Smart Communities, Smarter People: *The Case of a Pilot Project in Jamaica*

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Importance of Tourism to Jamaica

• Primary Economic Activity for Most Caribbean Islands
  – Earns foreign exchange and provides jobs
  – Provides economic stimulus through multiplier linkages with other sectors (construction, agriculture, transportation, manufacturing, etc.)

• Highest contributing sector to GDP (~20%)\(^1\)
  – 23% of the country’s labour force
  – Attracted 11% of total FDI investment in 2013

• Some Critical Challenges
  – High leakage rates (50 – 80%)
  – Weak linkages (eg. High food import content ~70%)
  – Dominated by large properties, marginalization of SMEs

Community-Based Tourism

- **Diversity & Niche**: embraces eco-tourism, cultural tourism, adventure tourism, recreational tourism, geo-tourism, heritage tourism, health tourism, farm tourism (whatever the community decides to offer)...Contributes to Sustainable tourism through diversification and a natural alignment with the interests and greater inclusiveness of local actors and communities

- **Linkages**: Integrated approaches encourage linkages with other community activities – agriculture, agro-processing, art & craft, etc.
About Smart Cities

• Proliferation of Internet of Things (IoT) devices, mobile phones, smart grid infrastructure deployed by electric utilities, public video surveillance systems

• Open Data policies at the national, provincial or city levels

...“technologically instrumented and networked cities, with systems that are interlinked and integrated, and where vast troves of big urban data are being generated by sensors and used to manage and control urban life in real-time”
Our Definition of a Smart Community

**Smart People** ~Digitally savvy, produce / have access to data and information and can use it to improve lives

**Collaboration** ~local government works together with civil society to solve problems and empowers the public with the skills and information resources they need

**Climate Smart** ~Sustainable development that protects, preserves the environment

**Innovation** ~Entrepreneurs & Innovators collaborate to identify market opportunities and build Data-enabled solutions and services

**Education** ~focus on, invest in quality primary, secondary education of future citizens

**Brand** ~create an identity and become known for its unique value

**Data** ~quality geospatial data is the foundation of Smart communities
Our Definition of a Smart Community

**Smart Community Ecosystem**
“full of smart citizens who produce/have access to data and information and can use it to improve lives; where local government works collaboratively with citizens to solve problems and empowers the public with the skills and information resources they need; where Innovators build data-enabled solutions and services and collaborate with Entrepreneurs to identify market opportunities for new business models, products and services that can enhance the social and economic well-being of the Community”

**Education ~**focus on, invest in quality primary, secondary education of future citizens

**Innovation ~**Entrepreneurs & Innovators collaborate to identify market opportunities and build Data-enabled solutions and services

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Components of a Smart Community Development Framework

• Data and Interactive Community Mapping
• Platform Enablers
• Anchor Applications (Apps)
• Actors/Partnerships
• Digital Literacy
Interactive Community Mapping

• Participatory geoData process that engages individuals in creating maps of their community

• Goal is to help key stakeholders (*community members, governments, CSOs, and development partners*) harness the collective wisdom and knowledge of these communities and to become drivers of development

• Effective Interactive Community Mapping
  – Result Outcomes: Community Map artifacts
  – Process Outcomes: Training, capacity-building & empowerment
  – Value Outcomes: New business ventures, commercial skills, community empowerment

• Open Data is a key enabler of Mapping outcomes
A Layered Model for Community Open Data

- **Official Government Open Data**
  eg. statistical summary of industry performance; Tourism assets and products including all registered hotel properties, attractions, craft markets, as well as registered operators

- **Tourism Service Provider Data**
  eg. Rates, availability, transportation services, multi-media content; Survey/Research Data

- **Local Community-Based Data**
  Eg community-based content (brochures, photos, music, places of interest, commentary, events); community mapping, including boundaries and main Points of Interest (POIs), available to the public in OpenStreetMap

- **Crowdsourced Citizen Data**
  eg. Peer reviews, Likes/dislikes; Social media, shared multi-media content: photos, videos

Community Based Tourism presents a unique opportunity for bottom-up, demand-driven Open Data Initiative
Key Actors in a sustainable smart community ecosystem

**Catalysts (Institutions / Agencies)**

See the value of GeoData, especially when Open. They know that "locals know best" and enable and teach people to Map. They advocate and facilitate government agencies and professionals to create and use open geodata.

- Sparking local involvement by "non-professionals"
- Motivating governments and businesses to open up data
- Training & Capacity Building, Research
- Implementing standards, documenting APIs, opening "easy access"

**Enablers (Mappers)**

Are enthusiastic about technology, they know what is going on in their neighbourhood. They love to go out, map and document what is there and how.

- Mapping their Communities
- Making data available in OpenStreetMap
- Making data available for which the license is incompatible with OpenStreetMap
- Creating metadata, describing and promoting datasets

**Builders (Developers)**

Are tech-savvy, they have the skills to turn Geodata into applications. Using Open Source and API's, they turn ideas into prototypes.

- Geeks, programmers, students and businesses that add value to and through the data...
- People that want to create applications or "output" (like statistical maps, visualizations) in the broadest sense

**Runners (Entrepreneurs)**

Spot new opportunities. Taking prototypes to the next level. Offering jobs and find the right audience.

- Reaching out to people that are willing to test and use apps created by the "Builders"
- Contribute either financial or from a user / market perspective

**Custodians (Data Owners)**

Owners of Data that can be convinced of the merits of opening up and contributing their Data assets to the geodata ecosystem.

- Government Agencies that collect and maintain GIS Data Assets
- Businesses, Entrepreneurs that generate valuable spatial or attribute data
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**Users**
interact with the real-world communities, engaged and empowered by the digital artifacts (maps, images, visualizations and mobile apps)
- Tourists interacting with Communities
- Citizens learning about their heritage, geography, history
The Treasure Beach Smart Community Project

• A pilot *Smart Community* project is currently being implemented in Treasure Beach, one of the premier Community Tourism destinations in Jamaica and the Caribbean.

• ...a beautiful geographic region on the south-west coast of Jamaica, collectively known as Treasure Beach, Fort Charles, Billy’s Bay, Frenchman’s Bay, Calabash Bay, and Great Bay.

Vision

“by the year 2030, Treasure Beach will be known throughout Jamaica, the Caribbean, and the World as a successful and model community tourism destination that provides visitors the opportunity to experience Jamaican cultural and natural heritage through immersive experiences delivered by small and micro tourism enterprises”
Key Stakeholder Partnership Synergy

1. Academia
   - Conceptualize and overall program management
   - Mobilize funding / stakeholders
   - Building Prototype for “Smart Community” Tourism Platform
   - Training / Capacity Building for Community mapping initiative
   - Provision Tablet devices and Stipend for Community Mappers
   - Design M&E Program

2. Community Partner
   - Identify Key Community Stakeholders
   - Identify a principal project liaison
   - Select Community Mappers (x6)
   - Support community outreach & visibility / buy-in
   - Participate in Consultation sessions (Ideas generation)
   - “Treasure Beach” brand

3. DevCA 2019
   - Regional Innovation Platform for validating the “Smart Community” concept
   - Hackathon event where developers create Tourism Apps and Prototypes using the Platform
   - Create Regional visibility for the Tourism platform and “Smart Community” initiative
MOU Between MSBM and Treasure Beach DMO

Community Mapping  
Data-Driven Community Apps  
Digital Literacy
Treasure Beach Mapping Activity

Mapping Outcome
~180 locations mapped
Features

• Map Display / Flexible Search: Find places of interest based on their features, opening hours or types!

• Contact: All contact information (phone, email, web)

• Navigation: Display how to get to selected places from where you are

• Owner-maintained Information: Easily update place information ~ pictures, description, features, opening times, promotions

• Event Notification: Subscribe to receive notifications about events at places of interest
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Benefits of this Participatory Approach

• Localized to Treasure beach, using data mapped by the community
• Youth from the community can be readily trained to create and maintain the digital infrastructure (community mapping) to support the “smart community” initiative
• Individuals can claim & manage their own "place" data; eg. upload media for places, like photos.
• Enables smallest operator ~ shop, bar to have a digital footprint and manage their own online map presence
• Progressively add functionality / innovations to the Map (i.e. events, plan-u-stay, localized uber) using local developers
• Developed based on the concept of geographical areas, so replication to other areas like Treasure Beach can be readily implemented