Healthy Oceans – Healthy Coasts
International Leadership Conference towards achieving
SDG14

The SDGs and Obligations –
the Nexus of SDG14 to Other Development Goals
Thematic Panel 1

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Chair – Board of Directors, IOI-Canada
Thematic Panel 1: Topics

1. Mitigation and adaptation to climate change; including risks and hazards
2. Legal and institutional policy response in achieving the SDGs
3. Human health and the SDGs
4. Society and social adjustment to SDGs; the role of cultural heritage
IOI-Canada:
http://internationaloceaninstitute.dal.ca

www.coastalchange.ca
Facebook:
www.facebook.com/coastalchange
Mainstream the agenda in national plans, strategies and budgets to generate awareness and help governments

Accelerate progress on Sustainable Development Goal (SDG) targets, provide tools and focus on relevant country context

Policy Support to coordinate and pool policy to achieve the SDG targets

Integrated services: poverty reduction, growth and productive employment, gender equality and the empowerment of women, HIV and health, access to water and sanitation, climate change adaptation, access to sustainable energy, sustainable management of terrestrial ecosystems, oceans governance, and promotion of peaceful and inclusive societies.
Ways & Means of Achieving SDG14
(Source: UNDP Support to the Implementation of SDG14)

1. creation of an enabling policy environment for ocean restoration and protection through the development of ocean and coastal management strategic planning tools and methodologies
2. promote bottom-up approaches to maintaining aquatic ecosystem services at smaller planning scales (municipalities, provinces, local watersheds)
3. build upon and advance existing or anticipated regional or global multilateral agreements
4. creation of new Marine Protected Areas (MPAs)
5. foster partnerships that represent a vital component of UNDP’s long-term strategic approach to improving ocean and coastal management
Decisions adopted: *Bali Action Plan*

...support urgent implementation of adaptation actions

through vulnerability assessments, prioritization of actions, capacity-building

integration of adaptation actions into sectoral and national planning
C-CHANGE ICURA 2009-2015+

- 5 year international research alliance
- 5 universities and 8 partner communities
- Interdisciplinary researchers
- Canada and the Caribbean

Focus on community management of adaptation to coastal environmental change
C-Change Objectives: “Enhance Community Preparedness”

- Provide “Guidelines” for Action Planning at Local Level
- Provide support tools for decision making
- Raise Governance priority for preparedness (local government committees)
- Encourage Local Community Strategic Planning
- Strengthen Links among local Business, Government (all levels), Community leaders re preparedness

#1 #1 #2 #5 #5 #3
## Community Profile – Multicriteria Methods (No. 1)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Valuation Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Environmental</strong></td>
</tr>
<tr>
<td></td>
<td>Topography, Land and Marine Use, Natural Resources, Climate</td>
</tr>
<tr>
<td>2</td>
<td><strong>Economic</strong></td>
</tr>
<tr>
<td></td>
<td>Employment, Industry, Property, Occupation, Revenues, Earnings, Public Works, Built Environment</td>
</tr>
<tr>
<td>3</td>
<td><strong>Social</strong></td>
</tr>
<tr>
<td></td>
<td>Population, Health, Education, Communications, Community Dynamics, Governance</td>
</tr>
<tr>
<td>4</td>
<td><strong>Cultural</strong></td>
</tr>
<tr>
<td></td>
<td>Places, Groups, Events, Language</td>
</tr>
</tbody>
</table>
System Dynamics View – Tools (SDG#1)
1 Climate Change: (Mitigation &) Adaptation

Adaptation Strategy Options (#2)

(1) Protect
Hard armouring (sea walls, groins)
Soft armouring (mangroves, wetlands)
• No changes to buildings or use
• Costly - Requires expert design, needs periodic maintenance and upgrading

(2) Accommodate
Continued use of lands / structures, with some changes
• Low costs / Low regrets
• No costs / No regrets (mangroves)

(3) Retreat
Accept that flooding and damage will occur
• Protect/accommodate not feasible
• Change uses, move structures

(4) Do Nothing
Little Anse Breakwater (#1,2) – “Accommodate” (Mostofi and Lane SEPS 2016)
Vulnerability Gap with Strategy

Ideal State

SQ*

U=1

Worst Case

SQ(0)

U(0)<1

Community Status

Vulnerability, V(0)

U(0)<U(A)<1

SQ(0)<SQ(A)<SQ*

Adaptive Capacity:

AC(A) = R(A)/V(0)

U[AC(A)] = U[R(A)]/U[V(0)]
City of Charlottetown, P.E.I.(#1,2,5)  
Lane et al (2016) (JDRM in review)
System Dynamics Simulation – “Accommodate”/“Protect” Strategy

Charlottetown Annual Projected Expected Total Community Assets, High Storm Severity Scenarios R1 to R4

Projected Annual Total Community Assets ($Millions)

No Storms, TA^0

R3: TA^4 (Accommodate)

R2: TA^4 (Protect)

R1: TA^4 (No Adaptation)

R4: TA^4 (Retreat)

Simulated Years

$35,000

$35,500

$36,000

$36,500

$37,000

$37,500

$38,000

$38,500

$39,000

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50

Hong Kong Polytechnic University

April 25-26, 2017
IOI-Canada Training Programme
Integrated Simulation (#1,2,3,4,5)
7 November 2016, 2\textsuperscript{nd} program of China-ASEAN Academy on Ocean Law and Governance launched in Haikou, Hainan Province. Co-organized by the NISCSS, China-Southeast Asia Research Center on the South China Sea and IOI-Canada.
2 Legal and Institutional Policy Response in achieving the SDGs

* Rio+20 (1992-2012), Agenda 21 – Chapter 17
* Laudato Si’
* IOI-Canada Training Programme Modules:
  ✷ Law of the Sea
  ✷ Maritime Security
  ✷ Integrated Coastal and Ocean Management
Chapter 10

Managing Adaptation to Changing Climate in Coastal Zones

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Chapter Outline

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C-Change Communities and Partners 3  Solutions 13
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INTRODUCTION

Coastal zones are the most biologically and economically productive regions in the world. Over 40% of the world’s population lives within 150 km of the shore (United Nations Atlas of the Oceans, 2010), and that figure is growing. In Canada, approximately 38% of Canadians live within only 50 km of one of three surrounding oceans—the Atlantic, Pacific, or Arctic Oceans—or one of the Great Lakes. In the Caribbean region, coastal populations in 28 independent territories and island states are generally clustered along thin bands of land in close proximity to the shore. An estimated 60% of the Caribbean’s total population of approximately 40 million people lives within less than 100 km from the coast, and approximately 40% of the population resides within a mere 2 km of the coast.

These coastal zones, where land and water interact, are key landscapes when considering (1) the environmental challenges faced by human societies and (2)
Policy Recommendations

Rio +20

- Identify community priorities (#2)
- Cede authority to local communities (#2)
- Measure, track, and exercise preparedness (#1 #5)
- Implement the precautionary approach & plan strategically (#1 #5 #3)
- Build an education legacy (#2)

Laudato Si’

- ...dialogue that includes everyone
- We require a new and universal solidarity.
- draw on the results of the best scientific research available today
- Article 186 and the Rio Declaration (1992)

- change is impossible without motivation and a process of education (Article 15)
Proposed measures for Social Indicators (#1):
- Collaboration
- Social Networking
- Well-being (Human health indicator)

Focus on community dynamics to develop, implement, and monitor social indicators (#1 #2 #5)
Monitor/Collect Social Indicators
Lane et al (2017) *IJCCIR*

City of Charlottetown Projected Annual Social Mapping Functions: (1) Collaboration (2) Social Networks (3) Well-being
Base Case: Low Storms, No Adaptation
Achieving SDG14 – Conclusions

1. Creation of an enabling policy environment for ocean restoration and protection through the development of ocean and coastal management strategic planning tools and methodologies

   ✓ Develop decision support systems for adaptation strategies, implement G2B authority, Government as auditor NOT regulator

2. Promote bottom-up approaches to maintaining aquatic ecosystem services at smaller planning scales (municipalities, provinces, local watersheds)

   ✓ Provide support, increased resources and decision-making authority to local governments and industry, deputize industry in Science and structured Data collection (e.g., commercial fisheries)

3. Build upon and advance existing or anticipated regional or global multilateral agreements

   ✓ Include responsible, local industry in agreements

4. Creation of new Marine Protected Areas (MPAs)

   ✓ Develop multi-use Marine Conservation Areas

5. Foster partnerships that represent a vital component of UNDP’s long-term strategic approach to improving ocean and coastal management

   ✓ Become strategic (longer-term) in planning, prioritize the future