

Tourism Assessment Report

RIO GRANDE VALLEY

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For the

Jamaica Conservation and Development Trust

Managers of the Blue and John Crow Mountains National Park and World Heritage Site

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Executive Summary

International Perspective

The ability to generate income by preserving natural and cultural resources is becoming more recognizable to countries worldwide. Ecotourism promotes sustainable development in developing countries through provision of an alternative source of livelihood to local communities. Social and economic benefits are realized through the provision of nature-based activities which foster visitor appreciation and understanding of cultural and natural heritage in the host communities.

Conversely, potential negative and irreversible impacts may arise due to inadequate management of ecotourism activities from the planning to execution stages. Visitor activities and infrastructural developments within protected or sensitive areas can result in overcrowding, noise pollution, conflicts with local people or other visitors, trail/soil erosion, wildlife disturbance, improper solid waste and sewage disposal, among a myriad of negative impacts. Conservation and visitor management strategies will therefore need to be established in an effort to control eco-tourism activities.

National Perspective

The Blue and John Crow Mountains National Park and World Heritage Site is an area of global significance for biodiversity and cultural heritage. Management includes a Recreation and Tourism Programme where ecotourism principles guide development and management of sites, in particular, local community benefits and increasing support for the preservation of both natural and cultural heritage.

This report covers an initial assessment that will guide the creation of a Conservation and Visitor Management Plan for the Rio Grande Valley generally and for specific locations, namely; Windsor, Moore Town, Nanny Town, Cuna Cuna Pass Trail and Corn Puss Gap Trail (Bowden Pen & Hayfield). These sites currently offer eco-tourism based activities to the public, both local and international. However, no management structure exists to highlight the potential positive and negative impacts of ecotourism activities with requisite mitigation measures for negative impacts identified.

Some of these sites are within the Blue and John Crow Mountains National Park and World Heritage Site (Nanny Town) and some e.g. Trails pass through the National Park's boundaries. Others are within the Community Buffer Zone of the National Park. The Jamaica Conservation and Development Trust (JCDD) manager of the National Park and World Heritage Site is already updating management plans for the National Park's two main recreational areas (Holywell and Portland Gap/Peak Trail). As part of its community empowerment and outreach and specifically, its facilitation of establishment and enhancement of the community tourism product around the National Park, JCDD is preparing plans for the Rio Grande Valley as this historic and biologically rich area has great opportunities for ecotourism but little planning. With funding from the Global Environment Fund (GEF) Small Grants Programme (SGP) and also assistance from the German Development Cooperation (GIZ) Caribbean Aqua-Terrestrial Solutions (CATS) Project, the JCDD is preparing a general and site specific plans for the management of sustainable community tourism within the Rio Grande Valley.

To identify the current and potential effects of the ecotourism on the locations, initial public consultations were conducted to inform and consult the public; specifically the residents immediately affected, regarding the eco-tourism activities and its effects on the physical, biological and human environments along with the effects both positive and negative on the livelihood of the communities and need for improvements. Physical assessments were also carried out at existing and potential ecotourism sites. Some issues identified were, disruption of local communities from unregulated visits, potential for unsatisfied visitors due to use of untrained tour guides, lack of adequate marketing systems for the tourism product, lack of infrastructure and the potential of exceeding tourism carrying capacity due to unregulated activities.

Overview of the area

(TO INSERT MAP)

General Description

The communities of the Rio Grande Valley are nestled between the Blue and the John Crow Mountain ranges, with the Rio Grande River flowing from an elevation of 914m in the Blue Mountains. Located in the buffer zone of the Blue and John Crow Mountain National Park which is a key biodiversity hotspot in the Caribbean, the region boasts a high level of biodiversity and endemism. The Rio Grande Valley has also been designated Protected National Heritage by the Jamaica National Heritage Trust. Communities within the Rio Grande Valley are dependent on agriculture as their main source of livelihood, cultivating crops such as bananas, plantains ginger, cocoa and coffee among others. Scenic views of mountains along trails, numerous waterfalls and rivers are some of the features that give the area its potential for ecotourism. Its Maroon history makes this area rich with cultural heritage with communities such as Moore Town and Cornwall Barracks, historic sites such as Nanny Town and historic trails such as the Cuna Cuna and Corn Puss Gap Trails. For the purpose of this Report, the Lower Rio Grande Valley comprises the more northerly communities and the Upper Rio Grande Valley, the more southerly ones. Many people are not familiar with this area, thinking only of the Rio Grande as that section of the river associated with rafting - from Berridale through to St. Margaret's Bay, and not realising how deep the valley is.

Nanny Town

Deep within the boundaries of the BJCMNP, Nanny Town is the original capital of the Windward Maroons. Archaeological digs in the 1970s support the oral history and diaries of British soldiers amongst other written records to indicate that the Taino people first used Nanny Town as a sacred site. Further, when enslaved Africans escaped from Spanish estates, they met up with Taino who had taken to the hills around Seville. These people later moved to eastern Jamaica to make use of what we now know as the parish of Portland, which was not occupied at the time. After the English capture of Jamaica from the Spanish in 1655, they rapidly expanded

the small Spanish estates into large sugar-cane plantations. In 1710 to increase the ratio of British to African, they encouraged British to come and settle land in Portland. These farmers found the land already occupied by the Maroons with well-established fishing and farming villages. A Maroon farm in the vicinity of Nanny Town is described by British soldiers as the ‘Great Plantain Walk’, covering 640 acres of mixed crops, mostly plantains. When skirmishes did not cause the British to leave the area, the Maroons launched an all-out war using guerrilla tactics to secure their territory and sovereignty. Nanny Town became both the spiritual and military capital of the Windward Maroons and the British Army tried to capture it more than once, only succeeding in occupying it in December, 1734 after the Maroons had abandoned it. The British etched their conquest into a large flat-sided stone at the site and built a stone enclosure where they camped until July, 1735 when they left the site disheartened that the Maroons had not returned.

Whilst the original site when occupied by the Maroons was likely much bigger, Nanny Town today is a relatively, small triangular site on a plateau with a precipice on one side with the Stony River far below and looking out to Abraham Peak (one of the Nanny Town natural watch-towers). The other sides are thickly forested and the slope is very steep going either down or up. The trek to Nanny Town from either Durham or Windsor takes at least two tiring days along a path known only to a few Maroons. The return trip back down can take a day or two depending on the how urgent is the need to get back.

Lower Rio Grande Valley

For the purpose of this Report, the Lower Rio Grande Valley comprises the communities of Windsor, Seaman’s Valley-Alligator Church Bridge, Bellvue, Moore Town and Cornwall Barracks, however only Windsor, Moore Town and Cornwall Barracks are considered in detail.

Windsor

Windsor is located within the BJCMNP Community Buffer Zone and is the first community within the Protected National Heritage. It is about 12 km from Port Antonio and 5 km from the turn-off into the Rio Grande Valley at Fellowship. The Back Rio Grande joins the Rio Grande just north of Windsor and hence this area has a large flood-plain. Windsor is a farming community with a population of about 1,207 (STATIN, 2011) although many people work in the

nearby town of Port Antonio. There is an active Community Development Committee which in 2018 was awarded a grant from the Global Environment Facility (GEF) Small Grant Programme (SGP) through the Jamaica Organic Agriculture Movement (JOAM) for sustainable livelihood community projects. This grant is partly associated with a separate grant from the GEF SGP to the JCDDT for sustainable community tourism planning and conservation activities.

Seamans Valley – Alligator Church – Bellevue

Seaman's Valley is a triangular area located west of Windsor across to Bellevue and down the road from Windsor into the actual community of Seaman's Valley located at the intersection of the road from Windsor to Moore Town and the road to Alligator Church. The Seaman's Valley name refers to a battle believed to have occurred at this location during the First Maroon War – around 1733, when the Maroons ambushed 200 armed sailors accompanied by 200 'baggage Negroes' on a mission to attack Nanny Town. Alligator Church Bridge passes over the Rio Grande and despite the interesting name (there are no alligators in Jamaica only crocodiles but for some reason there are a few place-names e.g. Alligator Pond) however there are no records of any crocodile sightings in the area. Bellevue is a small community above Alligator Church Bridge and about 7km away along a dead-end road although it was once connected to the now non-existent community of John's Hall by another road. These three communities form one Enumeration District with a population of 686 (STATIN, 2011).

Moore Town

Moore Town is about 16 km from Port Antonio along the Wild Cane (Negro) River. It is the last community along that road and has a population of about 1,061 (STATIN, 2011). The Moore Town community boasts a rich cultural history being home of national heroine, Nanny of the Maroons. The signing of a peace treaty in 1740 between the Maroons and the British Government resulted in 500 acres of land being given to the Maroons. A later request by Nanny in 1781 resulted in 1,270 acres of land being allotted which was subsequently called Moore Town. The community is governed by a Colonel who is assisted by a council consisting of several members of the community.

The community has rich potential for ecotourism development, as it is well endowed with a variety of natural scenery and historic cultural monuments. These include waterfalls, hiking trails, caves, rivers, and the grave of Nanny - Nanny Bump Grave where the official, national

monument to Nanny is located. Beside this monument is a plaque commemorating the inscription in 2015 of the Blue and John Crow Mountains on the UNESCO World Heritage Site List. The community also boasts the UNESCO's Masterpiece of the Oral and Intangible Heritage of Humanity, which was awarded in 2003 for their music and language.

Cornwall Barracks

Cornwall Barracks is a community along the Rio Grande accessed by the road to Moore Town but then veering south-east before entering Moore Town and going up over a hill and down towards the Rio Grande. The community has been placed in an Enumeration District with Comfort Castle across the Rio Grande (the communities are connected by a now broken swinging bridge) and together they have a population of 2,034. Comfort Castle can be estimated at just over 1,000. The community is named from the old British soldier barracks established to "keep an eye" on the Maroons in Moore Town after the signing of the Peace Treaty in 1740. The location of the former barracks is unknown.

Upper Rio Grande Valley

For the purpose of this Report, the Upper Rio Grande Valley comprises the communities of Ginger House, Comfort Castle and Millbank, the old community of Bowden Pen (actually located in the parish of St. Thomas) with its eco-resort Ambassabeth surrounded by lush forest and farms in addition to several trails including Cuna Cuna Pass Trail which connects to the community of Hayfield above Bath, St. Thomas.

Ginger House – Comfort Castle – Millbank

Ginger House has a population of 880 and Comfort Castle about 1,000 (joint with Cornwall Barracks – 2,034) and Millbank is only 261 (STATIN, 2011). These three communities are located along the west bank of the Rio Grande below the Blue Mountains. There is a police station and a primary school between Comfort Castle and Millbank and a basic school in Ginger

House. The main livelihood is agriculture with crops including bananas, plantain, dasheen and ginger.

Bowden Pen

There used to be a community in Bowden Pen and one beyond it – along the Corn Puss Gap Trail. There were also several homes along the Cuna Cuna Pass Trail but eventually younger people moved closer to the town of Port Antonio and older people eventually died. The area is mainly used for farming with a number of people owning land in the area – some passed on from grand-parents who received the land as a reward for fighting in World War II. Bowden Pen is only 3.3 km from Millbank but the road is more like a trail and so the journey is close to an hour, though very scenic. This is the location of Ambassabeth, an eco-resort established by the Bowden Pen Farmers Association (BPFA) on land owned by the Wilks family (Mrs. Linette Wilks) being a founding member of the Association. There are several trails and sites of natural and cultural heritage interest in the area; of special note are the Cuna Cuna and the Corn Puss Gap Trails which cross the National Park boundary.

Cuna Cuna Pass Trail & Corn Puss Gap Trail

Located in the Upper Rio Grande Valley beyond the last inhabited town of Millbank and in Bowden Pen (a former town now over-taken by nature and used only by farmers and visitors) are the historical national monuments Cuna Cuna and Corn Puss Gap Trails. Given their knowledge of the mountains, the Windward Maroons used these escape trails to outlast the British during periods of war beginning around 1728. After the Peace Treaty was signed the trails were used by Maroons to visit family, for hunting and eventually as a market trail connecting communities on the southern slopes of the Blue Mountains with those on the northern slopes. The Cuna Cuna Pass in particular was used for trade with vendors taking the products from St. Thomas such red peas, sugar, coconut/coconut oil over to Portland where dasheen, coco and yam grew more readily. Operated by the Bowden Pen Farmers Association (BPFA) with assistance from the JCDT, hikes to both trails begin at the Ambassabeth Cabins with the option of starting the Cuna Cuna Trail from Hayfield, St Thomas. The Cuna Cuna Pass Trail spans a distance of 8.9 km with Corn Puss Gap Trail at 8 km. Along both trails there exists numerous endemic flora and fauna, along with scenic and historic waterfalls and streams such as Breakfast Spring, Three Finger Jack Spring and Quaco River. This is one of the places a visitor is most likely to see the largest

butterfly in the Western Hemisphere, the six inch, endemic Giant Swallowtail Butterfly (*Papilio homerus*).

To access the Corn Puss Gap Trail – one walks along the old road past Ambassabeth and down to Quaco River about 3km. Across the river, the trail bisects – to the left (north) it takes the hiker to Sacred Site and the Quaco River Swimming Hole and to the right (south) the Corn Puss Gap Trail begins. The trail is still not yet completely renovated but the original trail has several trails adjacent to hills such as Crown Hill and can also connect to the Cuna Cuna Pass Trail. The Corn Puss Gap Trail has forest in even better condition than Cuna Cuna as it is less used and does not connect communities and these parts of the National Park are also World Heritage Site. The Corn Puss Gap Trail is an important habitat for the Giant Swallowtail Butterfly.

Hayfield

Hayfield is the small community on the other side of the Cuna Cuna Pass Trail with Maroon heritage and family connections to inhabitants of the Rio Grande Valley. Located above Bath, St. Thomas it has a population of only 277 (STATIN, 2011). Hikers on the Cuna Cuna Pass Trail either have transportation drop them off at Hayfield and wait for them or the transportation goes back down to Bath around the coast to Port Antonio and up the Rio Grande Valley to pick them up later or the next day. Hence many visitors only pass through Hayfield briefly. Under the Windsor CDC/JOAM GEF SGP funded project mentioned earlier, funds have been sourced to build a rest-stop at which hikers can make purchases for their trek or journey back into Kingston. In addition, under the JCDDT GEF SGP and GIZ funded projects, assistance is being provided to help the Hayfield group establish its own attraction separate and apart from the Cuna Cuna Pass Trail. There are two great house ruins near to Hayfield – Ladyfield and Grampian: the former is about half hour's easy and scenic walk from the road up to Hayfield (and another hour walk up to Hayfield) and the latter is about 1.5 hour hike each way with a more difficult terrain. Both properties are in quite good condition with Grampian's location by a river adding to its scenic qualities.

Purpose and Need

The maintenance of protected areas and nature in the surrounding buffer communities are vital to the success and sustainability of any ecotourism product. Ecotourism activities; though intended to promote the preservation of cultural and natural resources, have the potential to introduce negative irreversible changes to cultural, ecological and socioeconomic resources present if management systems are non-existent or ineffective.

Given the complex nature of ecotourism activities (Kiper 2013), the need arises for management to consider all interests involved in tourism destinations and ensure tourism activities are adequately planned for and regulated to ensure sustainability of all tourism activities. To be more specific management of eco-tourism destinations must pay keen attention to the constant regulation of conservation efforts, the number of visitors allowed at the destination and generally maximizing profit to assist with management and conservation, while minimizing ecological impacts. Carrying out ecotourism activities in such a manner will promote sustainable development in developing countries.

The Blue and John Crow Mountains covers 41,198 hectares and is the only National Park in Jamaica. This area contains a high level of endemism for plant and animal species, scenic views, rivers and waterfalls. Another special characteristic of this location is its rich cultural value as home of the legendary Windward Maroons who still maintain their culture to this present day. In 2015, the Blue and John Crow Mountains was inscribed as a UNESCO World Heritage Site for its natural and cultural heritage. These are just a few of the characteristics that make the area an attractive one for ecotourism activities.

The World Heritage Site is located within and buffered by the National Park and the Protected National Heritage. Immediately adjacent the National Park boundaries and up to 2km away, the local communities which share the diversity and cultural characteristics of the protected area are considered the Community Buffer Zone. The approximately 50 communities with a population of just over 40,000 are the focus of the National Park's Education and Outreach and Recreation and Tourism Programmes inclusive the facilitation of more sustainable livelihoods. The Rio Grande Valley between the Blue and the John Crow Mountains is an important part of this

Community Buffer Zone as the area has also been protected for its cultural heritage. The Valley consists of the following main communities: Windsor, Seaman's Valley, Moore Town, Cornwall Barracks, Alligator Church, Bellevue, Ginger House, Comfort Castle, and Millbank. These communities have vast potential for ecotourism due to the existence of lush vegetation, numerous waterfalls, caves, rivers, scenic views, agriculture and trails that can be used for hiking. There is already some community tourism development and interest in the area with visitors coming particularly since the World Heritage Site inscription. Notwithstanding this, limitations exist that prevent these communities from exploiting this ecotourism potential in a sustainable manner. A successful ecotourism product aims to provide appreciation of nature, while ensuring economic development and preservation of the destination's natural and cultural assets. Whilst some Community Based Organizations exist, which are expected to develop and implement programs to guide ecotourism activities, they lack the financial support, cohesiveness, business acumen and infrastructure to explore the full potential of the opportunities present.

Consequently, the need arises to identify and assess the current state of tourism activities and identify areas requiring improvement. This will ensure that steps can be taken to guarantee that tourism destinations are not exploited in a manner that results in deterioration of natural and cultural resources which may be irreversible. These include waste disposal, water pollution, trail erosion, wildlife disturbance and possible disruption to local culture. Failure to identify and mitigate potential issues will not only see a reduction in the quality of the resources, but a reduction in visitor satisfaction along with reduced economic returns; all of which are critical to the sustainability of the ecotourism destinations and the wider protected areas which is considered ecologically sensitive. Management programs designed will also ensure the tourism carrying capacity is not exceeded through establishment of methods for the control of tourism planning, development, visitor use and impact. This while ensuring income generation, visitor satisfaction, community development and preservation of natural and cultural resources.

Nanny Town

Today, most Maroons consider the site a sacred site along with much of the Blue Mountains where their freedom-fighting ancestors lost their lives. Believing as traditional West Africans do that the spirits of one's ancestors do not live somewhere else but rather remain nearby to where

they once lived, the Maroons general view is that tribute should be paid to ancestors before travelling through the forested mountains and especially the Nanny Town area.

Based on the limitations with respect to site access and sensitivity at this time and bearing in mind the detailed planning that will be needed, there will be limited focus on this site in this document and instead a separate document prepared based on additional consultations (inclusive interviews and a consultation meeting with stakeholders).

Assessment

Existing Recreation & Tourism Use

Nature/Culture Tourism

Bowden Pen Trails- Cuna Cuna Pass Trail & Corn Puss Gap Trail

Nature tourism allows for visitors to experience natural monuments such as waterfalls, mountain ranges, birds and animals while cultural tourism is that subset of tourism which involves engagement of visitors with a host community or countries culture e.g. Visit to sacred sites/monuments, food and dance.

In an effort to provide opportunities for community economic development and support for conservation, the Bowden Pen Farmers Association currently operates an ecotourism site- Ambassabeth Cabins, which includes the option to hike the Cuna Cuna Pass and Corn Puss Gap Trails. The eco-cabins currently attract international tourists, educational groups and local visitors. Having the potential to host a maximum of 28 visitors for lodging; the location also includes a visitor center containing interpretive exhibits and educational literature on the flora and fauna in the Blue and John Crow Mountains National Park. Visitors can take the short walk behind the cabins, down to the Rio Grande for a dip or just to relax beside the river although there is no “swimming hole” here. Visitors are also allowed to immerse themselves in the rich cultural history of the location and surrounding communities to include traditional foods, historical stories and dance. The historic Cuna Cuna Pass Trail is an 8.8km mountain trail, which was first used by the Windward Maroons with the Corn Puss Gap Trail also at a distance of 8km. Trail hikes include an informative tour on the rich bio-diversity, culture and the importance of conservation practices. An annual event – Ancestral Memories is hosted on Emancipation Day (1st August) and this features traditional food, music, drumming and dancing as well as trail hikes and river walks.

The hike to Corn Puss Gap from Ambassabeth cabins can take an average of 3 ½ hours, with an abundance of fauna and flora present. Corn Puss has trails leading northwards over the hills to Portland, and several trails to adjacent hills such as Crown Hill, surrounding the gap. The current

use of the trail leads to the Quaco River and the sacred site with the option of visiting the Quaco Cave before return to the cabins. Hikes along this trail exposes visitors to endemic plant species, used as herbal remedies over the years. Lumber trees such as the West Indian Cedar, Spanish Elm and Blue Mahoe are present along this trail. This area is also the habitat for the Water Mahoe Tree (*Hernandia catalpifolia*) and the endangered and beautiful Giant Swallowtail Butterfly, whose caterpillar feeds on the leaves of this tree and no other. Visitors may observe this species during its season. Other species that may be sighted includes the endemic Doctor Bird, Jamaican Woodpecker, Jamaican Tody and the endangered Jamaican Blackbird.

The Cuna Cuna Trail provides a linkage between the parishes of Portland through Bowden Pen and St. Thomas at Hayfield. This trail also possess rich cultural and natural heritage, being the site of intensive battles between the British Colonists and the Maroons. Visitors have the option of entering this trail from either the Hayfield or the Bowden Pen Community, where the hike begins on the Rose Apple Trail from the Ambassabeth Cabins. On traversing this trail visitors are exposed to the history of the Maroons as well medicinal and other plants existing along the trail. Of particular note are the Cacoon vines which are of particular significance to the Maroons because of the plants' many uses. Visitors choosing to enter from Hayfield in St Thomas have the option of returning along the trail to Hayfield, arranging for transportation to pick them up at Ambassabeth or to overnight at Ambassabeth cabins.

Windsor, Moore Town, Cornwall Barracks

Local Tour companies such as the Kromanti Group and the Granny Nanny Cultural Group, currently offer guided tours within the Moore Town community and neighbouring communities such as Cornwall Barracks and Ginger House. In addition, the JCDT directs interested visitors to the Colonel of Moore Town for tours. These include but are not limited to hikes to Nanny Falls (*Photo 2*) and Quao falls, viewing of the Nanny Bump Grave (*Photo 1*), trails to nearby rivers and caves such as "Rat Bat" Cave and the Cistern Spring waterfall in Cornwall Barracks. The gateway community of Windsor also offers guided tours on the Rio Grande River which may lead to Nanny Watch Hill and with occasional hikes to waterfalls such as Tenants Fields and

Chocolate Walk. Visitors also have the option of trekking the Guava River trail which leads to a hot spring and along Wild Cane River to an area known as Mango Hole. Tour operators such as Kromanti Group and the Granny Nanny Cultural Group, will include the option of a native meal included in the packages.



Photo 1 Nanny Bump Grave in Moore Town



Photo 2 Nanny Falls Moore Town

Moore Town which is the home of the national heroine Nanny of the Maroons has a small, community meeting room and Visitors' Center which includes artefacts, exhibits and some interpretive features of Maroon heritage. Tours of the Visitor Center are guided by the Colonel or designate (usually a Captain), who also guides tours to the nearby Nanny Bump grave and Nanny Falls. Along the trail to Nanny Falls is a neighbouring trail which was identified as a potential for the viewing of the endemic Jamaican Hutia/ Coney. Other activities include visits to archaeological sites where Maroon villages existed. An annual cultural event Nanny Day Celebration is held in Moore Town on National Heroe's Day in October. There is traditional food, music, drumming and dance in addition to a variety of guest speakers. In the evening there is usually a dance which is very popular with the neighbouring communities.

Nanny Town

The Trail to Nanny Town (really little more than a route known by a few Maroons) and Nanny Town itself were rarely visited by anyone apart from Maroon Hog Hunters due to the steep and treacherous nature of the route and the belief that the spirits of the ancestors should not be disturbed. This remained the status quo- until the interest shown by Archaeologists first in the 1970s and then the major expedition by Kofi Agorsah with the University of the West Indies in the 1990s. There was apparently significant discussion amongst the Maroon community regarding the permission for this archaeological research to occur. Following this research, the trail and area was hardly visited until a few visits in 2014, associated with (i) the Nanny Queen of the Maroons documentary produced by two descendants of Maroons now based in the USA and (ii) the World Heritage Site evaluation. The trail is only known to a few Maroons who seldom take visitors – an average of two per year. A recent expedition to explore the potential of a trail hike to Nanny Town as a Backcountry experience was undertaken by avid hikers Adam Hyde and Dr. Ryan Utz. The report produced as a result of this expedition indicated that the hike to Nanny Town will take up to two days through heavy forests and deep valleys and recommended this trail be guided by residents familiar with the trails- preferably hog hunters- as they are familiar with the steep slopes and routes across potentially dangerous rivers such as the Stony and Corn Husk Rivers. While attraction features are minimal, the initial entry to the location has an abandoned village - Johns Hall, the Macungo level which is said to have been a Maroon Plantation and a stone wall enclosure along with carvings on stones which were said to be left by inhabitants.

Agro- Tourism

Agro-Tourism is a subset of cultural tourism which allows visitors the experience of agricultural life for the purpose of enjoyment (Petroman and Petroman 2010). Visitors are engaged in activities such as touring farmlands, observation of cultural farming practices and assisting with farming activities if they so desire. These activities are intended allow the visitors a closer

connection with nature while contributing to the sustainable environmental, economic and social development of the host communities. Activities may include outdoor activities such as fishing and livestock/crop care, educational tours through processing facilities or farm and lodging/camping on farms.

Agriculture is the main source of livelihood for communities within the Rio Grande Valley, with crops such as bananas, plantain, ginger, yam, breadfruit and coffee being cultivated. This gives the area potential for the exploration of agro-tourism. Currently, the Rio Gran Health Farms tour – operated by a community member, offers a farm tour in Windsor; which is the gateway to Moore Town, Cuna Cuna Trail, Corn Puss Trail and Nanny Town. The tour allows visitors to explore organic farming practices, understand the cultural heritage of the Maroons along with providing an insight on the history and development of the area since colonial times. Visitor numbers are reported by the operator to be inconsistent, but have however hosted in the past a maximum of sixty (60) visitors. The tour offers amenities such fully equipped dormitories which are able to host up to twenty-five (25) visitors; with the option for outdoor camping. Tour operator also offers the option for picnicking on the Rio Grande River flood plain, with activities offered such as river tubing, rafting, fishing and stilt walking. Additionally, University groups to the Ambassabeth Cabins are also exposed to agro-tourism as farms exist along the entry way to Cuna Cuna trail (*photo 3*) and they may from time to time during visits to farms, volunteer with farming activities or learning local food preparation techniques. Mention must also be made of the Millbank community centre which is currently being refurbished to accommodate a small dried fruits processing plant; which will form part of their agro-tourism product.



Photo 3 Farms along the path to Cuna Cuna Trail

Visitor Use/Management Concerns

Infrastructural Limitations

Visitor satisfaction contributes significantly to a successful ecotourism product. The inability to provide basic amenities such as functional sanitary facilities, food, potable water, rest stops and safety features along trails will ultimately lead to a reduction in tourism numbers in these locations. While numerous potential and existing tourism sites exist such as Nanny Falls trail, Watch Hill Trail, rafting/picnicking along the Rio Grande Valley; the provision of the basic amenities mentioned are minimal. There exist no sanitary facilities along the Nanny Falls Trail nor at Nanny Falls, with the closest located at the Moore Town Visitor Centre which is approximately forty five (45) minutes walk from the location of the Falls. Failure to provide these amenities will ultimately result in disposal or discharge of waste directly into the environment. The same exists for sites in Cornwall Barracks and Hayfield.

The locations being assessed are located at an estimated range of 15- 25 km with an average range of 30 min– 1hr drive from Port Antonio which is the nearest town. Visitors may therefore seek the option of lodging at these locations after the day’s activities, or to give the option of spending more than a day exploring the region. While some residents have offered and do make provisions for Bed and Breakfast there is limited available legally approved lodging facilities for visitors who choose to overnight. This may deter visitors - especially those travelling from overseas or outside of Portland parish, from visiting some locations or selecting sites without access to lodging facilities.

Since eco-tourism destinations are usually found in remote areas, visitor safety and security becomes a paramount concern. Maintenance and absence of infrastructure ensuring visitor safety was evident in locations currently offering ecotourism services. The absence of security features such as handrails, drainage, steps etc. were missing from some important areas along the trail to Nanny Falls in Moore town. The trail to Nanny Falls also showed signs of land slippage with no re-enforcement or repairs being carried out to the areas (*photo 4*). Additionally, steps leading down to Nanny Falls were in a state of disrepair and pose a significant risk to visitor safety (*photo 5*) Whilst there are plans to do repairs, the funding has not yet been sourced.



Photo 4 Land Slippage along the trail to Nanny Falls



Photo 5 Steps leading down to Nanny Falls

In the event of accidents due to natural disasters or otherwise, access to health services is extremely limited, as no first aid facilities nor trained first aid attendant exist locally. The closest hospital lies within 25km of the location. It is important to note that while this may seem a short distance, travel time may exceed 1 hour due to road/trail conditions if causality takes place at the actual fall. Communication services are also limited in some areas which also pose a risk to visitor safety in the event of health or security incidences that may arise.

Improvements to the visitor centre used in current tours are currently required, as some parts of the building lie in a state of disrepair, with artefacts and other interpretive displays damaged or unprotected.

Trails

Corn Puss Gap Trail

The Corn Puss Gap Trail currently has no bathroom facility present along the 5 mile trail. Maintenance and absence of critical safety infrastructure such as handrails and steps was also evident along the trail. Descent to Quaco River is in need of carved and reinforced steps to ensure visitor safety. In the event of accidents to visitors due to natural disasters or otherwise, access to health services is extremely limited, as no first aid facilities exist locally. The closest hospital lies within 25kms of the location, while this may seem a short distance, travel time may exceed 2 hours due to road/trail conditions.

Muddy areas along the trail (*photo 6*) required some “hardening” e.g. gravel and even stone walls to prevent excessive soil erosion/compaction and land slippage which may occur as a result of visitor trampling during wet periods. There appears to be a need for improved drainage since soil erosion from water is a main issue of concern on trails and especially as the Rio Grande Valley is an area of high rainfall. Trail maintenance activities are carried out as corrective action to damage caused by inclement weather conditions and not due to a documented maintenance programme.



Photo 6 Muddy areas along trail requiring “hardening”

Cuna Cuna Pass Trail

The Cuhna Cuhna Pass Trail currently has two rest stops with available bathroom facilities, first at about 20 minutes into the trail hike and the next at Contingent before descending to the Hayfield stretch of the trail (*photo 6*). However, while the first rest stop received some improvements the second is in a state of disrepair. Consequently, the facilities are unable to service visitors taken on these hikes which may last for up to three hours. While it was evident that some maintenance activities were being carried out on walkways, rails and steps they were done as a result of damage done due to heavy rainfall. There exists no maintenance programme for infrastructure along the trail. A few high risk areas were also missing hand rails, adequate drainage and steps. Land slippage was evident in some areas along the trail. The tour guide advised that land slippage occur at the same locations during heavy rainfall and plans were in place to re- route the trail to different areas on the hillside. These areas however lacked reinforcement to prevent land slippage and promote proper drainage.



Photo 7 Bathroom and rest stop #2 on Cuna Cuna Trail

Nanny Town Trail

Utz and Hyde (2017) highlighted that no established trail exists on the route to Nanny Town and would require some amount of infrastructural development such as soil retention mechanisms, cable crossing for rivers and trail developments as none currently exists. The absence of this infrastructure will result in visitors being exposed to potentially dangerous encounters in the event of river flooding or land slippage. Additionally hikers would have no access to sanitary facilities during what may be a two day venture. Interviews with hikers and community members revealed that there is an aversion to allowing a large volume of visitors to the area and recommendations were made to allow an average of 10 visits per year if the area is to be advertised as an option for touring. One rationale for this suggestion was the absence of safety features and infrastructure along the trail with minimal attractions.

Visitor Satisfaction/Visitor Knowledge

Conservation of natural and cultural resources - while inherent for some visitors will need to come through the implementation conservation strategies by the relevant community groups within the tourism destination. Therefore, educating visitors and community members is an important as it ensures visitors understand their potential impact on the environment and will ultimately promote the reduction of negative environmental impacts such as waste disposal, water pollution, unregulated habitat alteration and community disruption. Another important component is the understanding visitor preferences which seek to ensure visitor satisfaction and safety.

Along the Cuna Cuna and Corn Puss Trails the tour guide advises visitors of the requirements for environmental protection and is very knowledgeable of the cultural and natural history of the paths along with species of flora and fauna present. However, the trails could accommodate additional educational and interpretive signage in the event visitors are unable to keep up with the guide. There are a few signs at the start of the trail, particularly on the Hayfield side, but they are in poor condition and in need of replacing. Utz and Hyde (2017) expressed concerns of invasive species such as wild coffee (*Pittosporum undulatum*) which can also be spread through creation of trails and recommended that trail development includes educational material stating the threat of species along with recommendations for management actions to prevent further proliferation. Additionally the need exists for warning signs along trails for dangerous areas.

While farmers in the Upper Rio Grande Valley received certification from the Tourism Product Development Company (TPDCo) in tour guiding, this took place over ten years ago with farmers in the BPFA receiving training over three years ago. No known training activity has taken place in the Lower Rio Grande Valley, Consequently, untrained guides are responsible for offering tours in the multiple groups present in each community; this along with inadequate signage and interpretive features will lead to inconsistent or no information relating to conservation of natural and cultural resources being disseminated to visitors. To ensure visitors have a clear understanding of the existing natural and cultural resources and methods to protect them, adequate regulatory, educational and interpretative signage must be present throughout selected eco-tourism sites along with facilitating the recruitment or training of tour guides.

Currently, there exists no organized platform exists for understanding specific visitor requirements as it relates to specific recreational activities, provision of infrastructural and recreational amenities along with visitor ability to safely explore different recreational areas within communities. The need exists therefore, for all communities to collectively determine methods of identifying visitor requirements; both new and existing, which will involve understanding clearly the needs and expectations of visitors. This will ensure a sufficient foundation is established which will allow for visitors to remain satisfied and build a culture of continuity with locations visited. Some requirements may include, wildlife viewing, sighting rare animal species, visiting archaeological sites, bird watching, interpretive / learning experiences, discovering local culture and food, lodging etc. Visitors should also be briefed on areas to be visited and potential safety, security risks to be considered.

Waste Disposal

Successful and sustainable tourism involves the provision of clean, unpolluted areas for recreational activities. A current challenge existing in the Rio Grande Valley and specifically the Moore town area is the lack of acceptable methods of waste disposal such as a central waste disposal area or consistent servicing from the municipal garbage disposal company. Interviews with local tour guides and community members revealed that waste disposal is a significant issue within the communities of Moore Town and Windsor as the municipal collector visits are infrequent. While some farmers may re-use portions as organic waste periodically, non bio degradable waste such as plastic, glass and metal are seen in locally created areas. The introduction of visitors to these areas will ultimately lead to uncontrolled waste disposal, as no mechanism exists for consistent solid waste control.

Need for Improved Management Structures/Systems

Given that eco-tourism is a highly complex activity, lack of effective planning for eco-tourism activities may ultimately result in deterioration of the natural and cultural environment, along with significant negative social and economic impacts. Considerations must be given to the management of visitor numbers, management of development activities to reduce environmental

impacts and benefits that will be realized by the communities for future sustainable development. Establishing and maintaining relationships between community-based organizations and relevant institutions will also improve the quality of the eco-tourism projects. Within the Rio Grande Valley, there exist community based organisations, tasked with the responsibility of guiding the eco-tourism activities within the communities. Within the Rio Grande Valley the Windsor Community Development Centre and the Moore Town Maroon Council are the existing community based organizations, tasked with the responsibility of guiding the eco-tourism activities within the communities, while The Bowden Pen Farmers Association has taken on the responsibility for managing visitation to the Corn Puss and Cuna Cuna Pass Trails.

While multiple Community Based Organizations and tour guides exist in the Rio Grande Valley e.g., the capacity of members to administer relevant services such as tour guiding, marketing of tourism activities, first aid services, hospitality, food and beverage management and food safety are limited. Consequently, visitor safety and satisfaction may be at risk due to the inability of the groups to plan for and execute viable, enjoyable and safe services to meet both visitor and regulatory requirements. Better collaboration, coordination and sharing of resources are to be encouraged. Additionally, while steps are being taken by each group to develop programs to guide eco-tourism activities, the absence of cohesiveness within communities and inadequate planning for eco-tourism activities pose a significant risk to the current tourism activities being undertaken.

The location of sites within the Upper and Lower Rio Grande Valley are such that visitors will need to cross community boundaries from time to time, or may desire a trip to all sites within a visitation period. The need arises therefore; to ensure all existing organizations align their management activities to plan for and control visitor activities while ensuring the sustainable use of natural and cultural resources.

Aligning management structures and establishing a comprehensive management plan across CBO and with the National Park management will allow funding and private agencies a foundation on which they may offer assistance. This might include viable investments for development of critical areas such as sustainable infrastructural planning and development, capacity building and marketing of ecotourism activities. Additionally, regulatory agencies will gain more confidence in approving ecotourism activities for local and international marketing.

Unregulated Tourism

Unregulated tourism can arise due to the absence of management structures and can have adverse negative impacts on biodiversity, cultural identity and economic development within an ecotourism destination. While ecotourism aims to encourage visitors to appreciate the natural and cultural heritage along with providing economic returns, failure to manage the activities leading to this may prove detrimental to both the natural environment and socio-economic well-being of the communities involved.

Within the Moore Town community organisations such as the Jamaica National Heritage Trust, African Caribbean Institute of Jamaica, JCDDT and the Maroon Council all play a role in organizing tourism activities within the community. Upon evaluating the existing uses of the recreational areas within the Rio Grande Valley however, it was noted that numerous tour operators exist within and outside of the community. These tour operators may not go through the required channels to schedule visitation as such a channel if it exists is not clear. This poses a challenge for the regulation of visitation and visitor numbers within the vicinity. There is also the challenge of lack of cohesiveness between the communities along with the absence of tourism plans which will also contribute to unregulated and unwelcomed visits to the destination. Consequently, the carrying capacity of the areas may be exceeded on each visit. Additionally, being unaware of local practices – due to use of inexperienced and untrained guides or travelling without prior approval may result in ventures to areas deemed culturally sensitive to the Maroons. This could also be seen as a threat to the cultural heritage or an invasion in their ancestral home. Members of the Moore Town community have expressed their displeasure with neighbouring communities and external tour companies planning and executing visits without prior notification or approval, to visit areas such as Nanny Falls, caves, trails and also Nanny Town. The concerns expressed were disrespect for cultural heritage, visiting of areas deemed culturally sensitive and little or no economic returns to the local community for development of the ecotourism product.

Natural Heritage Conservation and Environmental Management Concerns

There should be a symbiotic relationship between ecotourism and conservation efforts (Boley and Green 2016) to ensure the main objectives of ecotourism are met. The quality of natural resources that comes from conservation efforts will ensure the ecotourism product being developed is more competitive and economically beneficial to the local community and destination country. Given the limitations mentioned above, conservation efforts will be fruitless unless management plans are established and implemented to combat unsustainable practices. Considerations must also be given and plans put in place for potential damage that may be done to areas due to natural hazards, which are becoming more frequent due to climate change.

While an objective of ecotourism is to promote the conservation of natural and cultural resources, unmanaged activities will have potential negative irreversible effects on the physical environment. Eco-tourism development requires infrastructural development/improvements, visitation to ecologically sensitive areas and use of water resources. Unregulated and unplanned eco-tourism activities will usually lead to unsustainable land use practices, waste disposal, soil compaction, soil erosion, water pollution, removal of native and endangered species among other negative impacts that come as a result of exceeding the physical carrying capacity of an ecotourism destination. Sites such as the Cistern Spring Waterfall and the “Rat Bat” Cave in Cornwall Barracks, Broadstone Beach and Annie River in Ginger House will require strict monitoring to ensure that negative impacts that arise as a result of tourism activities are controlled to ensure sustainability of the tourism product and the natural and cultural environment.

The Cuna Cuna, Corn Puss Gap and Nanny falls trails are experiencing soil erosion and land slippage due to heavy rainfall. Land slippage was also evident along the access road from Moore Town to Cornwall Barracks. Additionally, some amount of soil compaction and root exposure was evident on trails - due to inadequate infrastructure to ensure stability. Consequently there may be damage soil structure along with plants that serve as habitat or source of food to endemic species. Additionally, given the abundance of endemic plant and animal species within the Rio Grande Valley and along these trails, unregulated visitation may lead to deterioration of these

resources through the introduction of invasive species or extraction of endemic species by uneducated or unmonitored visitors.

Hyde and Utz (2017) identified numerous areas of concerns for natural heritage and environmental management in and on the route to Nanny Town. Their report highlighted that while there is potential for a unique attraction due to the cloud forests, endemic species and vast biodiversity, considerations must be given to maintain the ecosystems protected by the BJCMNP as there exists minimal degradation in these ecosystems. The absence of an established route will lead hikers through rainforest covers and steep slopes with unstable substrates which lead to some level of land slippage or erosion which was observed by the hikers during their expedition. This will require stabilization structures to prevent soil erosion. While lands were observed which were cleared in the late 20th century for agriculture, little evidence was seen of current encroachment on the route leading to Nanny Town. The spread of invasive species such as wild coffee (*Pittosporum undulatum*) and Bamboo (*Bambusa vulgaris*) were observed in high elevation areas with *P.undulatum* forming dense areas and being spread by birds that feed on berries. Interviews with Maroons also expressed the concerns of invasive species being introduced to the area with by potential hikers.

The initial ascend through Windsor into Johns Hall require river crossings through the Rio Grande River with additional river crossings further on the trail through the Stony and Corn Husk Rivers. Considerations must therefore be given to the modifications or infrastructural developments that may have to be undertaken and the potential effects to the rivers to make these areas passable in the event rivers are in full spate. The potential for exploring camping along areas of the trail was also mentioned in the report. However, considerations must be given to the management of visitor activities such as waste disposal and extraction of flora and fauna from the surrounding areas. Conversely interviews with locals revealed positive impacts may arise from introducing monitored visitation to the areas which include the possibility of increased monitoring of physical and climatic changes in the area along with monitoring of changes in habitats of flora and fauna; which will come through the creation of tourism management plans.

Cultural Heritage Preservation and Socio-cultural Concerns

Cultural heritage provides an identity for people within a community and contributes to both social and economic cohesion. When combined with natural resources, a valuable ecotourism product is created which fosters economic development both through the creation of employment opportunities and allowing visitors become knowledgeable of local culture through provision of craft, food, music and sharing of historical facts. Communities within the Upper Rio Grande Valley are known for the rich cultural heritage of the Windward Maroons, which used the forests to successfully defeat the British. Many people currently residing within the communities are still of Maroon ancestry and retain traditions such as dance, use of craft use of herbal remedies and music for both relaxation and a source of livelihood. The music of the Moore Town Maroons has been recognized by UNESCO as a "Masterpiece of Oral and Intangible Heritage". The conservation of both cultural and natural heritage therefore becomes vital to the sustainability of the ecotourism product and overall social development within the community.

The involvement of local community members is essential due to their intimate knowledge of the surrounding ecosystems and will maximize economic returns to the local community; as income gained will be directly be re-invested in community development and individual livelihood. However, all communities assessed have voiced the concern of migration of the younger generation from the communities to access employment opportunities overseas and the corporate areas. Community leaders have advised that due to the inability of the younger generation to see the full potential of tourism in the communities along with lack of interest, they have sought alternative sources of income. Consequently, the critically services such as meal preparation, tour guiding, marketing and visitor lodging may need to be outsourced to external suppliers. Interviews conducted revealed that there are positive benefits to be realised by the communities if younger generations are made fully aware of and appreciate the importance of and the benefits to be derived from their natural and cultural heritage. Community members therefore need to be educated on the potential for income earning opportunities that will arise from activities such as; guiding tours to hiking to areas such as Nanny Town, Nanny Falls, Cuna Cuna and Corn Puss Gap Trails, providing meals such as wild hog meat and supplying farm/medicinal products and craft for sale to visitors.

Considerations will also need to be given to the current livelihood practices within the communities. The communities within the Rio Grande Valley are heavily dependent on agriculture as a source of income. Crops such as coffee, bananas, plantains and coconuts are heavily cultivated in the region. Potential and existing destinations fall within the vicinity or are located beyond lands currently farmed; the visitors are therefore required to traverse land under production. Additionally, numerous small grocery stores, shops and concessionaires exist within the communities. Collaboration between tour operators and community members will therefore be necessary to ensure no conflict occurs and there is minimal disruption of current activities or competition which may result in economic loss.

The current challenges faced with unregulated tourism may result in the social carrying capacity being exceeded due to eco-tourism activities and a resulting deterioration of the resources through community disruption, tampering with sacred sites among other activities deemed to have a negative impact on local culture.

Conclusion

Sustainable tourism can contribute to the development of rural communities, through provision of income earning opportunities for members of the host community. Ecotourism allows for income generation, while preserving the natural and cultural resources through education and employing suitable resource management practices. Within the Rio Grande Valley, a myriad of opportunities exists for income generation through tourism whether it be ecotourism, agro tourism, community or nature tourism. Notwithstanding this, the activities introduced may have negative irreversible effects on the natural and cultural resources which they depend.

Currently, tourism activities are being offered such as trail hikes, farm tours, and visits to cultural sites. However, these activities are unregulated in some instances- such as those offered in Windsor and Moore Town, while others require some amount of improvements- trail hikes on the Cuna Cuna and Corn Puss Gap. Consequently, the need arises for a comprehensive management plan which will highlight all areas of concern and make recommendations which will ensure that activities are carried out in a sustainable manner.

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