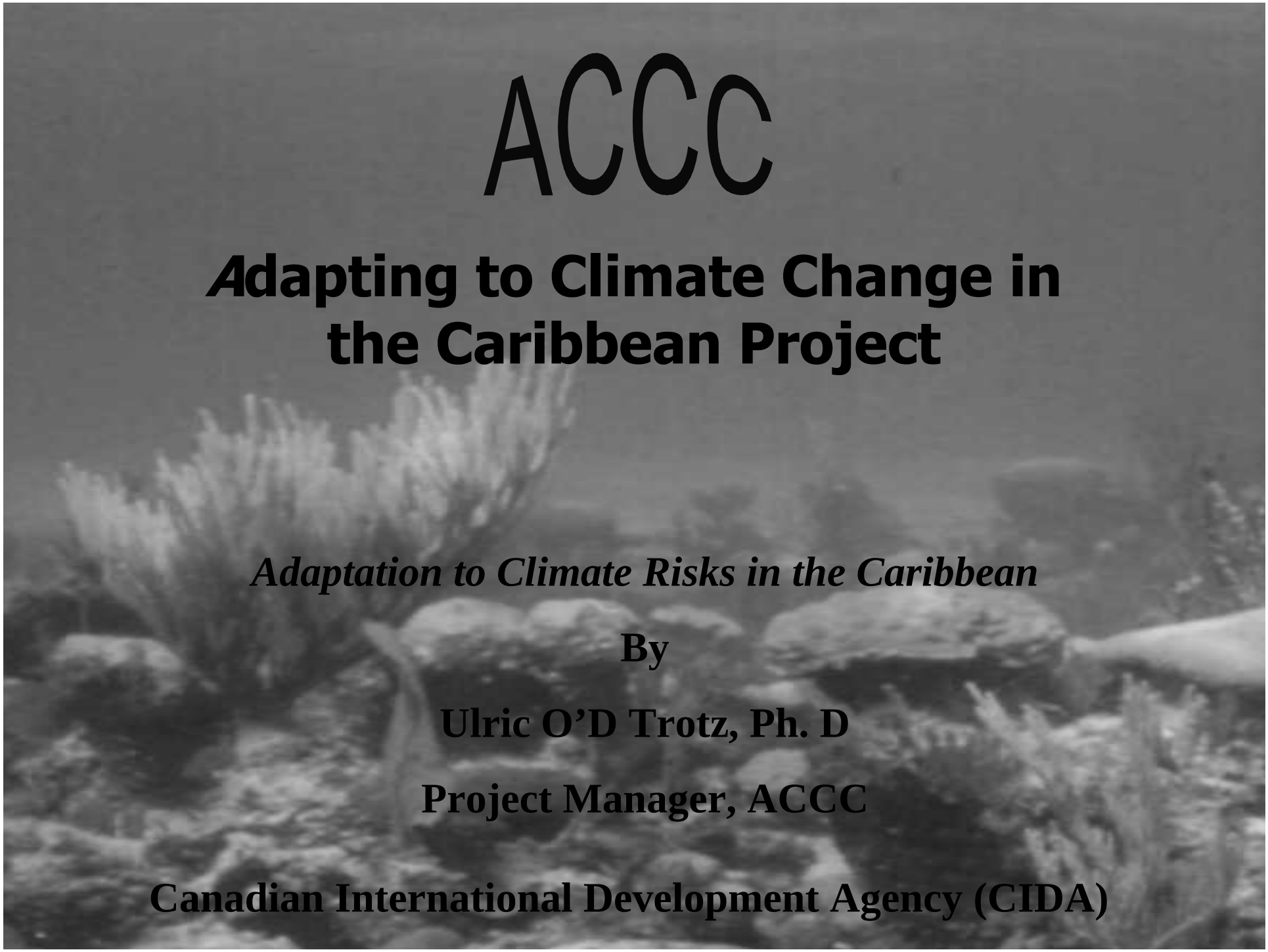

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*A*dapting to Climate Change in the Caribbean Project

Adaptation to Climate Risks in the Caribbean

By

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Why Adaptation Focus in Caribbean

- **World's industrial powers (OECD) account for *20% world's population*, but are responsible for *>50 % of global emissions*.**
- **Developing countries emit *< 25 % of total GHG emissions*.**
- **Small Island States emit *< 1% of global emissions***
- **Even if emissions were to be stabilized, there is already a '*commitment*' to climate change; global warming and SLR would continue well beyond 2100.**
- **Thus, while mitigation must be vigorously pursued as a global effort, *adaptation* must be regarded as most urgent at the level of regions and individual states.**

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CPACC Approach to Adaptation

- Develop in each country ***National Climate Change Adaptation Policies and Implementation Plans***

Premise

- Caribbean countries have suffered severe losses from climate related disasters and weather extremes
  - Floods, landslides, hurricanes and associated storm surges
- Expert knowledge on present vulnerabilities and adaptation options to deal with these, is existent

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Premise

- These adaptation lessons learned from past experiences to climate variability important as situations are similar to what will be encountered with climate change
- In addressing adaptation to present day climate variability, countries will have started on the road to deal with adaptation to long term climate change.

General Approaches to Vulnerability and Adaptation Assessment

- Use scenarios of future climate change and socioeconomic conditions as a basis for simulation of impacts and adaptation, or
- Use empirical observations, survey instruments and other methods to investigate vulnerabilities, adaptive capacities and adaptive responses to climate variability and extremes of the past or present.

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Our Approach

- Our process utilized the latter. As region builds its databases and skills for developing scenarios of future climate change and socio-economic conditions, results from adaptation studies will feed into policy – over short to medium term.

In the short term, what have we accomplished using this approach?

- Identification by country of key sectors / issues to be addressed
- Cross sectoral consultations re vulnerability and response
- Public awareness on climate change (through public consultations)
- Insinuation of climate change issues into the political agenda

In the short term, what have we accomplished using this approach?

- National climate change adaptation policies and Implementation plans approved by Cabinets
- A framework for integrating National Climate Change Adaptation Policy into National Development Planning

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In the short term, what have we accomplished using this approach?

As the scientific base and capacity builds up in the Caribbean region, to better inform vulnerability and adaptation assessments, there is in place a mechanism to feed results of the latter into an ever evolving National Climate Change Adaptation Policy.

Adaptation Policy Process

- Issues Paper
- National Stakeholder consultations
- Institutional, Policy and Legal Framework Review
- Development of Draft National Climate Change Adaptation Policy
- Finalization – stakeholder consultation
- Cabinet approval

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Adaptation Policy Process in the Caribbean

- **Draft *Climate Change Adaptation Policy***
  - Identifies vulnerable areas and activities (Drawing from Issues Paper and Stakeholder Consultations)
  - Outlines/Prioritizes Appropriate Adaptation Planning and Management Policy Options - in short, medium, and long term

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Adaptation Policy Process in the Caribbean

- **Development of *Implementation Plan***
  - 5 Year Programme
  - Identifies Legal, Institutional and Financial Mechanisms to Implement Adaptation Policy
  - Defines Co-ordination Mechanism for Effective Implementation
  - Defines Review and Monitoring Programme

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Climate Change will Impact on:

- **Human settlement and infrastructure** – Lenny, 1999

- **Tourism** →
  - SLR, hurricanes, storm surge damaged coastal ecosystems and infrastructure
  - Warmer weather in North

Climate Change will Impact on:

- **Agriculture**
  - Expected impact on Food production
  - Pests active outside normal season
  - More frequent floods / drought associated with El Nino/La Nina events
  - Degraded reefs –less fisheries
  - Saline intrusion on arable land

Climate Change will Impact on:

- **Health**
  - Climate related diseases expected to increase – dengue, asthma, malaria with increased temperature
  - Incidence of skin cancer among Amerindian population due to increased UV-b and possibly increase in temperature
  - Decreased food production will impact on nutrition

Climate Change will Impact on:

- **Insurance**
  - Premiums based on assessment of Risk of occurrence of a particular event
  - Increased storm activity will lead to increased premiums. (Impact of Hurricane Andrew (1999) in Florida on the region)

Climate Change will Impact on:

- **Coastal and Marine Resources**
  - SLR and storm surge can lead to inundation
  - Coral reefs, mangroves, sea-grass beds
  - fisheries

Climate Change will Impact on:

- **Water Resources**
  - Decreased availability
  - Salt water intrusion
  - Impact on agriculture, hydroelectricity, health

Legal Framework

- Existing legal framework in many countries outdated and can't adequately address climate change
- Lack of building codes and engineering standards
- Where they do exist, lack of enforcement
- CDERA model legislation specific to disaster management not enacted in several countries
- Laws dealing with Natural Resources and Land-use outdated and inadequate for dealing with climate change adaptation

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Some Response Mechanisms

- **Coastal infrastructure**
  - Hazard mapping of coasts
  - Building codes, setbacks – enforcement of legislation
  - Protection of natural systems – reefs, mangroves
  - Establishment of a comprehensive land-use planning process which incorporates climate change concerns
  - Develop cost effective measures to protect and/reduce to coastal environment

Some Response Mechanisms

- **Tourism**
  - Climate change concerns taken on board in planning new development
  - EIA's to include climate change criteria
  - Explore Eco-tourism options
  - Promote water / energy conservation, renewable energy use, energy efficiency

Some Response Mechanisms

- **Agriculture**
  - Full extent of impacts to be assessed
  - More efficient irrigation schemes
  - Sand banks, salt/drought tolerant varieties
  - Consultation with farmers esp. indigenous farmers

Some Response Mechanisms

- **Health**
  - Collect data and develop correlations
  - Public education and awareness programmes
  - Improve health service planning and delivery – early warning systems
  - Improve disaster management

Some Response Mechanisms

- **Water**
  - Comprehensive inventory of all water resources
  - Water conservation
  - Establishment of comprehensive water resources management regime
  - Research on impacts on quantity and quality of water resources
  - Desalination, water harvesting

Some Response Mechanisms

- **Planning**
  - "Internalize" climate change into sectoral planning activities
  - Develop technical knowledge on climate change adaptation for all sectors
  - Ensure stakeholder involvement in formulation and implementation of policy
  - Extensive public awareness and education programme
  - Use risk management techniques