Toward a Greener and more Livable Paramaribo

THE IMPORTANCE OF URBAN GREEN SPACES FOR SUSTAINABLE CITIES

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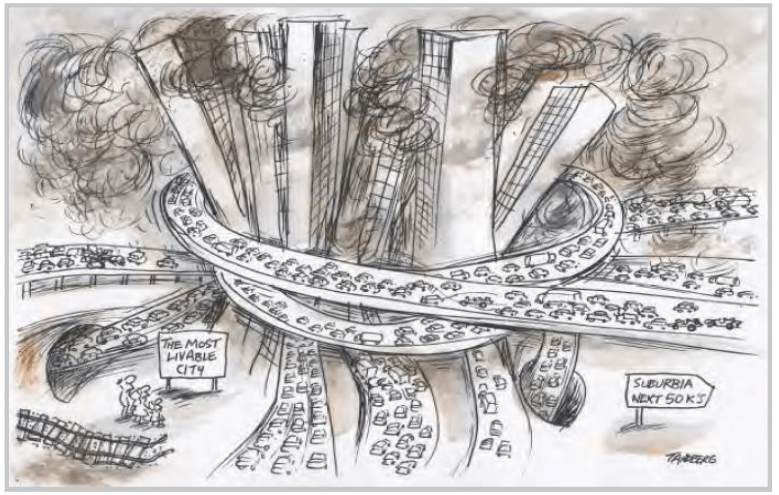
Challenges with urbanization

- 55% of world population lives in urban areas
- Complexity: housing, infrastructure, environmental services, inequalities, human development, pollution, wellbeing…



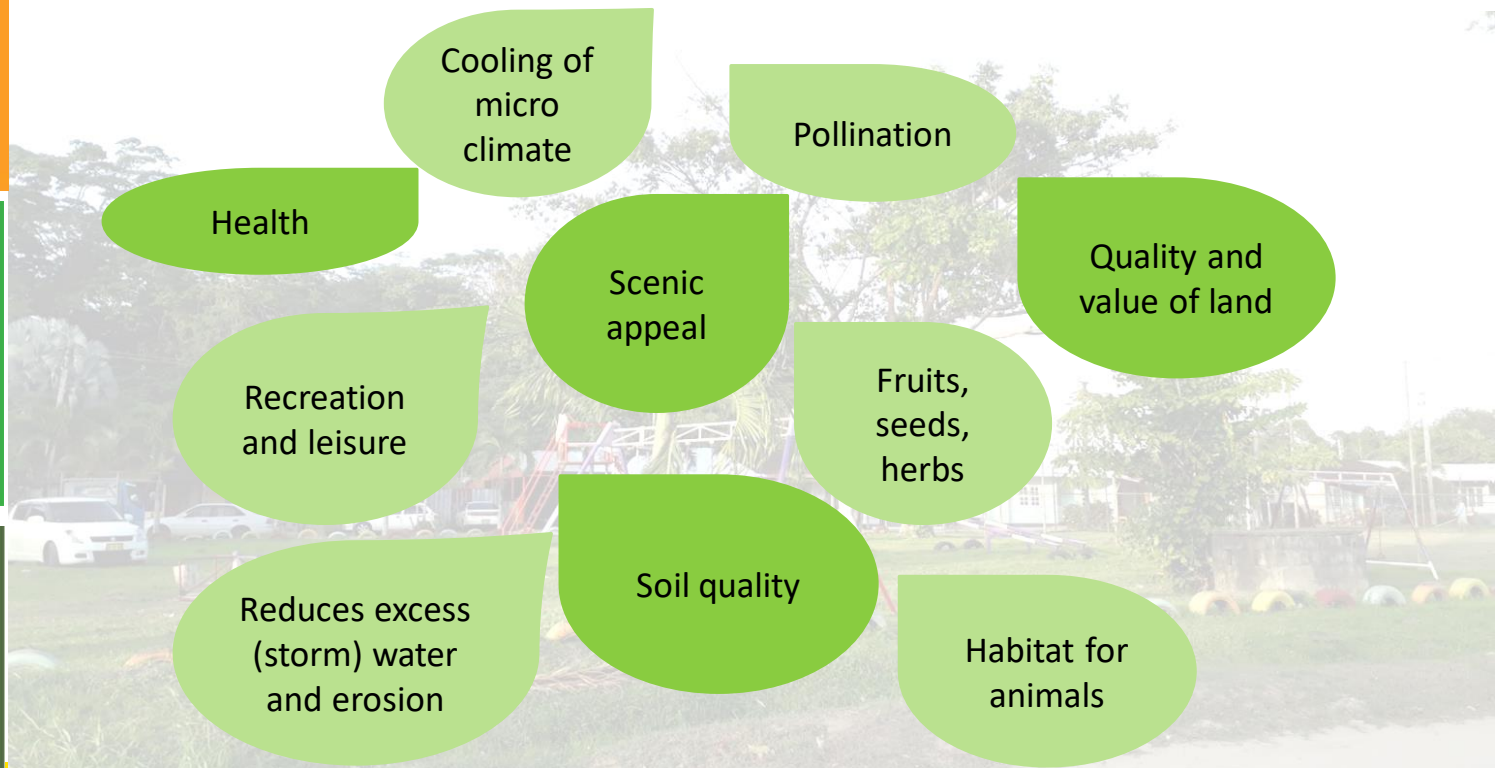
Exacerbated by natural disasters and climate change effects

Implications for the livability of a city?

Open and public spaces, safety, health and wellbeing, culture, infrastructure, environment?

Urban green spaces and ecosystem services

- Urban green spaces (UGS): Forests (fragments), street trees, parks, gardens, low vegetation and grass



Urban context in Suriname

- More than half of the population lives in or in the surroundings of the capital Paramaribo (> 300,000 people).
- Uncontrolled urban expansion
- No structural approach for urban green space in the legislation

Cultuurtuin 2003,

2018 (Google Earth)

Urban context in Suriname

Lack of greening policy in urban planning:

- Lack of (green) public recreation areas,
- Conversion of UGS for commercial projects
- 100% 'clearance of trees' in housing allotment areas,
- Large, old trees along streets replaced by asphalt and concrete,
- Soil sealing

Insufficient concepts and tools for future workforce

Low awareness of citizens on importance of UGS in everyday wellbeing

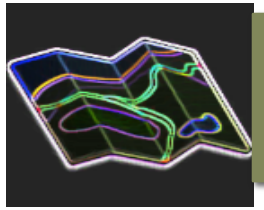
Lack of scientific knowledge on UGS in tropical cities

Limited knowledge and awareness of authorities

The benefits of UGS are insufficiently appreciated

Toward a Greener and more Livable Paramaribo

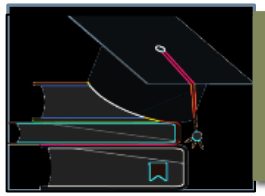
Enhance a green Paramaribo where ecosystem services contribute to a healthy and livable environment for its inhabitants



1. Improved knoweldge: data and information available

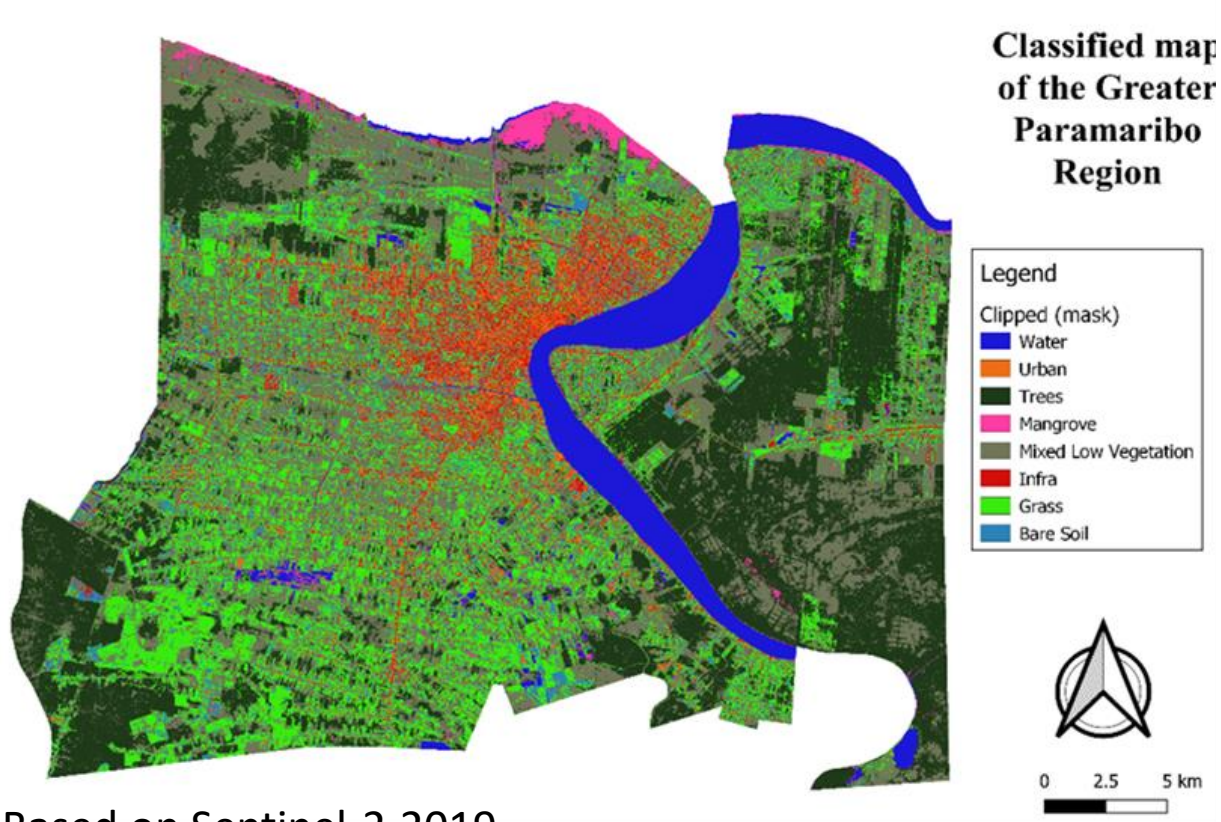
2. Increased awareness

3. Maintaining existing UGS: monitoring



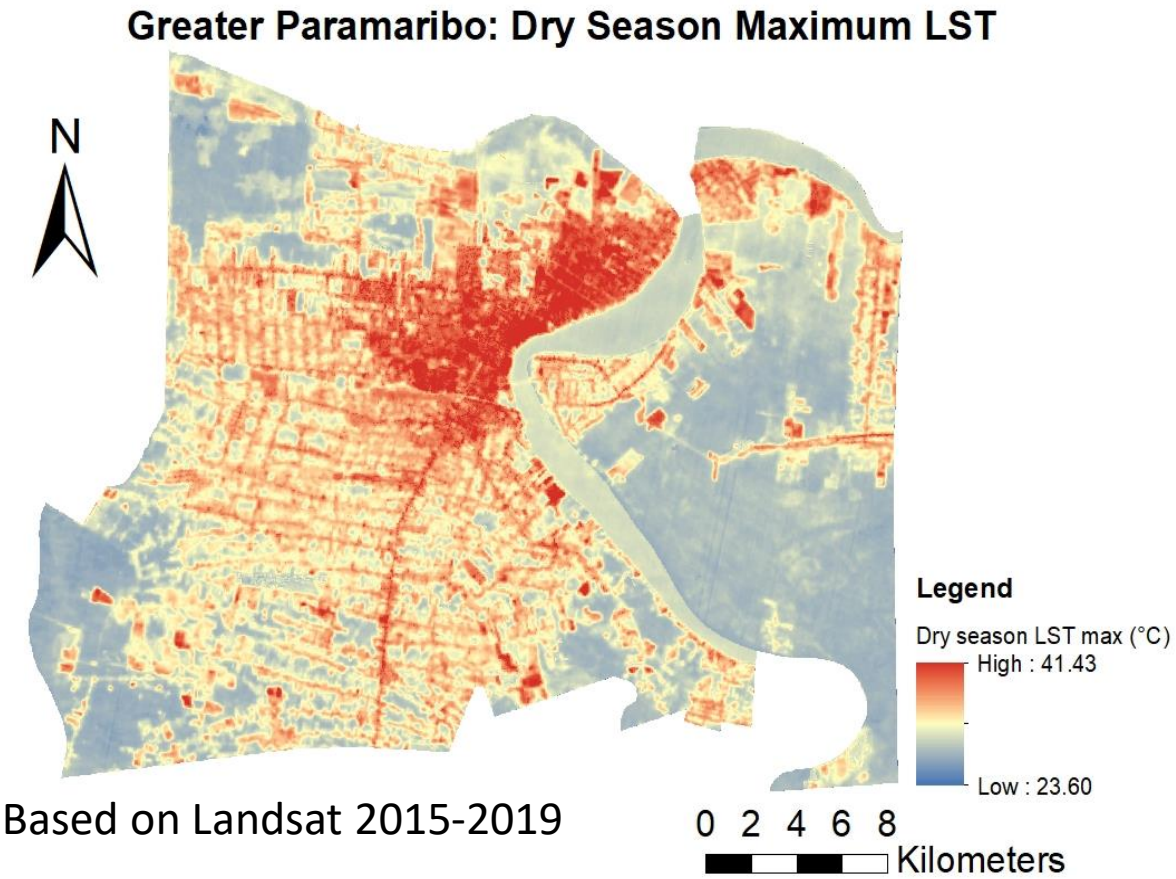
4. Education: capacitate (future) workforce

1. Data collection and sharing



Based on Sentinel-2 2019

Razia Taus et al., 2020, Land cover map of the Greater Paramaribo Region 2019.



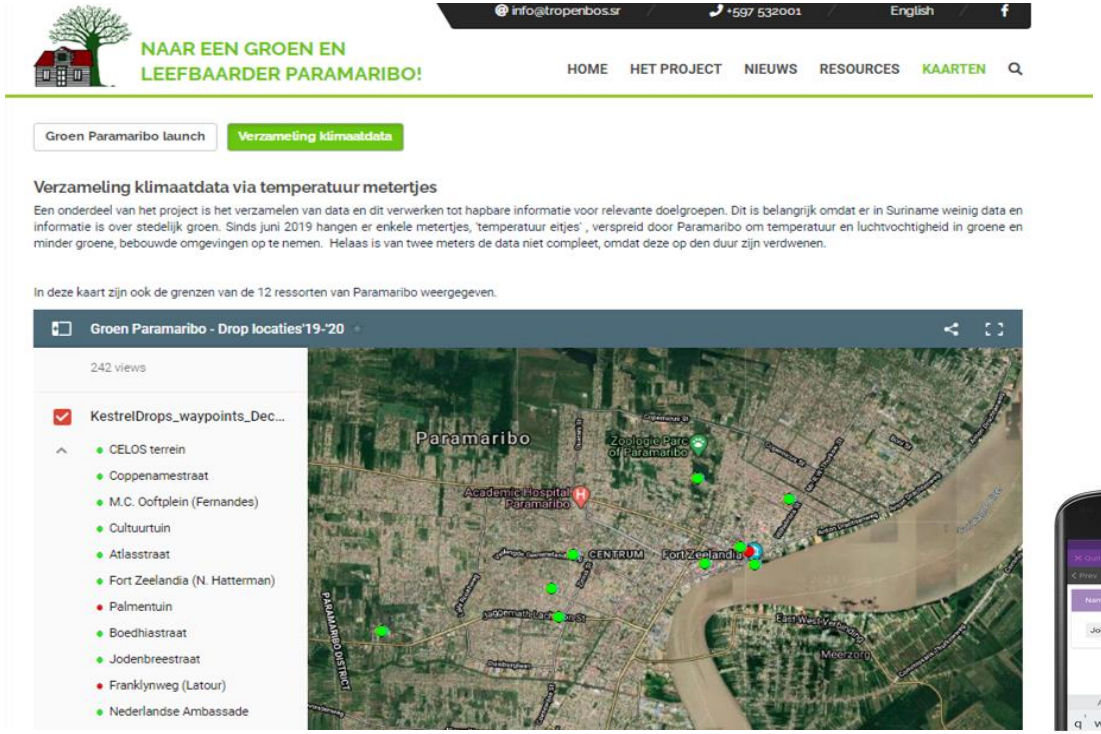
Based on Landsat 2015-2019

Tom Remijn et al., 2020, Maximum Land Surface Temperature in the Dry Season of the Greater Paramaribo Region 2015-2019.

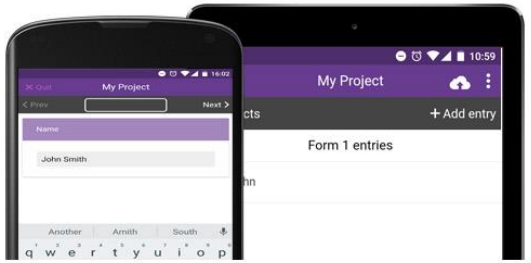
2. Engagement and awareness

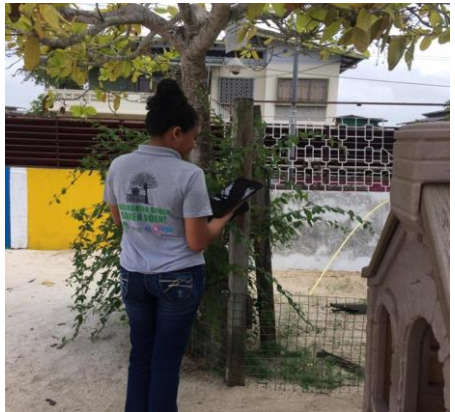
- Policy-makers: collaboration, knowledge sharing, lobbying
- Stakeholders: knowledge sharing, strategic partnerships
- General public: awareness, education

3. Monitoring through citizen science

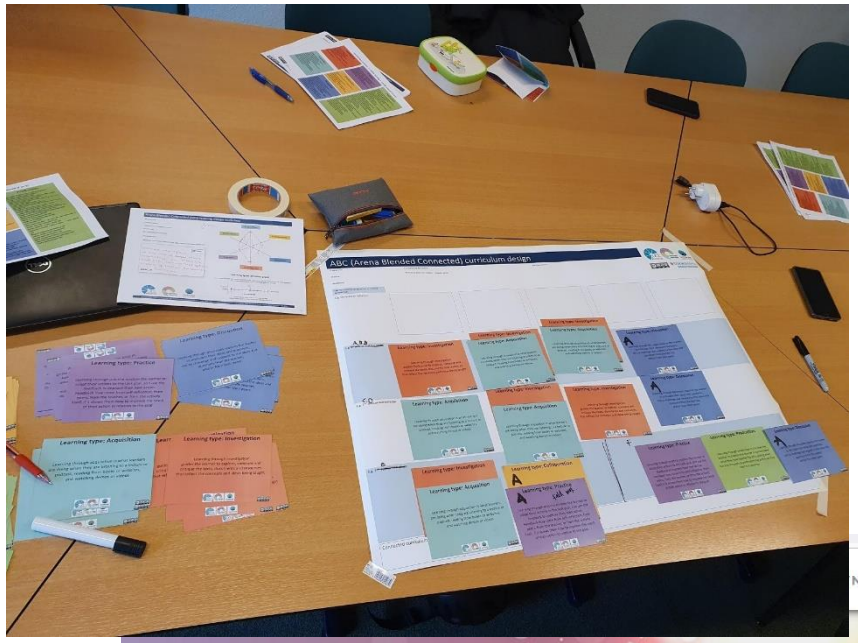


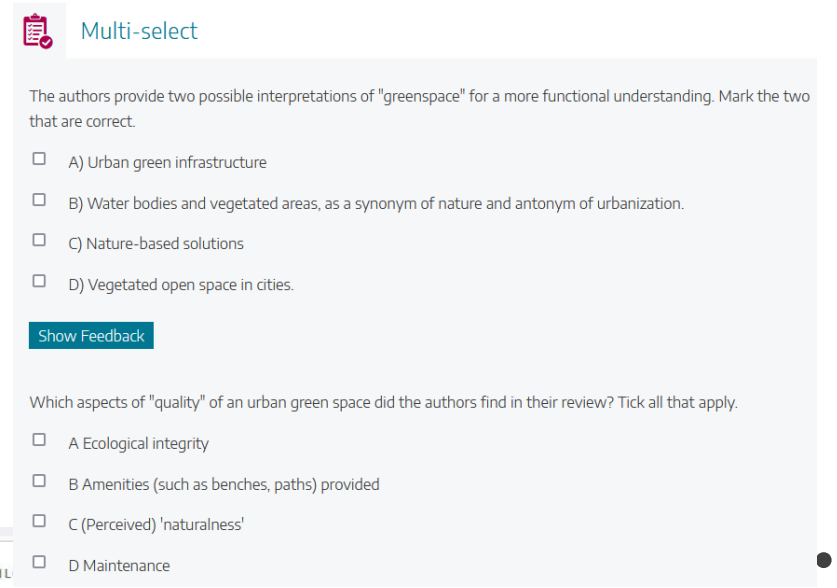
- Cooling effect – Air temperature
- Urban green spaces – change, use, maintenance

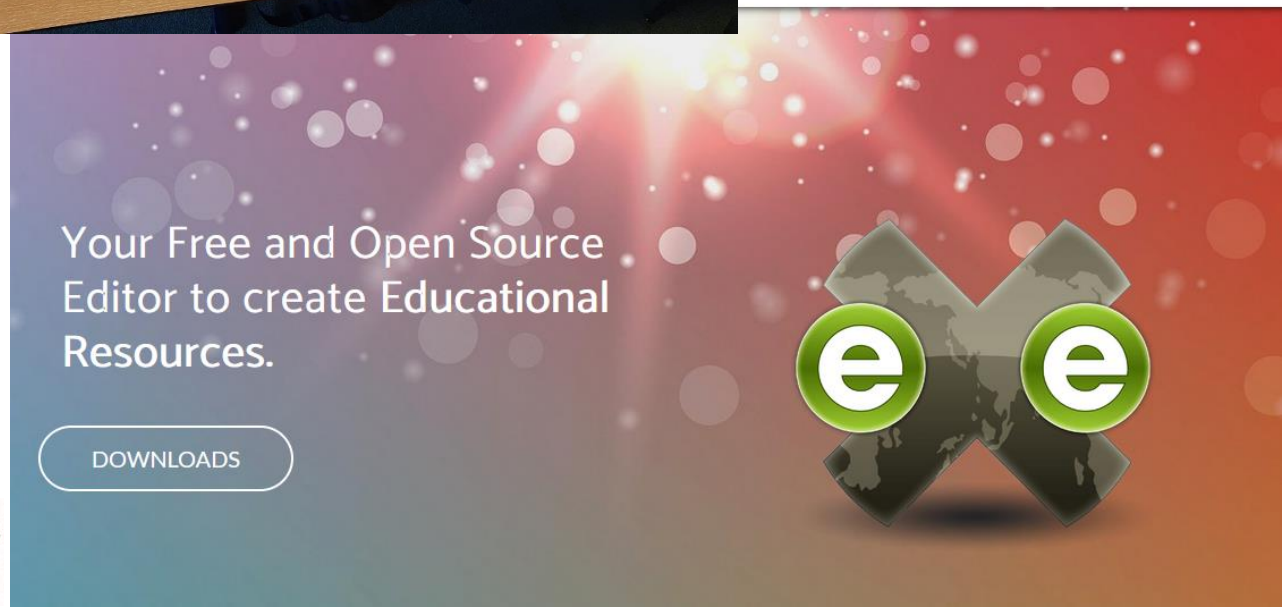




4. Education material







- 40-hour digital module
- Offline, self-paced: Exelearning platform
- Optional classroom exercises
- Open access
- MSc level

Preliminary findings

Paramaribo is quite green though, right?
Yes, however….

- Type and status of UGS
  - Ecosystem services: trees vs. low vegetation vs. grass
  - Accessibility, quality, disservices: private vs. public, abandoned land, maintenance

- Cooling effects
  - Urban Heat Island effect – needs to be triangulated with air temperature measurements
  - Cooling of air temperature in areas surrounding UGS – appropriate methods to consider various factors

Preliminary findings (2)

Main challenges

- Competing land use interests and needs
  - E.g. parking space, housing allotment
- Budgetary and policy provisions for adequate maintenance
  - Lack of capacity and coordination
- Negative perceptions
  - Disservices implicating safety, convenience, pests

Toward resilient urbanization

Further research:

- Perceptions, attitudes and preferences (gender, age, socio-economic class)
- Cooling effects on direct surroundings (multi-year citizen science)
- Tree species and ecosystem services
- Social inequalities

- Integration of UGS into spatial planning and housing allotment license requirements
  - Increase green public spaces, especially in neighborhoods
- Recognition of UGS and ecosystem services as a strategy for climate resilient and sustainable cities
- A tree management plan: The right tree in the right place
- A human approach to changing negative perceptions:
  - Health and mental wellbeing; food provision; income generation

Define and design what a green and livable city means in our tropical, Caribbean context

Thank you!

Contact information

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