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HOW TRINIDAD AND TOBAGO CAN BUILD RESILIENCE WITH THE CIRCULAR ECONOMY PARADIGM

THE ROLE OF DATA, MONITORING, AND REPORTING

DELIVERED VIRTUALLY
APRIL 6, 2022

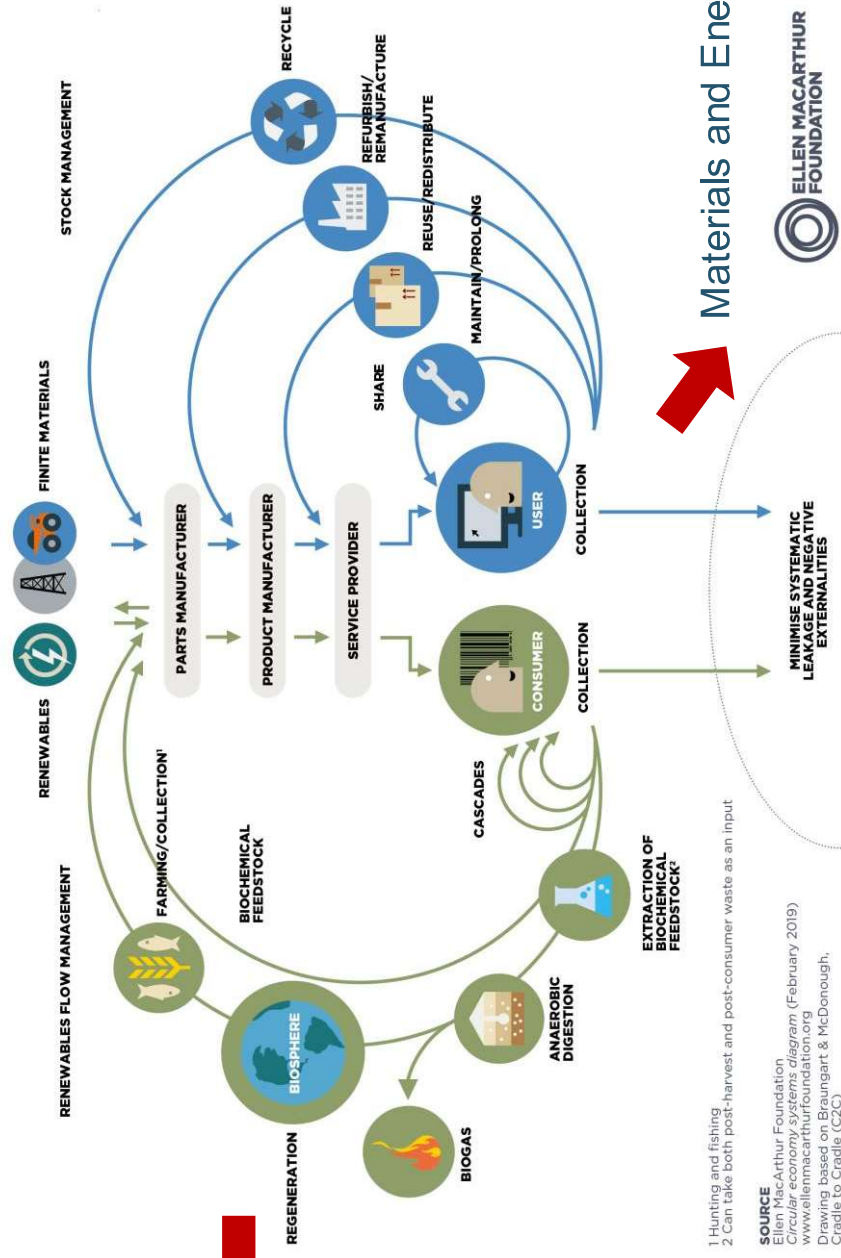
THE CIRCULAR ECONOMY AND DATA

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SCHEMATIC OF CIRCULAR ECONOMY

Materials and Energy Input



Process Data

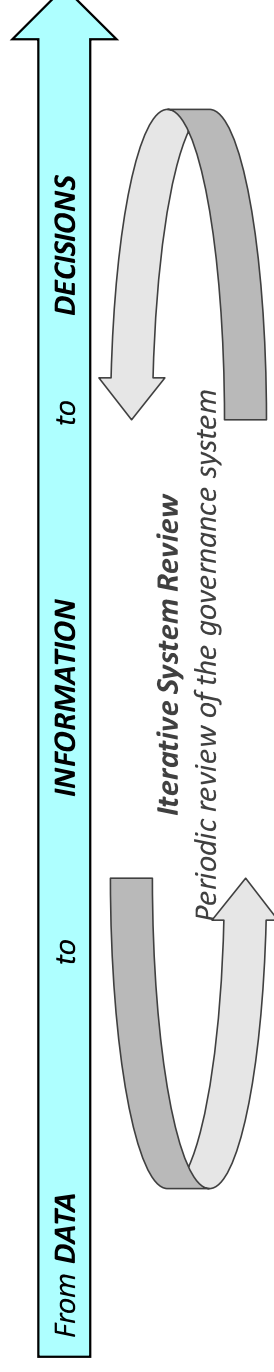
1. Hunting and fishing
 2. Can take both post-harvest and post-consumer waste as an input
SOURCE
 Ellen MacArthur Foundation
 Circular economy systems diagram (February 2019)
 www.ellenmacarthurfoundation.org
 Drawing based on Braungart & McDonough,
 Cradle to Cradle (C2C)

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(Ellen MacArthur Foundation, 2022)

CIRCULAR ECONOMY AND DATA

- Inflow, outflow, and process data needed at the organizational level (LCA, EMS)
- Aggregated data needed at the municipal level (environmental statistics, draws and impacts on natural resources)
- Need systematic, regular coverage, with quality assured data
- One of the common issues we find is a lack of capacity for data acquisition
- Need to also recognize the ‘value chain’ of data to information



Oswald, 2020

CIRCULAR ECONOMY AND DATA - REQUIREMENTS

- Data sharing agreements are a must
- Transparency can facilitate public buy in
- Data needed at the national level for EIS, governance - policy and regulation (across ministries)
- National reporting requires data
- Reporting to multilateral environmental agreements (MEAs) and SDGs is fundamentally dependent on socio-economic and environmental data

INNOVATION IN DATA MANAGEMENT – NEIS (NATIONAL ENVIRONMENTAL DATA AND INFORMATION SYSTEMS)

- Parties to MEAs require data for reporting requirements
- UNFCCC, UNCBD, UNCCD – the Rio Conventions are key agreements
- The data required is also required for national governance – agriculture, transportation, energy use and production, land use, climate, etc.
- An ‘open data’ paradigm is emerging and sharing data with the public can be a way of engaging them in sustainable development
- In order to get a NEIS to work, there must be effective data acquisition and management processes in place – data sharing agreements are imperative

EXAMPLE: ANTIGUA AND BARBUDA

- Designed and implemented their platform using a two-fold approach:
 - Reporting (NEIS – National Environmental Information System)
 - Data management (NRI – Natural Resource Inventory)

• [NEIS.ENVIRONMENT.GOV.AG](https://neis.environment.gov.ag)

• [NRI.ENVIRONMENT.GOV.AG](https://nri.environment.gov.ag)

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A GENERIC SOLUTION: CORE EIS

- CORE EIS is an adaptable platform for environmental information management
- Serves the purpose of supporting MEA reporting but can be used for other applications
- Circular Economy implementation
- Climate risk analysis
- Disaster risk reduction

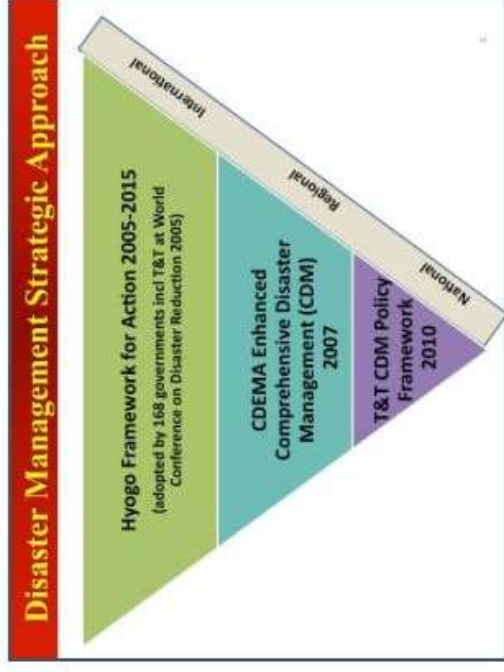
DRR AND CLIMATE RESILIENCE

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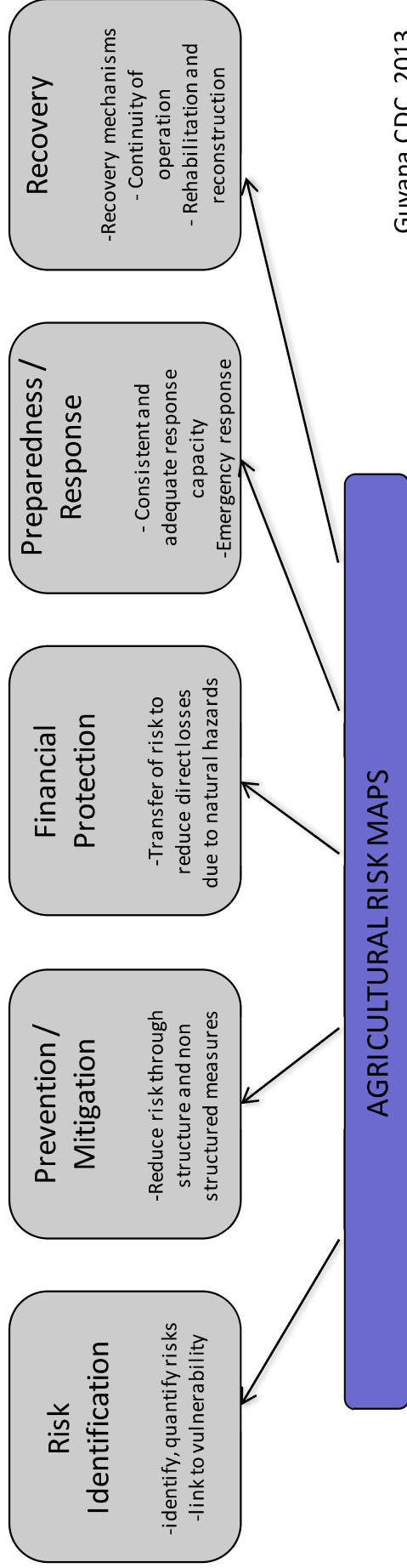
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BUILDING RESILIENCE WITH CIRCULAR ECONOMY PARADIGM

- What are the natural hazards facing Trinidad and Tobago?
- Floods, droughts, hurricanes, landslides
- Significant impacts to specific sectors – agriculture being one



Trinidad and Tobago Office of Disaster Preparedness and Management, 2015



Guyana CDC, 2013

BUILDING RESILIENCE WITH CIRCULAR ECONOMY PARADIGM

- Requires stakeholder engagement
- In-field data acquisition
- Capacity development



Poodai Lagoon. 2017



Orange Grove Estate. 2017

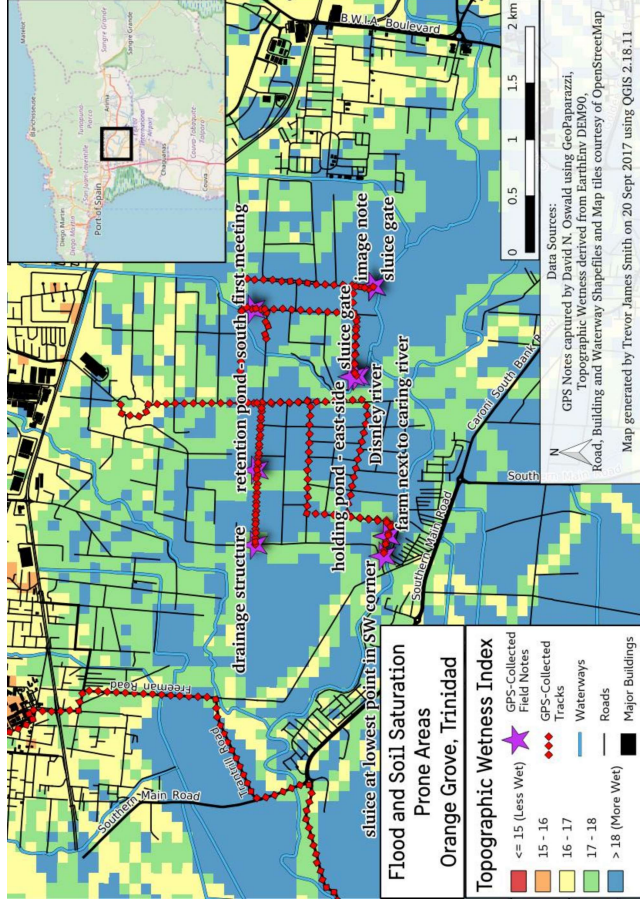


Poodai Lagoon. 2017

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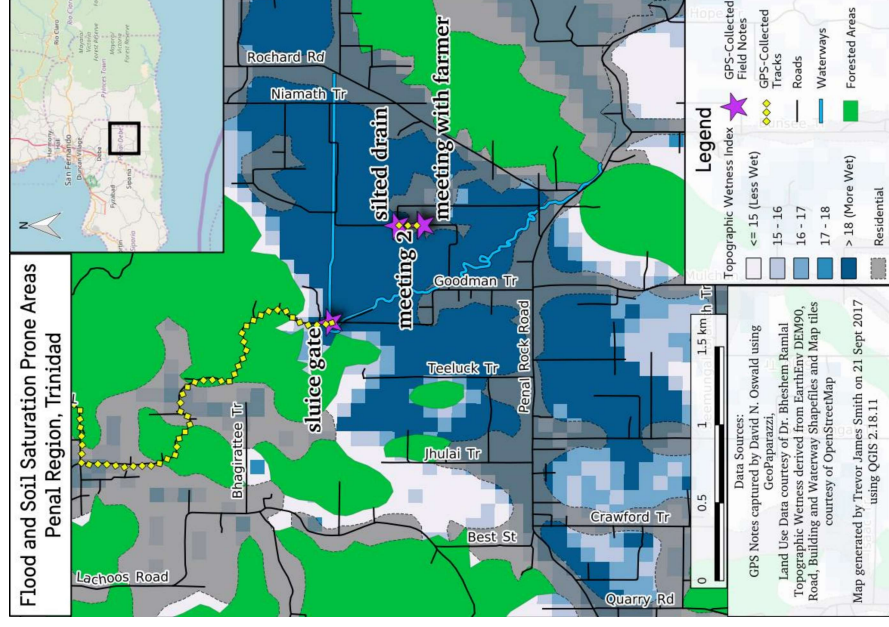
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BUILDING RESILIENCE WITH CIRCULAR ECONOMY PARADIGM



Flood Risk - Orange Grove Estate. 2017

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Flood Risk - Poodai Lagoon. 2017

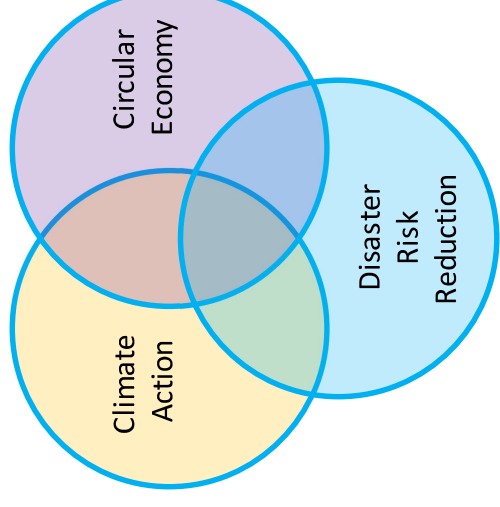
INTEGRATIVE DESIGN THINKING

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PARLIAMENTARY RESPONSE

- Policy and legislation can guide this transformation
- In fact, this is one of the most powerful paths forward
- Integrative design thinking can help link:
 - (a) Climate change adaptation
 - (b) Disaster risk reduction
 - (c) Green-blue / circular economy
- Incentivize circularity at the organization, municipal, regional, and national level
- Regulate unsustainable activity BUT support decisions with data, thus 'showing' the rationale (using platforms such as CORE EIS)





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Thank You!

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