Early Childhood Institution	Rivers & Streams	Grassland
Primary School	Roads	Industry
Primary and Junior High	A Class Road	Institutional
Secondary School	B Class Road	Land Cover
Community College	C Class Road	Mixed Use
Public Assembly	Ponds & Lakes	Office
Mainstream	Development Area Boundary	Public Assembly
	Parish Boundary	Public Assembly/Agriculture
		Public Buildings
		Residential
		Residential/Agriculture
		Residential/Commercial
		Residential/Public Assembly
		Residential/Public Building
		Utilities
		Vacant Lot



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Balaclava

Agricultural and industrial uses account for a significant amount of the land use within Balaclava. Residential uses exist in well serviced, massed communities with vacant land available for further development. An overview of the detailed land use patterns and institutions within Balaclava can be found on figure14. This data was collected in land use surveys by the SEPDC in 2013- 2014. The land use categories will be discussed in detail below



Residential

Residential parcels are found in clusters to the east and west in Aberdeen, Balaclava and Bogue, branching off on arterial roads heading north to Whitehall and Marlborough. Vacant land is strewn in with residential uses in the district south of Rahene road in Aberdeen and in the district of Balaclava on the border of Manchester. Notably, residential use is limited in Balaclava but a significant block of mixed use land is found central to the residential uses.

Agricultural

A large section of agricultural land is found in the centre of Balaclava with large plots also bordering onto Santa Cruz. Agriculture is scattered amongst the residential clusters, with many residential lands also being used for agricultural purposes.

Commercial

Limited commercial uses are established in Balaclava, with a few sites found in Whitehall, Marlborough and within each main residential cluster.

Light Industry

A significantly large site for industrial use is found in the south-west of Balaclava with smaller lots also bordering Maggotty further north. There is also an additional medium sized lot located in the south-east of the district in Bogue.



Institutions

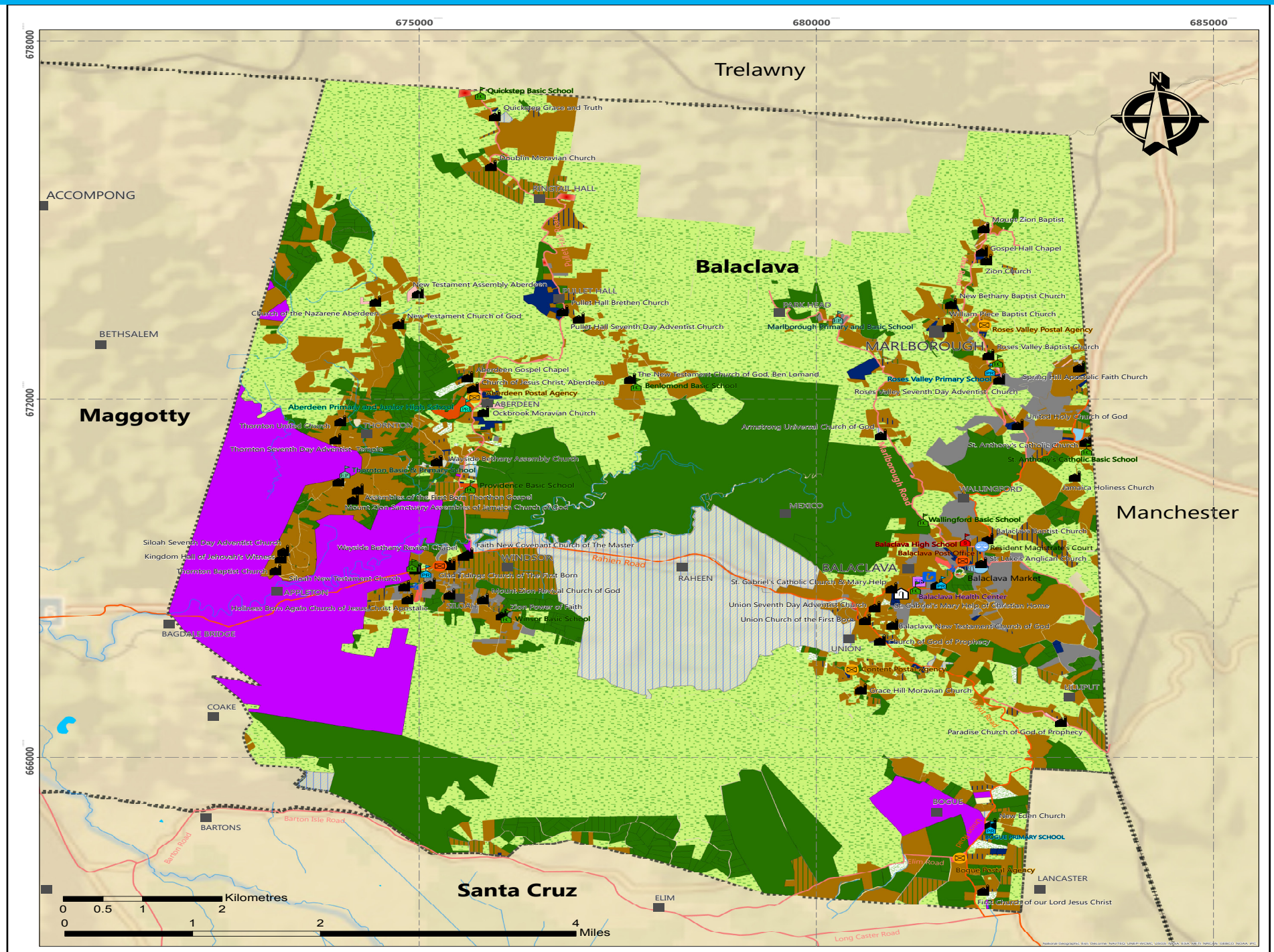
Institutional uses, in the way of educational institutions, are found in the township of Balaclava, one in Bogue, one in Marlborough and others in Aberdeen. There are also 6 postal institutions in the Balaclava development area, with Whitehall being the only community lacking local postal services. Additionally, there are numerous religious institutions scattered throughout the district.

Land Cover

Natural, inactive land use in Balaclava is represented as 'land cover', which accounts for approximately half the land use for the area of Balaclava. It is segmented into a northern and southern section by agriculture, residential and mixed use zoning.

Figure 14: Balaclava DA, St. Elizabeth

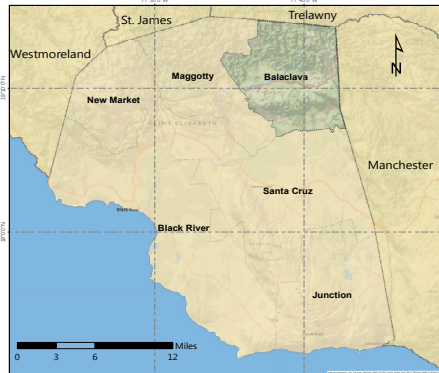
BALACLAVA



Source:
National Spatial Data Management Division, 2011; National Works Agency, 2013; National Environmental & Planning Agency, 2013; St. Elizabeth Parish Council, 2014
National Geographic, Esri, DeLorme, NAVTEQ, UNED-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013

DEVELOPMENT AREA

KEY		
Settlement	Public Building	Land Use
Major Town	Court House	Agriculture
Minor Town	Government Office	Cemeteries/Crematoria
Town	Library	Commercial
Village	Market	Educational
Educational Institution	Police Station	Educational/Public Assembly
Early Childhood Institution	Post Office	Grassland
Early Childhood Institution and Primary School	Postal Agency	Industry
Primary School	Rivers & Streams	Institutional
Primary and Junior High	Roads	Land Cover
Secondary School	A Class Road	Mixed Use
Medical Institution	B Class Road	Office
Nursing Home	C Class Road	Open Space
Type III Health Centre	Ponds & Lakes	Public Assembly
Public Assembly	Development Area Boundary	Public Buildings
Mainstream	Parish Boundary	Quarry
		Recreational
		Residential
		Residential/Agriculture
		Residential/Commercial
		Residential/Public Assembly
		Utilities
		Vacant Lot
		Wetlands



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6.2 St. Elizabeth Proposed Points of Interest

The direction of future land use within the Parish is strongly concomitant to proposed development. The Points of Interest map (figure 15) highlights the key development proposals derived from the extensive community consultation carried out by the St. Elizabeth Parish Development Committee (SEPD) in 2014. Any future land use and proposed development will strive to compliment the communities' existing land uses to ensure it offers maximum benefits for each community's growth. In general, the bulk of proposed development is located in the south; from Black River, continuing along the coast. Community facilities and utilities dominate the proposed uses. The proposed developments and points of interest are discussed in greater detail below.

Commercial

Major commercial development is proposed for the township of Black River. This includes an updated market to involve craft sales and the proposal by the Port Authority of Jamaica to expand the harbour to include a port for cruise ships. Moreover, there is a desire for a supermarket and plaza to be developed in Malvern as there is currently little commercial land use and a need for greater competition to lower local prices.

Tourism

Tourism offers an opportunity for economic growth within the Parish and as a result various tourism-based developments have been proposed. A large focus for tourism exists along the coastline, with proposals for the introduction of a water sport facility, tourist attractions and beach upgrades in the Treasure Beach community. Moreover, it is desired that a Rest Stop and Information Centre be constructed along Whitehill Main road in Maggotty to assist the movement of tourist around the Parish. The development of eco or adventure tours within the parish with Potential attractions such as caves in Ipswich as well as the historic train track and station in Maggotty Development area.

Utilities

To meet the varying requirements of the residents of St Elizabeth Parish, various water and energy land uses have been proposed to improve the overall liveability of the Parish. These include the construction of water catchments in Ginger Hill and Santa Cruz, a waste

treatment plant and recycling collection facilities in Black River, and solar energy facilities along Treasure Beach.

Community

There is a growing need for the development and restoration of community centres within the Parish to promote career training and community integration. The development of community centres has been proposed for Ginger Hill, New Market, Middle Quarters and Treasure Beach. Moreover, it has been proposed that a Parish Council branch/tax collection outstation be constructed in Junction and that Lititz be serviced with a public cemetery.

Emergency Services

It is suggested that the south of St Elizabeth Parish could be more sufficiently serviced by emergency services. It is proposed that police stations be engaged in Santa Cruz, on the border to Manchester, and in Treasure Beach. Additionally, a fire station is required in Malvern. A second fire station is also proposed for the northern section of the parish.

Agricultural

There is marked opportunity for economic growth through agro-processing facilities within the Parish of St Elizabeth due to the current abundance of agricultural land use. Consequently, numerous proposals for processing plants are evident in Ginger Hill and along Treasure Beach/Pedro Plains area.

Financial

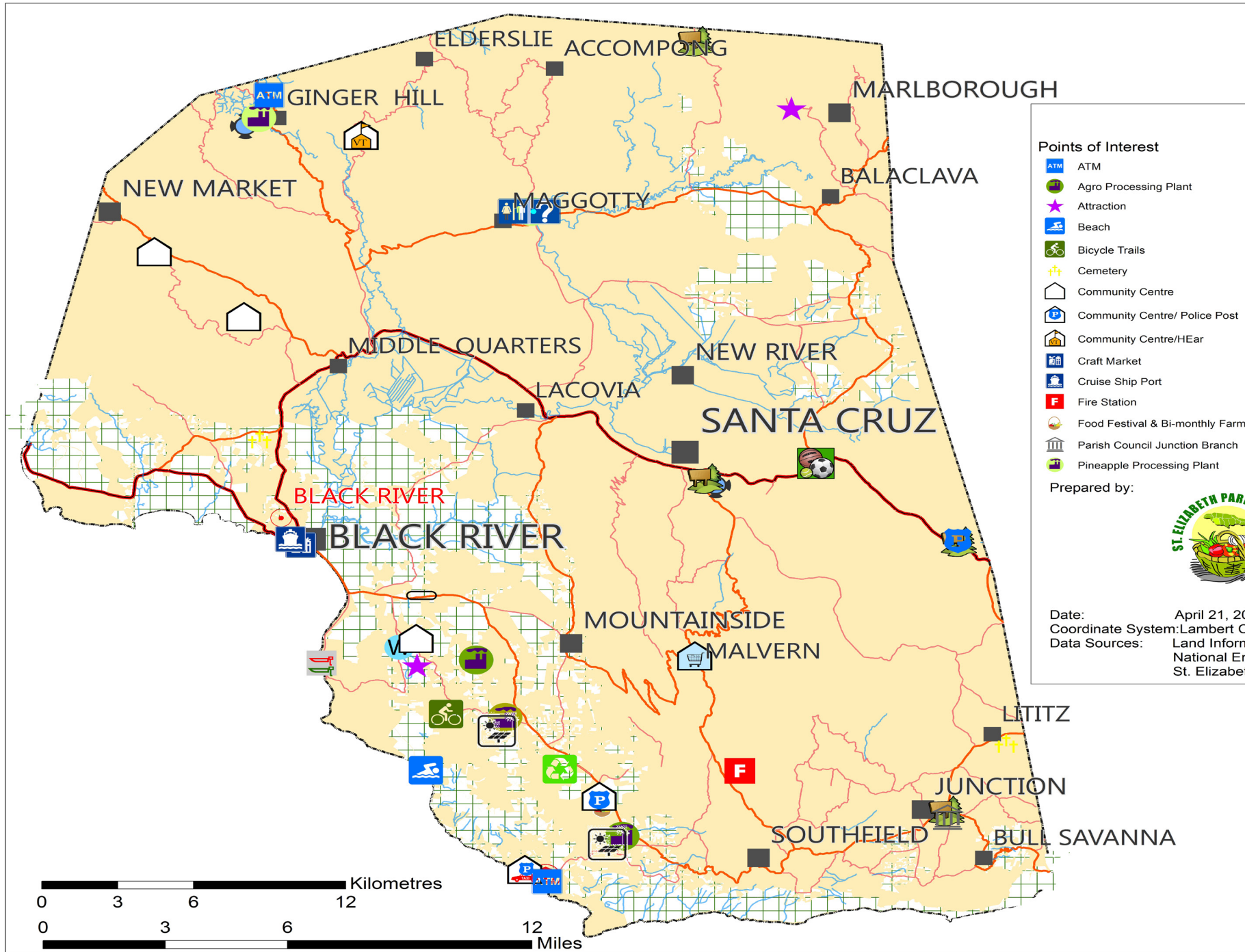
Ginger Hill and Treasure Beach require the installation of ATM facilities due to the current lack of such services in these communities.

Environment and Recreation

An increase in both natural public spaces and recreational facilities within the Parish will benefit both local residents and tourists. Therefore the development of park spaces in Accompong, Santa Cruz, Pepper and Junction have been proposed, as well as a mini sports stadium in Santa Cruz and a bicycle trail along Treasure Beach.

Proposed Points of Interest and Environmentally Sensitive Areas

























Figure 15:



Sensitive Areas Map



KEY

- | | | | |
|---|---------------------------------------|---|------------------|
|  | Medical Centre/Doctor Office/Pharmacy |  | Parish Capital |
|  | Mini Stadium | Settlement | |
|  | Park |  | Major Town |
|  | Peanut Factory |  | Minor Town |
|  | Plaza/Supermarket |  | Town |
|  | Police Post |  | Rivers & Streams |
|  | Horse Race Track | Roads | |
|  | Recycle Collection Centre |  | A Class Road |
|  | Rest Stop/Information Centre |  | B Class Road |
|  | Solar Farm |  | C Class Road |
|  | Supermarket/Plaza | Environmentally Sensitive Area | |
|  | Transportation Centre/Police Post |  | |
|  | Water Catchment | Parish Boundary | |
|  | Water Sports |  | |
|  | Water Treatment Plant | | |

ers Market



2015
Conformal Conic
Information Council of Jamaica, 2011
Environment & Planning Agency, 2013
South Parish Development Committee, 2014

6.3 St. Elizabeth Land Use Intensity

In analyzing land use intensity, the Parish can be split into three sections. The first is inland and at a higher topography and is dominated by forest, intensive agriculture and low density residential land use. The second, in the centre of the Parish, stretches from the coast of Black River heading east to Manchester and is dominated by medium density residential areas, wetlands and pastures. Lastly, the third section is located to the south of the Parish, stretching along the coast and is principally high intensity mixed agriculture and residential land use (see Figure 16).

Forest

Forest landscapes dominate the north of the Parish and areas of higher topography, particularly on the borders to St James and Trelawny. A thin strip of forest reaches south through the Parish to Malvern, following the pattern of mountainous ranges.

Shrub and Woodland

Shrub and Woodland is dispersed throughout forest in the north but predominantly surrounds the township of Santa Cruz amongst pastures.

Agriculture and Pastures

Intensive mixed agriculture is present amongst forest in mountainous ranges, but is principally present to the south of the Parish. Pastures, both improved and unimproved, dominate the landscape between Black River and Mountainside and envelopes the township of Santa Cruz.

Sugar Cane

Sugarcane is found in the lower regions of the mountain ranges near Middle Quarters, along Raheen road and near New River. Uncultivated sugar cane exists amongst the scattered cultivated sugar cane near New River.

Wetlands and Hydrology Systems

A network of waterways branches out from the inlet at Black River, diverging out north and north-east towards Ginger Hill, Middle Quarters, New River and Marlborough. Wetlands are intensive to Black River, enveloping the river systems branching out from the inlet and continuing south along the coast.

Industrial area

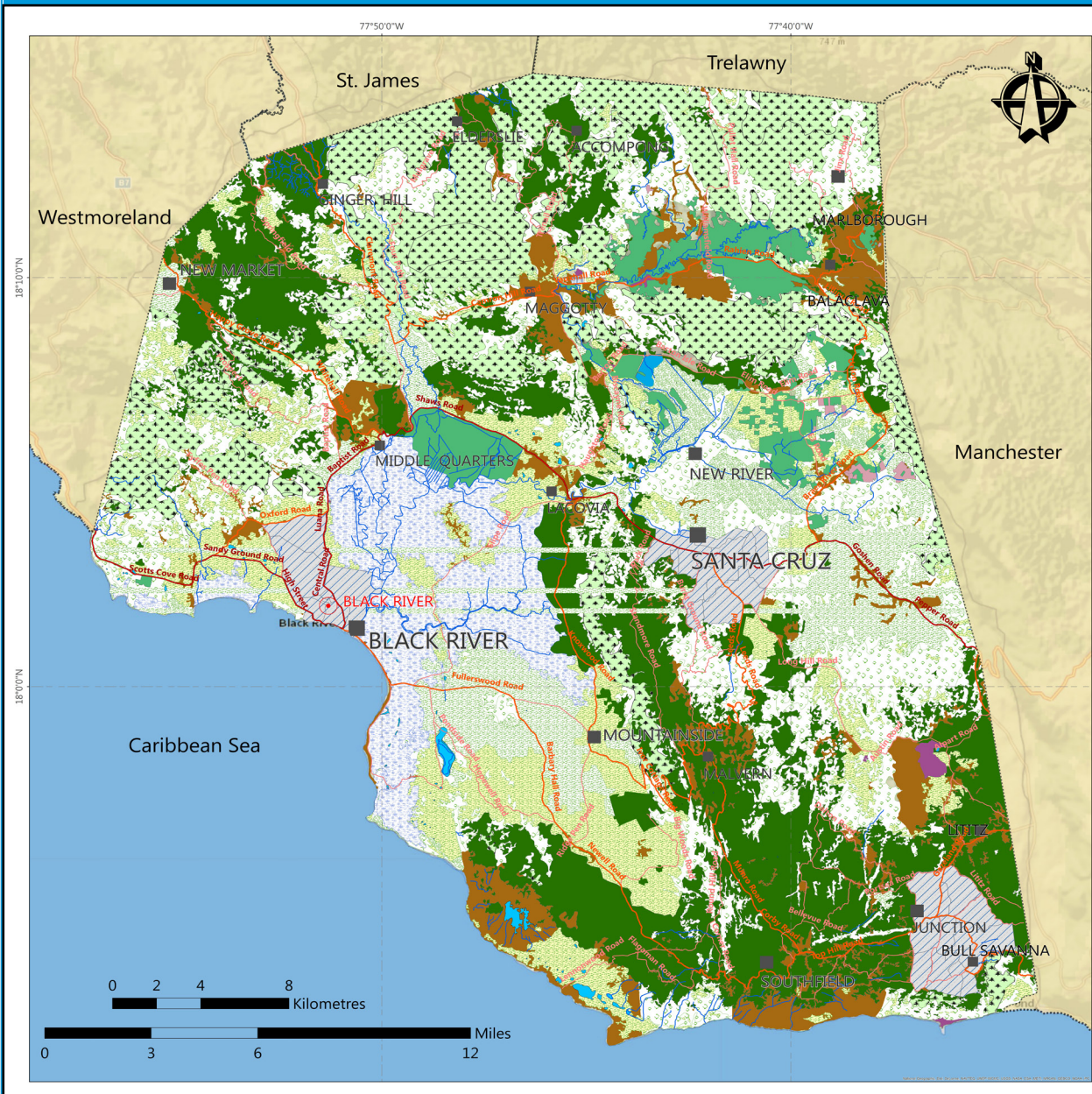
Industrial land use is the least dominant land use for the Parish with only a small section of land found north of Lititz.

Residential area

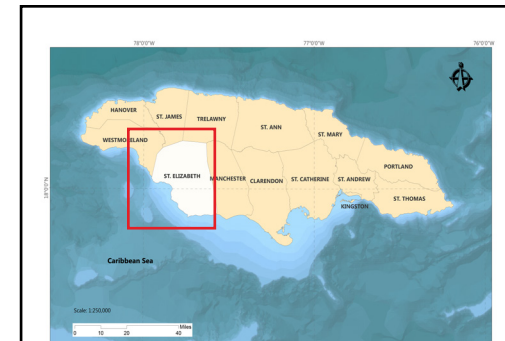
The townships of Black River, Santa Cruz and Junction are the three localities for medium density residential land use in the Parish. Low density residential areas dominate the southern coastal region of the Parish but also cluster along major roadways throughout the Parish.

Figure 16:

EXISTING LAND USE INTENSITY



KEY		
	Parish Capital	
Settlement	Land Use Category	
		Forest
		Shrub/Woodland
		Improved Pasture
		Unimproved Pasture
		Intensive Mix Agriculture
		Sugar Cane
		Uncultivated Sugar Cane
		Mangrove
		Wetlands
		Pond and Lake
		Industrial Area
		Low Density Residential Area
		High Density Residential Area



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 Datum: World Geographic System, 1984

Prepared for:



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Source:
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 National Geographic, Esri, DeLorme, NAVTEQ, UNED-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC, 2013

Development Strategies

Goal 1: Natural Environment

Goal: Ensure growth and development do not conflict or compromise the state of the natural environment

Objectives:

- Improve the management and quality of our water resources
- Monitoring and restoration of degraded natural resources
- Protecting the parish's ecosystem and biodiversity

Strategic Directions/Actions:

Improve the management and quality of our water resources

Monitor flow, sedimentation and development alongside streams, rivers and wells to improve data collection and analysis to ensure efficient water resource management. Increase water sampling and testing to monitor water quality. Improve sanitation and water treatment efforts. Developing a plan for the management of water resources outlining catchment, demand and supply. Restrict the use of rivers for bathing, laundry and washing vehicles.

Monitoring and restoration of degraded natural resources

Allow resources sufficient time to self-generate and treat the cause rather than the symptoms of degradation. Incorporate biological and environmental spatial variations into decision-making and plan design. Ensure monitoring protocols are established to better adaptive management. Educate stakeholders on possible alternatives, opportunities, costs and benefits through restoration. Engage all

the relevant sectors in the planning and implementation stages of resource protection and monitoring. Create community initiatives towards environmental restoration (replanting, stabilise gullies, windbreaks). Protect biodiversity through reforestation of degraded areas.

Protecting the parish's ecosystem and biodiversity

Legislate for the recycling of degradable products and the discouraging of burning and burying garbage. Eliminate the use of pit latrines and absorption pits in schools and residences in exchange or dry composting toilets to reduce the risk of groundwater contamination (refer to appendix). Information and awareness- raising through communication campaigns focussing on single issues; the use of multimedia and advice on incorporating practical solutions. Revitalise school pilot projects on substantial practices and legislate for sustainable development in relevant school curricula. Develop “eco-schools” to adopt environmental approaches to waste management, buildings, energy and material use. Promote sustainable household consumption practices. Promote “agro-ecology” through improved water management, site specific and resource efficient production, pest and nutrient management and the restricting of slash and burn. Protection and management of wetlands and forests from development and clearing for agricultural purposes.

Goal 2: Disaster Mitigation and Management

Goal: Improve the disaster mitigation and measures supporting climate resilient communities and reduction of disasters on communities

Objectives:

- Pursue a greater understanding of the region's hydrology system and flood patterns
- Reduce the impacts of drought
- Enhance effective preparedness, response and recovery
- Ensure quality risk information is available informing planning and implementation
- Improve resilience through disaster risk reduction and climate change adaptation measures
- Promote agricultural practices that protect crops from the impacts of climate change

Strategic Directions/Actions:

- Pursue a greater understanding of the regions hydrology system and flood patterns
- Conduct drainage and flooding studies for the parish.
- Continuous flood risk mapping carried out.
- Assess all surface water bodies, locate aquifers and groundwater and effective rainfall mapping.

Reduce the impacts of drought

The storing and moving of water is an important activity to be enforced by the Parish Council. The development and maintenance of water pipelines and canals to transport water from wells and reservoirs. The location, management and monitoring of ground water to drill wells for irrigation or drinking purposes. Explore desalination. Enforce rain water catchment systems, water saving devices and composting toilets within residences. Water conservation by farmers through drip irrigation and irrigation systems that spray water with less force reducing the amount with less evaporation. Promote the recycling of water.

Enhance effective preparedness, response and recovery

Strengthen systems targeted towards preparedness, emergency response and recovery; ensuring community awareness. On- going training, inter- agency planning and operational drills conducted by emergency management agencies throughout schools and both public and private sector. Install effective early warning systems. Ensure emergency shelters are accessible, equipped with supplies and evenly distributed. Audit and manage community centres to effectively serve as shelters. Establish disaster stores or warehouses to contain necessary supplies and food in the event of a disaster.

Ensure quality risk information is available informing planning and implementation

Assess vulnerabilities linked to natural and man- made disasters and those associated with climate change in order to provide reliable risk information and establish monitoring systems. The use of both modern technology and traditional knowledge systems to monitor and assess risks and vulnerabilities, monitoring water supply, spatial mapping, modelling susceptible areas and documentation reviews. Be aware of the needs of women, people with various disabilities and vulnerable groups when planning and enforcing disaster response.

Improve resilience through disaster risk reduction and climate change adaptation measures

Enforce governance arrangements for climate change adaptation or disaster risk management. Strengthen infrastructure through effective planning, design and enforcement in condition, location and safe guarding necessary services. Establish long term water security measures for the parish. Promote renewable sources to lower energy risks and the carbon footprint. Ensure collaboration across all government bodies in working with communities in combatting hazards and anticipating new risks.

Promote agricultural practices that protect crops from the impacts of climate change

- The use of contour bunds and trenches to prevent soil erosion and obstructing run off to retain water and recharge ground water
- Promote crop rotations and proper tillage practices
- The use of wind breaks and shelter belts
- Lower land use change emissions by restricting agricultural land and waste burning
- Factor existing traditional and local knowledge into adaptation planning and decision- making
- Strengthen the expansion of greenhouses and other protected cultivation techniques/ practices
- Greater investment in climate risk reduction measures
- Prioritise agricultural areas most vulnerable for water and nutrient provision
- Support RADA in their implementation efforts
- Updating of land suitability information and mapping to ensure specific crops are planted in areas not susceptible to climate change impacts
- Develop programmes for fisheries, aquaculture and agriculture groups to share information on climate change and management activities
- Plant drought resistant and quick crops

Goal 3: Social Environment

Goal: Goal: Provide liveable communities through the improvement of conditions

Objectives:

- Equitable access to quality educational opportunities across the spectrum of human endeavours
- Ensure the protection of citizens through access to quality and affordable health care
- Ensure the preservation and promotion of St. Elizabeth's unique culture and heritage
- Improve the safety and security of communities and visitors through the quality policing
- Increase and improve recreational spaces within communities
- Improve community immersion and empowering vulnerable members

Strategic Directions/Actions:

- Equitable access to quality educational opportunities across the spectrum of human endeavours
- Improve the service and infrastructure of early childhood to primary schools.
- Improve certification levels and encourage advanced training from institutions such as HEART, post-secondary and tertiary levels. Identify specific programmes that will respond to community and market needs, also establish partnerships to maximise the use of resources to provide formal and non-formal learning opportunities.

Ensure the protection of citizens through access to quality and affordable health care

Strengthen the health care quality by promoting research and development of new treatment models. The expansion and rehabilitation of health centres in the parish to better serve and accommodate present and future demands. An overhaul of the Black River Hospital to provide infrastructural repairs, procure equipment and machines, efficient management and improved patient care. Explore alternative sites for a new hospital, due to the susceptibility of the present hospital to natural hazards. Assisting vulnerable community members by delivering prescriptions for a fee.

Ensure the preservation and promotion of St. Elizabeth's unique culture and heritage

Support the restoration and improvement of historic sites and buildings throughout the parish and improvement of promotion of the conservation and safe keeping of cultural assets. Develop cultural resilience through the maintenance of cultural identity and practices. Construct heritage towns.

Improve the safety and security of communities and visitors through the quality policing

Increase police presence and intelligence led policing in communities to assist in combating praedial larceny, scamming, gun violence, narcotics and other crimes. Ensure policing services work with the needs of communities to improve confidence in law enforcement, public involvement and satisfaction with services. Develop rehabilitation programmes to allow offenders to become productive members of societies through training and skill building. Ensure laws are accessible by the public, that people will understand their rights.

Increase and improve recreational spaces within communities

Promote and encourage physical activity and recreation to provide considerable health and social benefits, sports and access to the natural environment. Create and outfit recreational and sporting facilities to satisfy each community's needs.

Goal 4: Built Environment

Goal: Improve and provide reliable accessible and efficient infrastructure

Objectives:

- Improve the transportation network and road quality
- Improve drainage system
- Provide efficient and reliable energy
- Improve waste management (sewage, etc...)
- Improve telecommunication and internet access
- Ensure the availability and accessibility to high quality water provisions
- Access to alternative energy sources
- Provide efficient infrastructural maintenance

Strategic Directions/Actions:

Improve the transportation network and road quality

Implementing road resurfacing and repair work, creation of parking spaces within the major towns to curb congestion, establish walkable town areas and designated pedestrian zones. The creation of a transportation centre (s) to improve public transport throughout the parish.

Provide and maintain signage, road furniture, sidewalks and street lighting.

Improve drainage system

Undertake drainage study of the parish to identify problem areas, existing canals and drains, run-off and ground water levels towards the creation of long-term solutions addressing sinkhole maintenance, drain capacity, canal placement and flood management.

Provide efficient and reliable energy

Expand the existing network and ensure suitable provision and maintenance of electrical infrastructure.

Improve waste management

Improve waste collection by transporting safely and quickly to properly designated dump sites and items stored securely to prevent hazardous releases. Establish unique and specific ways to handle residential, industrial and agricultural waste. Greater management of dumps. Explore and implement anti-litter and recycling programs throughout communities and schools and also provide incentives to encourage recycling. Upgrade poor sanitation systems by developing efficient domestic and commercial systems. Establish waste water treatment systems.

Improve telecommunication and internet access

Ensure reliable delivery of optimal and affordable internet and telecommunication services to residents, institutes and organizations.

Ensure the availability and accessibility to high quality water provisions

Ensure the provision of drinkable water to all communities. Improve water transportation by rehabilitating and obtaining new water trucks to serve vulnerable areas effectively. Create and enforce policies and conditions of approval to require the construction of rain water catchment systems and storage tanks for all new and existing buildings. Explore the channelling of water from the northern areas to the south and existing network of pipelines be expanded. The rehabilitation and construction of wells, tanks and other storage systems in communities. Pump stations will be rehabilitated to function efficiently.

Access to alternative energy sources

Encourage the use and access to renewable energy sources, alongside incentives. Adopt and utilize technologically, commercially and environmentally sound proven renewable energy sources relevant to our context. Expansion of grid connected renewable energy sources. Encourage incentives for energy efficiency and conservation.

Provide efficient infrastructural maintenance

The Council will undertake cost-efficient maintenance and management of infrastructure facilities. The creation of maintenance strategies for aging infrastructure.

Goal 5: Economic Growth

Goal: Promote sustainable economic growth, reduce unemployment, encourage diversity in economic opportunities and investments

Objectives:

- Establish an innovative environment conducive to the growth of existing and new businesses
- Encourage private sector investments and development throughout the parish
- Revitalize agricultural production potential
- Ensure the growth of St. Elizabeth's diverse tourism products
- Increase support in the local economy
- Reduce the unemployment rate
- Explore the potential and sustainable commercialisation in the marine resources
- Revitalize markets in the parish

Strategic Directions/Actions:

Establish an innovative environment conducive to the growth of existing and new businesses

Creation of an economic development strategy to cultivate the fundamentals of a strong business climate to support a vibrant economy through the promotion of diverse industries, invest in new tech and providing economic security to enable businesses to compete effectively in the global market place and combat corruption. Improve the environment for small and medium enterprises and the creation of platforms for entrepreneurs to grow their industries.

Revitalize agricultural production potential

Council will provide support and incentives to ensure farmers adopt water conservation strategies increase resilience and adaptive capacity of agriculture to climate change and weather variations and evaluate mitigation measures. The provision of training programmes and promotion of sustainable land management for farmers and to encourage the youth's interest in agriculture as a viable employment option. Irrigation and farm roads other activities include establishing partnerships between farmers and the government, exporters, international markets and shipping services which will reduce import cost and assure food security.

Ensure the growth of St. Elizabeth's diverse tourism products

Tourism within the parish is growing, resulting in efforts to ensure the industry is managed well to allow it to prosper is important. This will be accomplished by:

- Encourage tourist expenditure within local economy
- Effective people management
- Procurement from local enterprises
- Establish diversity initiatives to identify issues affecting employability, retention of staff and the attraction of new customers
- Develop experiential tourism products
- Develop diverse tourism offerings in the northern sections of the parish
- Introduce and relaunch various types of tourism products through hostels, couch surfing, bed and breakfast and 'voluntourism'
- Explore non-consumptive outdoor adventure market
- Develop agricultural based tourism offerings through 'agritourism'
- Provide marketing assistance for the tourism sector
- Develop and expand on heritage tourism making historic preservation economically viable in experiencing locations and artefacts and activities that represent the past of the parish.

Increase support in the local economy

Assistance to local businesses ensures growth, obtaining employees and support services locally, promotion of locally made goods and keeping money in the communities

Reduce the unemployment rate

Encouraging entrepreneurship and innovative new products to meet market demand will generate new opportunities. Economic recovery creates new jobs through the diversification of the local economy. Establishing apprenticeship schemes to allow the unemployed to gain work experience and new skills. The provision of incentives to pull young people in to the agriculture sector. Prioritising specific industries and sectors to grow. Ensure cultural industries are a key driving force in job creation.

Explore the potential and sustainable commercialisation in the marine resources

Develop various technologies to sustainably farm in the marine environment through marine observation and monitoring systems measuring fish stocks, specialized equipment and unproved means in delivery to commercial markets

Revitalize markets in the parish

The refurbishment of markets throughout the parish by expanding spaces and introducing new services and non-traditional crops. Explore also the areas of privatization and adaptive re-use where underutilized facilities can be better managed.

Goal 6: Land Use Development

Goal: Ensures land use development for future expansion is aligned with environmentally sustainable practices to achieve balanced development

Objectives:

- Develop and implement interventions to ensure sustainable land use
- Improve land management
- Protect agricultural lands from future land use development
- Preserve the historic nature of towns

Strategic Directions/Actions:

Develop and implement interventions to ensure sustainable land use

Implement policies and legislation supporting sustainable land use practices (no build zones & environmental buffers). Create avenues for data exchange on the environment and resources to inform and allow for better decision- making.

Improve land management

Collaborate with agencies to ensure information and documents are accurate, accessible and managed.

Protect agricultural lands from future land use development

Ensure pressure from public infrastructure and mixed use development do not threaten arable agricultural lands. Proper planning and management of agricultural lands. Implement policies for sub- divisions to make allowances for the preservation of agricultural lands. Introduce urban agricultural practices in urban areas as a means of expanding farm lands. Regulate informal settlements on lands suitable for agricultural use. Future development should adhere to farmstead, homestead, residential and agricultural development.

Preserve the historic nature of towns

Cultural heritage resources are to be respected and viewed as assets during planning and development processes. Historic towns and sites should be preserved towards cultural, tourism and recreational utilisation, while effectively accommodating modern commercial facilities, motor cars and retail outlets. Ensure the liveability of historic towns and the provision of incentives for maintaining the architectural façade of buildings, renovation and adaptive reuse. Establish preservation easements.

Goal 7: Governance

Goal: Increase community involvement and public participation

Objectives:

- Promote partnerships between civil society and the private sector
- Improve transparency and accountability of public financial management Ensure local government service delivery is stable, efficient and effective
- Encourage greater participation in planning and decision making

Strategic Directions/Actions:

Promote partnerships between civil society and the private sector

The private sector and civil societies are key stakeholders that should be involved in the decision- making processes. There will be representation from these key groups in arrangements and plans to provide implementation strategies.

Improve transparency and accountability of public financial management

Visible reporting on the Government's undertaking to the public to show how finances are managed and development outcomes. Facilitate actions towards improving measures of accountability and achieving results in areas identified as priorities.

Ensure local government service delivery is stable, efficient and effective

Strengthening budgeting, planning, monitoring and evaluation activities to improve service deliveries.

Encourage greater participation in planning and decision making

The public will be better informed on policies and activities, ensuring Parish Council will be accountable and provide accurate information in an efficient manner through awareness campaigns, newsletters and the internet. Registration of community organisations and fostering community involvement in projects creates unified community development and aids access to project funding and investments.

Implementation

Effective plan implementation requires:

- The cooperation and involvement of community groups and NGO's in local governance
- Opening the doors to greater involvement of community members and stakeholders in planning and decision- making processes by Parish Council
- Selecting capable and knowledgeable personnel who understand the purpose of the plan and steps involved to implement it
- Create an action plan for major projects within the plan, outlining 'step by step' goals to be accomplished, managed and monitored
- Facilitate partnerships and the alignment of efforts among community groups, NGO's and relevant agencies

8.1 Management Structure

A SELSDP Project Implementation Team will be established as a committee or department amongst key agencies, to manage and monitor plan implementation. This structure will be established through a Memorandum of Understanding (MOU), in order to outline the entities roles, responsibilities and level of involvement in the plan's implementation.

8.2 Role of Key Agencies

The St. Elizabeth Parish Council and St. Elizabeth Parish Development Committee will take the lead in overseeing plan implementation and developing partnerships with the private sector, academic institutions, national agencies, international agencies and community members essential to effective implementation.

The Project Implementation Team will be founded by the SEPC and SEPDC , to provide insight, guidance and strategies to implement specific actions within the plan.

8.3 Development Orders

The Town and Country Planning Act is only applicable in areas where a Development Order exists. The Development Order is a legally binding document used to guide development, by stipulating the type of actions to take place on land and require the granting of planning permission in areas the order relates. The Confirmed Development Order for South St. Elizabeth dates back to 1966.

The updating and reviewing of the St. Elizabeth Development Order is presently being carried out, with the SELSDP and GTBSDP informing policy decisions made, as the Order is unique to the parish and serves as a legal instrument guiding land use development and changes, as well as advancing strategies outlined in the plan.

8.4 Monitoring & Evaluation

Annual review will be conducted to monitor and amend changes and recommendations endorsed by the plan. Amendments will be made to the plan every three to five years to ensure project requirements are met.

8.5 Implementation Timeline

The tables on the following pages dissect each of the SELSDP goals, by identifying the main objectives of each, the associated targets/ milestones, involved parties and stakeholders required to see the objectives through to completion. A five- year timeline is introduced in these tables to provide a guideline for prioritizing these development strategies. The key goals are presented on the following tables:

Goal 1 Natural Environment- Ensure growth and development does not conflict or compromise the state of the natural environment

Objective	Milestone/ Targets	Timeline	Key Actors	Notes
Promote sustainable environmental practices	Reforestation of the Santa Cruz and Don Figueroa Mountains	5	NEPA, SEPC, JSIF, St. Elizabeth residents, MWLECC	
	Replant 60% of deforested mangroves	3		
	Replanting and irrigation of Holland Bamboo	2		
	Construct flagship 'Eco-School' at proposed Wilton site	3		
	Introduce 'eco-corridors' throughout major towns	3		
	Establish & enforce 30m environmental buffer	4		
Increased management & protection of natural resources	Extend and establish exclusive zones as National Parks, forest reserves and marine parks	3	NEPA, NRCA, Forestry Department, SEPC	
	Develop management strategies and policies for the use of marine resources	2		

Goal 2 Disaster Mitigation and Management- Improve disaster mitigation measures, supporting climate resilient communities and reduction of disasters on communities

Objective	Milestone/ Targets	Timeline	Key Actors	Notes
reduce disaster vulnerability	Develop a Parish Disaster Preparedness and Response Action Plan	3	SEPC, ODPEM	
	Create a Fire Risk Management Plan	3		
	Flood risk mapping to identify flood prone areas	2		
	Identify locations for and construction of disaster storage warehouses	3		
	Audit designated emergency shelters	1		
	Spatial mapping and modelling of susceptible areas	2		
	Establish regional distribution centres and response centres	2		
	Fire extinguishment outposts in dry and fire prone areas	3		
	Demarcation of no build zones with appropriate signage	2		
	Encourage partnerships and collaboration across all sectors and communities	2		

Goal 3 Social Environment and Facilities- Provide liveable communities through the improvement of conditions

Objective	Milestone/ Targets	Timeline	Key Actors	Notes
Increase in affordable housing supply	Increase in the availability of government land for housing criteria	4	LAMP, NHT, HAJ, SEPC, MTWH	
	Identify locations for social housing	2		
	Increase the supply of serviced lots	3		
	Relocate squatter settlements in wetlands and agricultural lands	4		
	Contain the expansion of squatter settlements through regularisation	4		
	Increase in the use of green technology in construction	5		
Access to quality educational opportunities	Introduce varied subject scope to meet the interests of students, global demand and priority needs	5	Ministry of Education, HEART Trust/ NTA, SEPC	
	Introduce varied skills training opportunities and courses with accreditation and certification	5		
Access to quality healthcare	Improve training and capacity of health services	5	SRHA, Ministry of Health, SEPC	
	Rehabilitation of health centres	4		
	Identify and assess alternative hospital site	2		
	Improve assistance and support to the mentally ill, disabled and elderly	5		
Preserve, develop and maintain parks, open spaces and recreational facilities	Establish management committees for all government owned community centres	2	TEF, TPDCo., SEPC, JSIF	Tourism Enhancement Fund (TEF) is open to funding the revitalisation and rehabilitation of Holland Bamboo
	Establish roster for quarterly town hall meetings	1		
	Revitalisation and rehabilitation of Holland Bamboo to include a designated vendors area, park and garden	3		
	Construct a centralised public sports park/ facility	3		

Goal 4 Built Environment- Improve and provide reliable, accessible and efficient infrastructure

Objective	Milestone/ Targets	Timeline	Key Actors	Notes
Increase the supply and distribution of potable water	Expand pipeline infrastructure and channeling of water from Black River and the North St. Elizabeth	5	NWC, NIC, MWLECC, WRA, SEPC	
	Undertake a feasibility study for groundwater supply, aquifer recharge and quality of wells	3		
	Construction of catchment systems for all residential and commercial development	3		
	Introduce rainwater harvesting programmes with free or discounted equipment	4		
	NWC to upscale its capacity by installing new pump stations and booster stations to improve water supply and reliability	4		
	Introduce irrigation storage reservoirs fed by aquifers	4		
	Construct water catchment and dams/ reservoirs	3		
	Construct retention ponds in South St. Elizabeth	2		
	Mapping and tagging of standpipes	2		
	Implement covered or buried catchment systems to prevent vector breeding	3		
Provide reliable and efficient transportation and road network	Feasibility study for greywater recycling and collection infrastructure	2		
	Parochial road mapping	2	NWA, MTWH, SEPC, JSIF	
	Establish regional transportation centres to serve the parish	5		
	70% road surfacing and priority road improvements	5		
	Paid parking facilities or permit parking in Santa Cruz, Junction and Black River	3		
	Retrofit all public buildings with ramps for disabled access	3		
	Design and designate lanes for non- motorized activity	4		
	Construct crash avoidance barriers along major arterial roads	4		
	Install location signs and road furniture	3		
	Expand and install sidewalks where necessary along major arterial roads	4		

Encourage the use of renewable energy	Install solar street lighting	5	SEPC, MSTEM
	Feasibility study for wave, wind and solar energy	2	
	Construction of a solar energy farm	3	
	Integrate more energy efficient building design (passive cooling) for residential developments	5	
	Stimulate the need for renewable energy in commercial development	5	
	Introduce public educational programmes and build awareness for renewable energy practices	5	
	Continuous upgrading and maintenance of energy infrastructure	5	
Improve access to telecommunication and internet	Expand the telecommunication and internet infrastructure	3	MSTEM, Universal Access Fund
	Increase internet accessibility to residents by 60%	3	
Improve garbage collection and recycling of waste	Construct disposal sites with impermeable lining	3	NSWMA, SEPC
	Pilot project for composting and vermiculture	3	
	Introduce composting facilities for produce markets	2	
	Centralised skips and transfer stations to serve communities	3	
	Establish incentives and disincentive systems for recycling initiatives	3	
	Feasibility study for the collection of electronic waste	3	
	Project for biodigester tanks and biogas production	4	
Establish sewage treatment facilities	Construct public sanitary conveniences in major towns	3	NWC, SEPC, NSWMA, Ministry of Health, NEPA
	Establish regulatory frameworks to manage waste	2	
	Establish reed bed systems	3	
	Establish central sewage systems for all new residential developments	4	
	Introduce composting or dry toilets	4	
Improve drainage network	Conduct drainage improvements in major towns and arterial roadways	4	NWA, SEPC
	Feasibility study and construction of storm water channels and drains in major towns	4	
Improve public access	Establish walkable major towns; Santa Cruz and Black River	3	SEPC, NWA, JSIF

Goal 5 Economic Development- Promote sustainable economic growth, reduce unemployment, encourage diversity in economic opportunities and investment

Objective	Milestone/ Targets	Timeline	Key Actors	Notes
Improve agricultural output	Encourage vocational training in green agriculture and sustainable practices	3	MA&F, RADA, SEPC, IICA, local farm groups (JAS, PMOs, 4H Clubs), farmers, St. Elizabeth residents	
	Create partnerships between agriculture, public and private sector for food security, income generation and to limit importation	2		
	Establish partnerships with local farmers to facilitate school feeding programmes	2		
	Invest in alternative agricultural niche markets and export of exotic crops	4		
	Increase youth involvement in agriculture	2		
	Provide opportunities for government owned lands to be leased by farmers	3		
Restore and sustain productive capacity for fisheries	Ensure sustainable fishing and conservation practices	3	MA&F, BREDS, NEPA, SEPC, fishers	
	Improve productivity, environment and marketing of fishing industry	4		
	Explore potential sustainable commercialisation of local marine resources	4		
	Protect and manage vulnerable fishery sites	3		
Increase tourism investments and opportunities	Expand tourism offerings	4	TEF, TPDCo., MTE, SEPC, JNHT, owners and occupiers of tourism businesses	Heritage & Culture Tourism, Faith Based Tourism, Sports Tourism, Voluntourism, Hostels & Couchsurfing
	Explore tourism options in the North and Central areas to establish connections with key markets	2		
	Implement the St. Elizabeth Experience tourism strategy to include products and attractions throughout the parish	3		
	Develop agritourism products and agro- parks	3		
	Develop eco- tourism trail in the North (tours, trails, train line)	4		
	Establish green standards for tourism products	2		
Encourage economic diversity	Construct agro- processing plants in viable farming areas	4	RADA, MA&F, SEPC, TEF, NSW-MA, SRC, DBJ	
	Creation of a Parish Investment Manual	2		
	Establish a comprehensive parish marketing strategy and targeted advertising	2		
	Create a market to showcase crafts, diversify job sector and foster entrepreneurship	3		
	Introduce incentives for businesses that minimise environmental impacts	2		
	Establish a Taste Trail and Spice Tour	2		
	Creation of a recycling centre	3		
	Develop and maintain public beaches	2		

Reduce unemployment	Encourage township entrepreneurial development	3	HEART Trust/ NTA, SEPC, SEPDC, DBJ, JBDC, micro & small business loan facilities	Access to financial resources, management training
	Increase in the formation of micro, small and medium enterprises	3		
	Establish a system for the hiring of students and entry-level job seekers to gain work experience	2		
	Establish a skills bank	4		

Goal 6 Land Use Development- Ensure land use development for future land expansion is aligned with environmentally sustainable practices to achieve balanced development

Objective	Milestone/ Targets	Timeline	Key Actors	Notes
Develop interventions to ensure sustainable land use	Delineate no build zones in environmentally sensitive areas	3	SEPC, NWA, NLA	
	Create development area plans to highlight economical and spatial potential	3		
	Create zoning maps	2		
	Establish a regulatory and legislative framework to implement and manage sustainable land use	2		
	Increase mixed use development in major towns	5		
	Strengthen and expand capacity in GIS and imagery to better inform land use planning	3		
	Improve land management and land information systems	3		
	Ensure subdivisions make allowances for agricultural land	2		
	Introduce urban agriculture in major towns to expand farm land	4		
	Conduct building footprint surveys	3		
Preserve historic features	Establish preservation easements	2	SEPC	
Implement development levy to all new construction	Comprehensive drainage system plan	4	NWA, SEPC	

Goal 7 Governance- Increase community involvement

Objective	Milestone/ Targets	Timeline	Key Actors	Notes
Encourage and facilitate participation in realising the goals of the plan	Facilitate partnerships between SEPC, PDC, private sector, community members and academic institutions for the implementation of the SELSDP	Ongoing	SEPC, SEPDC, SDC, CBOs, NAPDEC	
	Create and implement guides and leadership tools in human resource framework, public service and performance in SEPC			

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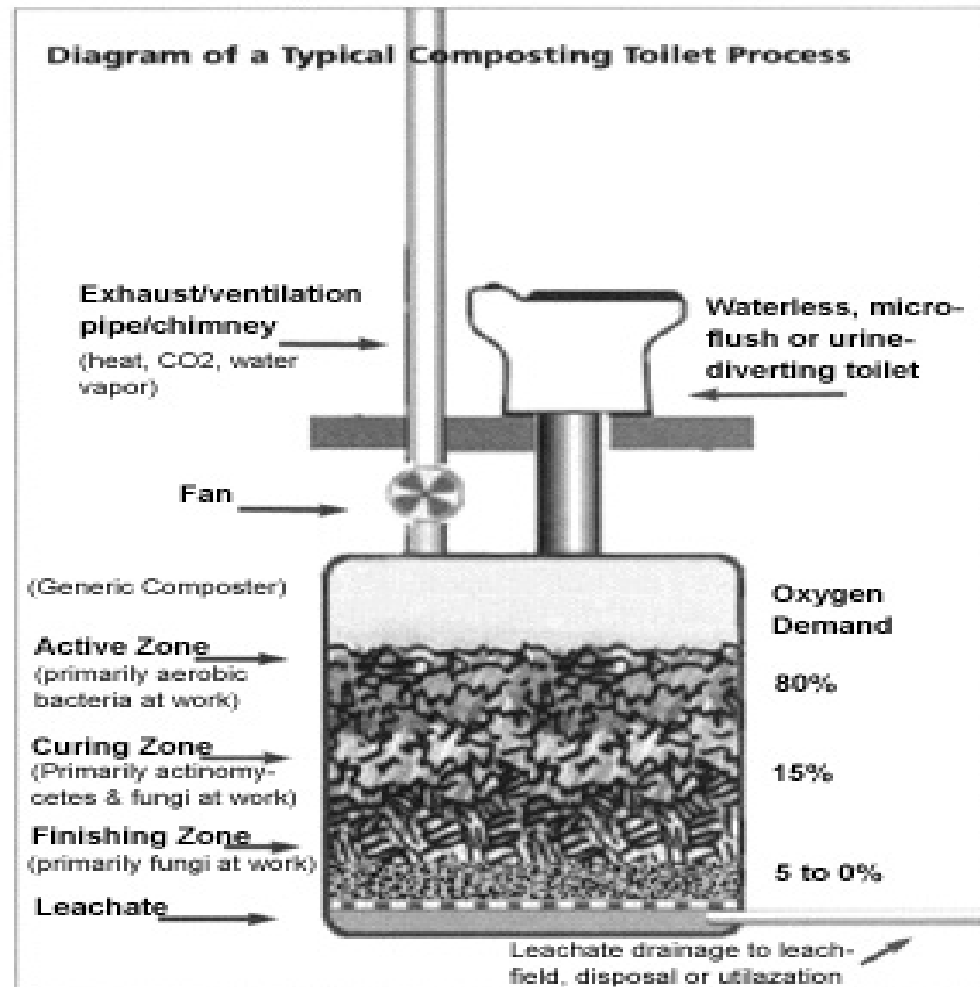
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Appendix

- 1 entry plaza
- 2 VENDOR - market hall w/ stalls
- 3 ANCHOR - digital store (cellphone store)
- 4 ANCHOR - bill pay / cambio
- 5 ANCHOR - juice bar
- 6 MAIN ANCHOR - restaurant
- 7 specialty bakery
- 8 supermarket office
- 9 MAIN ANCHOR - supermarket
- 10 supermarket deli
- 11 supermarket delivery + storage area
- 12 public restrooms
- 13 electrical + fire house
- 14 VENDOR - trucks + mobile carts
- 15 VENDOR - meat shops
- 16 VENDOR - fish + seafood
- 17 ramp
- 18 temporary public storage
- 19 VENDOR - cook shop
- 20 south entry plaza (from transport station)
- 21 administration + info desk
- 22 market vendor restrooms + hostel lobby
- 23 service walkways
- 24 recievals manager
- 25 meat + fish delivery
- 26 cold room storage bay
- 27 vendor storage
- 28 service corridor
- 29 ancillary restrooms + janitor's closet
- 30 compost room
- 31 non-bio degradable trash skip
- 32 service yard + staff parking
- 33 guard house
- 34 generator house
- 35 taxi stand + parking
- 36 bus transport station



BLACK RIVER MARKET
 NICOLE AUDEN | CARIBBEAN SCHOOL OF ARCHITECTURE (2014)



Source: <http://www.reuk.co.uk/Introduction-to-Compost-Toilets.htm>

