

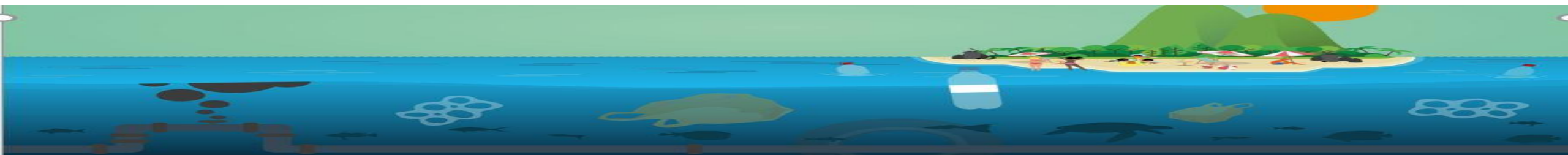
# An IWRM Framework to Support Implementation of the Cartagena Convention

Draft 2.0

Eugenio Barrios, Consultant

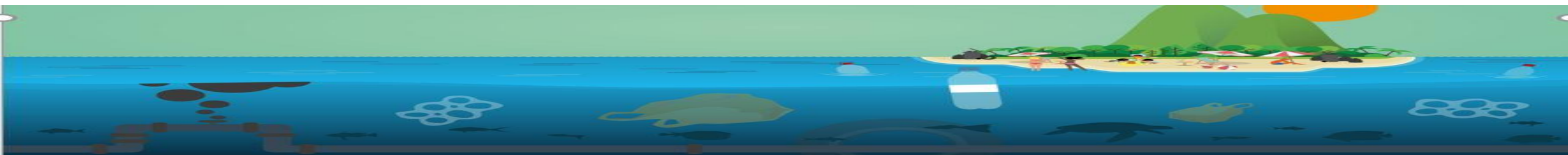
Pre LBS STAC Meeting

March 8th, 2021



# Content of the Information Paper

1. BACKGROUND INFORMATION
  2. PURPOSE AND SCOPE OF THE DOCUMENT
  3. WHY AN IWRM APPROACH?
  4. AN IWRM FRAMEWORK TO SUPPORT IMPLEMENTATION OF THE CARTAGENA CONVENTION AND ITS PROTOCOLS
  5. IMPLEMENTATION (*WORK IN PROGRESS*)
  6. FINAL RECOMMENDATIONS/NEXT STEPS
- REFERENCES
  - ANNEXES



# BACKGROUND INFORMATION

## Cartagena Convention and the LBS Protocol

- In 2013, an assessment of the status of the LBS Protocol revealed a great disparity among countries
- Ratification and implementation of the Protocol needs to be improved

## Assessment of Marine Pollution from LBS in the WCR (UNEP-CEP, 2019):

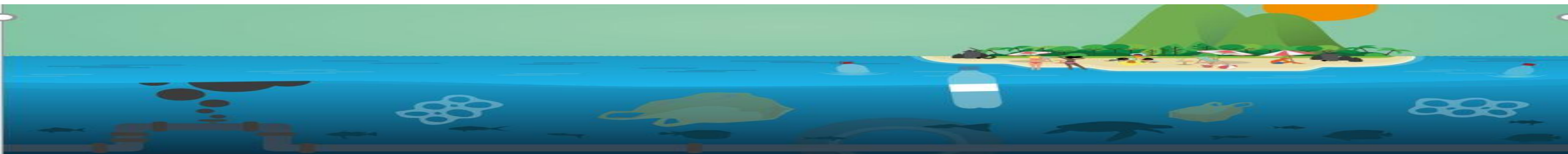
- Untreated domestic wastewater continues to be a significant threat to the region's marine environment
- Nutrient loads delivered from river basins to coastal areas almost doubled.
- Agriculture is the single most important source of nutrients
- The highest loads occur along the continental margins in the northern Gulf of Mexico and the southwestern Caribbean.



## BACKGROUND INFORMATION

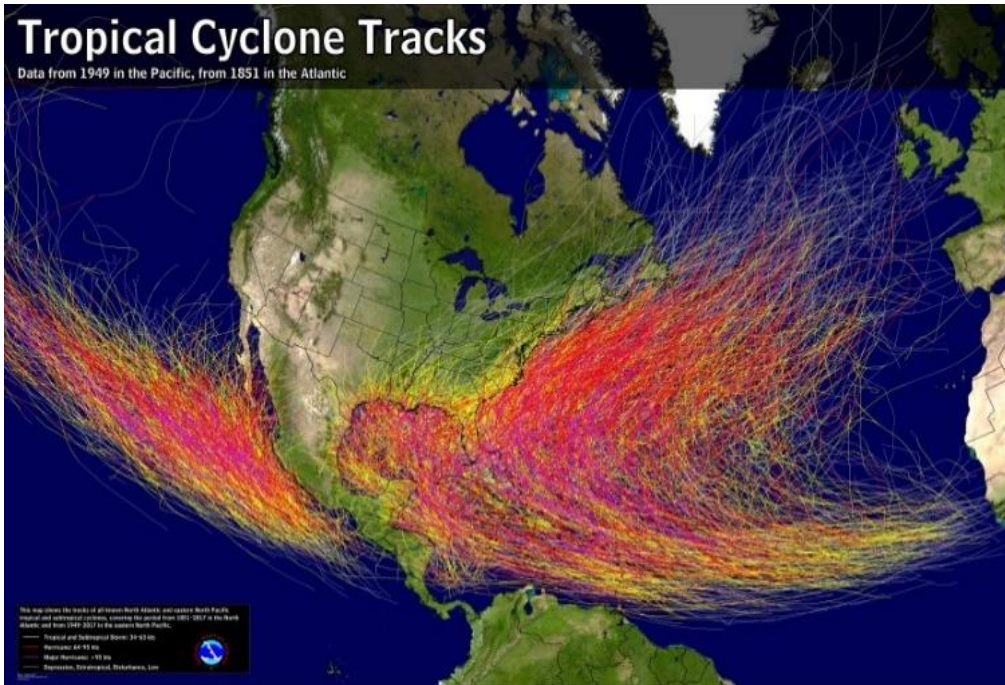
### **Assessment of Marine Pollution from LBS in the WCR (UNEP-CEP, 2019):**

- Governments and other stakeholders need to adopt a different approach to addressing land-based pollution.
- An extensive range of on-the-ground actions and concrete measures to reduce pollution loads at the source are available and various sustainable financial mechanisms have been developed.
- There is an urgent need for governments to adapt and scale up existing experiences, best practices, and technologies, and undertake the required institutional, policy, legislative, and budgetary reforms to address land-based pollution, particularly at its source

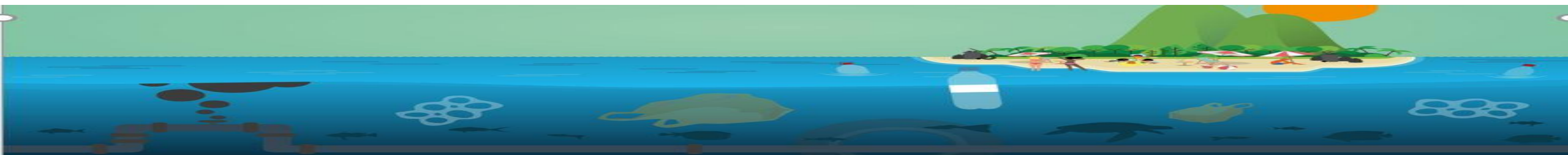
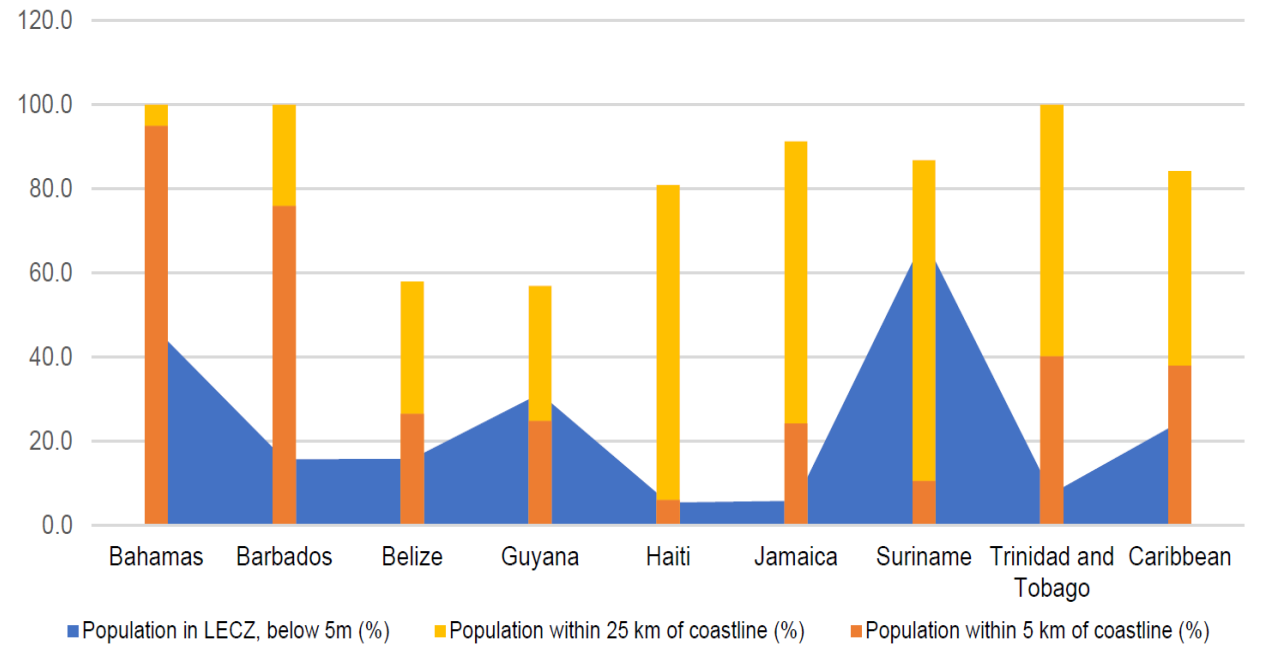


# BACKGROUND INFORMATION

## Tropical cyclones



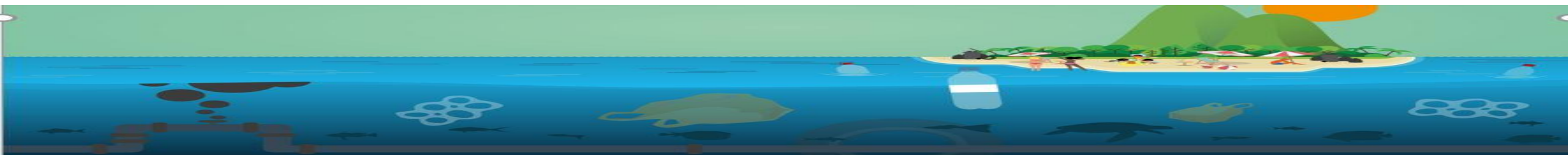
## People is living at the coast



## BACKGROUND INFORMATION

### Ocean-based Economy

- In 2012, US\$ 407 billion as a gross revenue equivalent to 14 to 27% of world's total ocean economy
- In 2017, tourism contributed US\$ 17.9 billion to the Caribbean islands and it is expected to grow 3.6% per year from 2018 to 2028
- The average annual damage cost from disasters in the Caribbean is equivalent to 2.4% of regional GDP, which is about 0.6% higher than other small states



## Purpose of the Information Paper

1. A regional IWRM framework able to provide solutions to current challenges and opportunities
2. Framing all water related activities under an IWRM process.
3. Opportunities and synergies to integrate IWRM with Integrated Coastal Zone Management (ICZM), and Disaster Risk Reduction (DRR)
4. Recommendations on the advantage and impact of a Strategy or Protocol on IWRM for the CC



## 3. WHY AN IWRM APPROACH?

3.1 IWRM

3.2 WATER IN THE SUSTAINABLE DEVELOPMENT GOALS

3.3 IWRM AND CLIMATE CHANGE

3.4 IWRM AND BIODIVERSITY

3.5 WATER RESILIENCE





## 3.1. IWRM

*A **process** which promotes the coordinated development and management of water, land, and related resources to maximize the resultant economic and social welfare in an equitable and sustainable manner (UN Environment, 2018).*

***Water Security:** The capacity of a population to safeguard sustainable access to adequate quantities of and acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability (UN Water, 2013).*

***The Water-Food-Energy Nexus.** It refers to the relationships among water, food, and energy security and the need for integrated planning.*



## 3.2 WATER IN THE SUSTAINABLE DEVELOPMENT GOALS

### SUSTAINABLE DEVELOPMENT GOALS



### 3.2 WATER IN THE SUSTAINABLE DEVELOPMENT GOALS

#### SDG 6.5.1

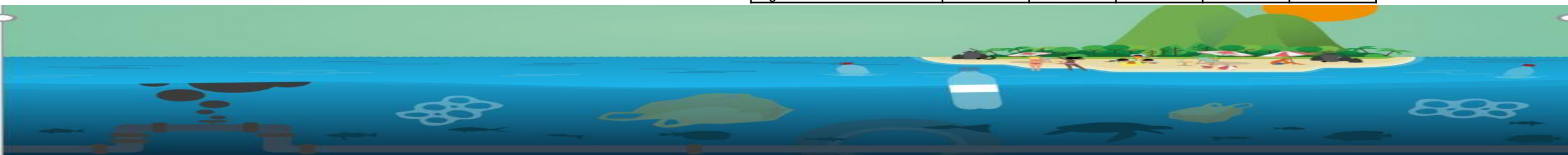
1. Enabling environment (policies, legal framework, plan
2. Institutions and
3. Management ins activities to mak informed choices.
4. Financing: Budget and financing for water resources development and management.

| Country name        | Final IWRM Score | Section 1            | Section 2                      | Section 3              | Section 4 |
|---------------------|------------------|----------------------|--------------------------------|------------------------|-----------|
|                     |                  | Average              | Average                        | Average                | Average   |
|                     |                  | Enabling Environment | Institutions and participation | Management instruments | Financing |
| Antigua and Barbuda | 30               | 32                   | 33                             | 40                     | 15        |
| Bahamas             | 33               | 34                   | 31                             | 36                     | 33        |
| Barbados            | 42               | 30                   | 48                             | 59                     | 30        |
| Belize              | 20               | 28                   | 26                             | 18                     | 8         |
| Colombia            | 50               | 55                   | 55                             | 53                     | 38        |

*The report points out that at this level countries are unlikely to meet the global target unless progress significantly accelerates (UN Environment, 2018).*

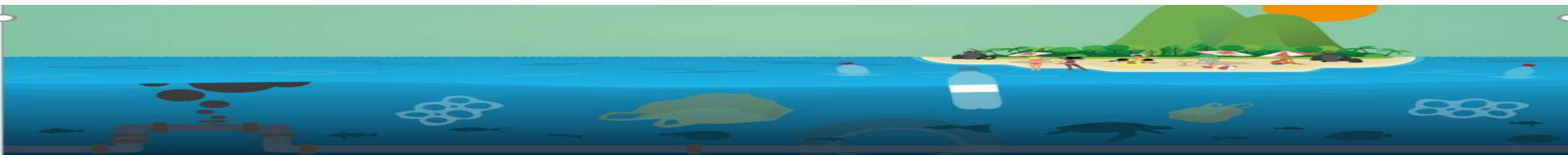
| Institutions and participation | Management instruments | Financing |
|--------------------------------|------------------------|-----------|
| 39                             | 41                     | 26        |
| LOW                            |                        | Low       |

|                                    |           |           |           |           |           |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Nicaragua                          |           |           |           |           |           |
| Panama                             | 37        | 30        | 35        | 42        | 40        |
| Saint Kitts and Nevis              | 22        | 15        | 20        | 33        | 20        |
| Saint Lucia                        | 40        | 30        | 64        | 44        | 23        |
| Saint Vincent and the Grenadines   |           |           |           |           |           |
| Suriname                           | 15        | 16        | 11        | 23        | 10        |
| Trinidad and Tobago                | 25        | 26        | 29        | 33        | 13        |
| Venezuela (Bolivarian Republic of) |           |           |           |           |           |
| <b>Regional Scores</b>             | <b>34</b> | <b>31</b> | <b>39</b> | <b>41</b> | <b>26</b> |



## IWRM AND CLIMATE CHANGE, BIODIVERSITY, RESILIENCE

- Water is the number one priority for adaptation actions in most of the INDCs and is directly or indirectly related to all other priority areas (UNESCO, UN Water 2020)
- IWRM could become a powerful tool for biodiversity conservation if the ecological role of hydrological regimes is understood
- IWRM is a powerful approach that needs to be reinforced other approaches to have a unified resilient response to future risks



## 4. AN IWRM FRAMEWORK TO SUPPORT IMPLEMENTATION OF THE CARTAGENA CONVENTION AND ITS PROTOCOLS

### 4.1 PREVIOUS EXPERIENCES

### 4.2 A NEW IWRM APPROACH

### 4.3 COMMON PRINCIPLES

- Ecosystem-based management
- Source-to-sea (S2S)
- Sustainable consumption/production
- Natural capital approach
- Science-policy interface
- Resilience Building
- One health for all
- Public participation

### 4.4 KEY IWRM ACTIONS

- Water governance
- Water for the environment
- Water budget and allocation
- Planning for integrated approaches (IWWM)
- Disaster Risk Reduction/Management (DRR/M)
- Alternative financial mechanisms
- Information and knowledge management

### 4.5 CONCEPTUAL FRAMEWORK



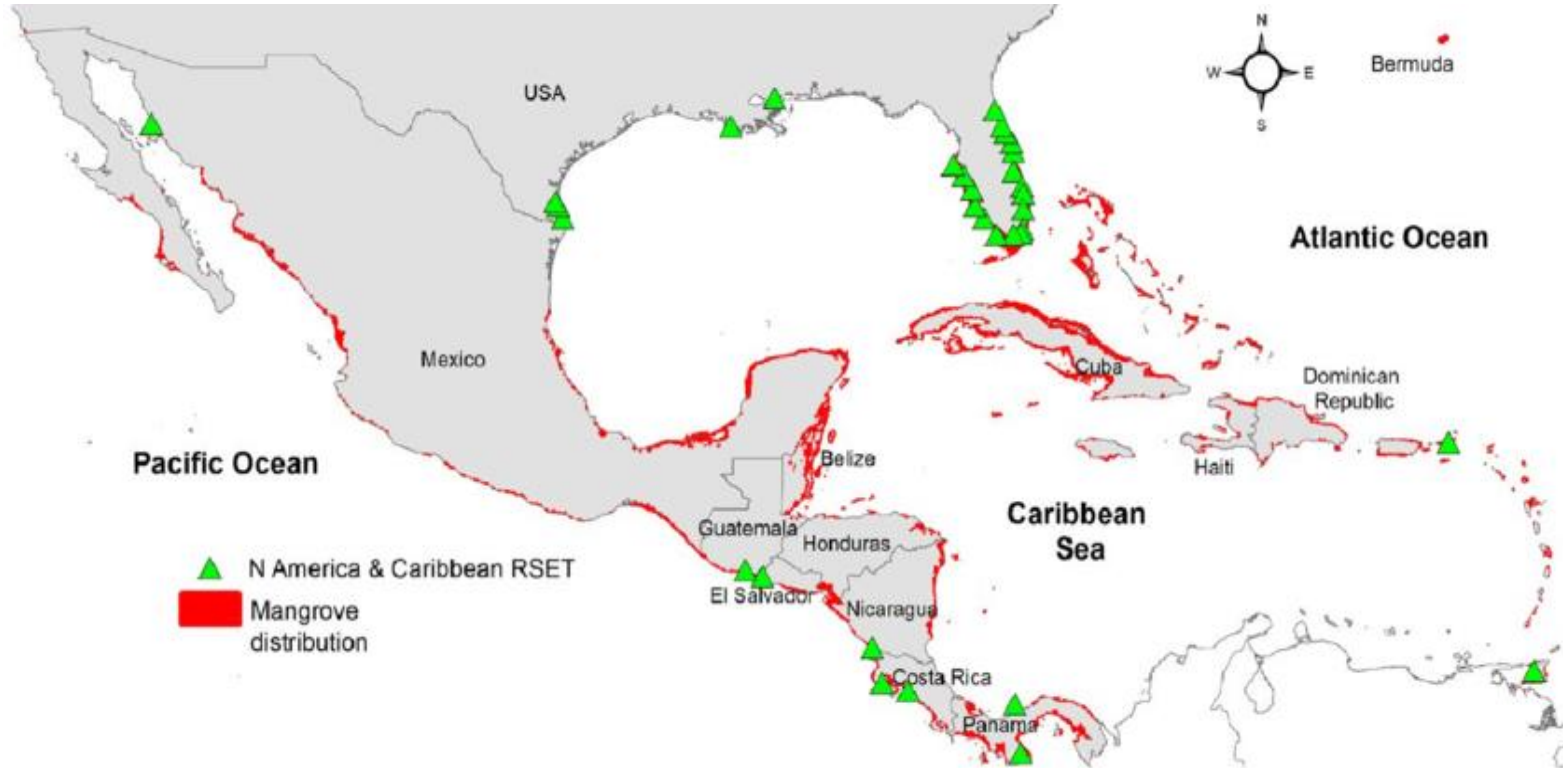


Figure 4 Mangrove distribution in Central America and the Caribbean (Ward D.R., 2016)

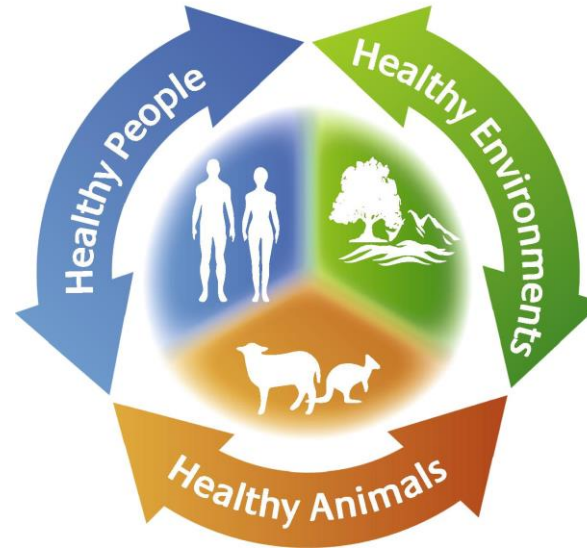


## ONE HEALTH:

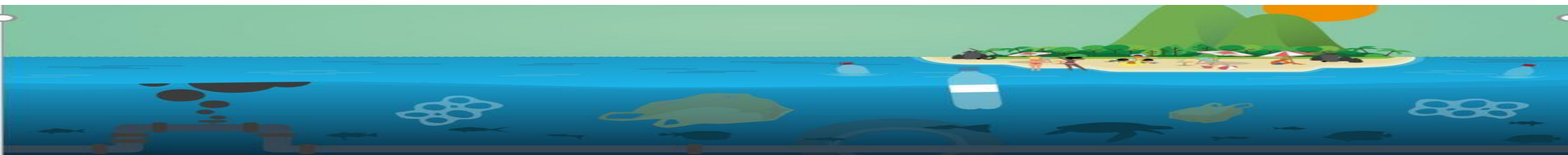
*A collaborative, multisectoral, and transdisciplinary approach — working at the local, regional, national, and global levels — with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.*

*US Center for Disease Control and Prevention*

### The One Health Triad



  
**ONE  
HEALTH**  
ONE PLANET ONE FUTURE



## Escazu Agreement

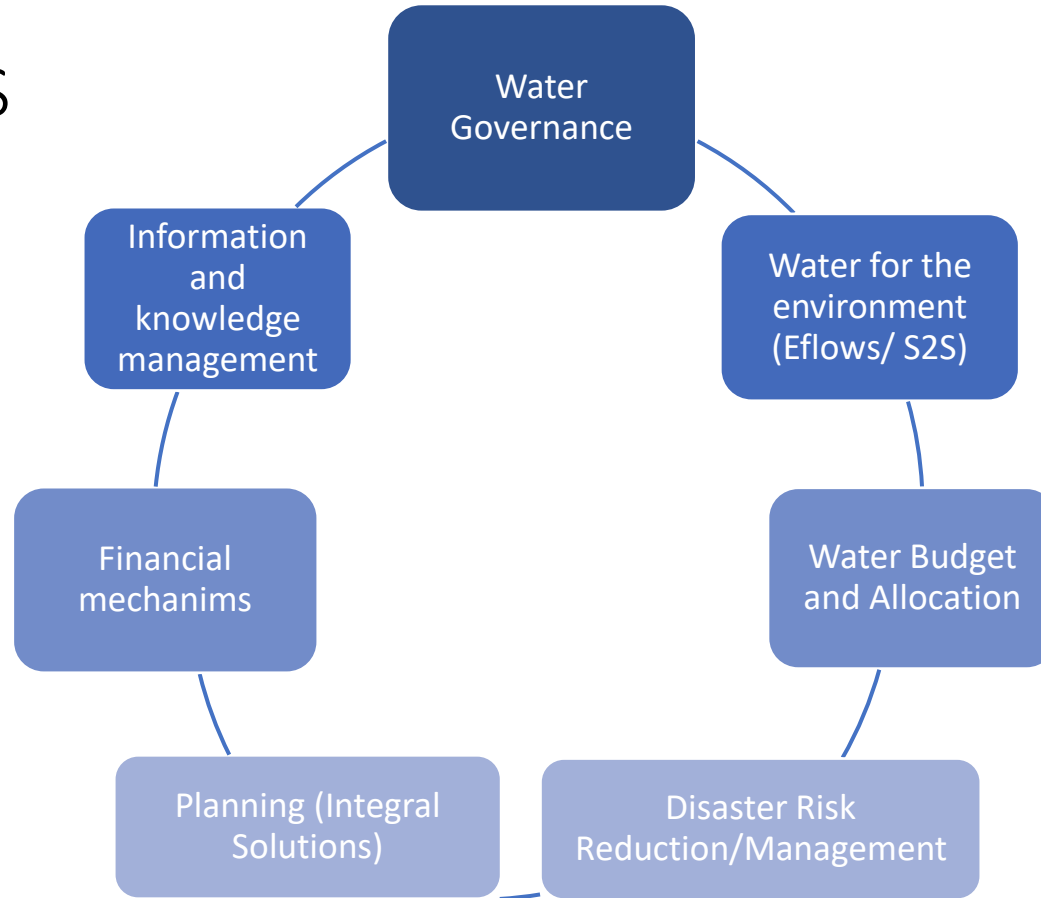
The Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America

*Art. 1: to guarantee the full and effective implementation in Latin America and the Caribbean of the **rights of access to environmental information, public participation in the environmental decision-making process and access to justice in environmental matters**, and the creation and strengthening of capacities and cooperation, contributing to the protection of the right of every person of present and future generations to live in a healthy environment and to sustainable development.*

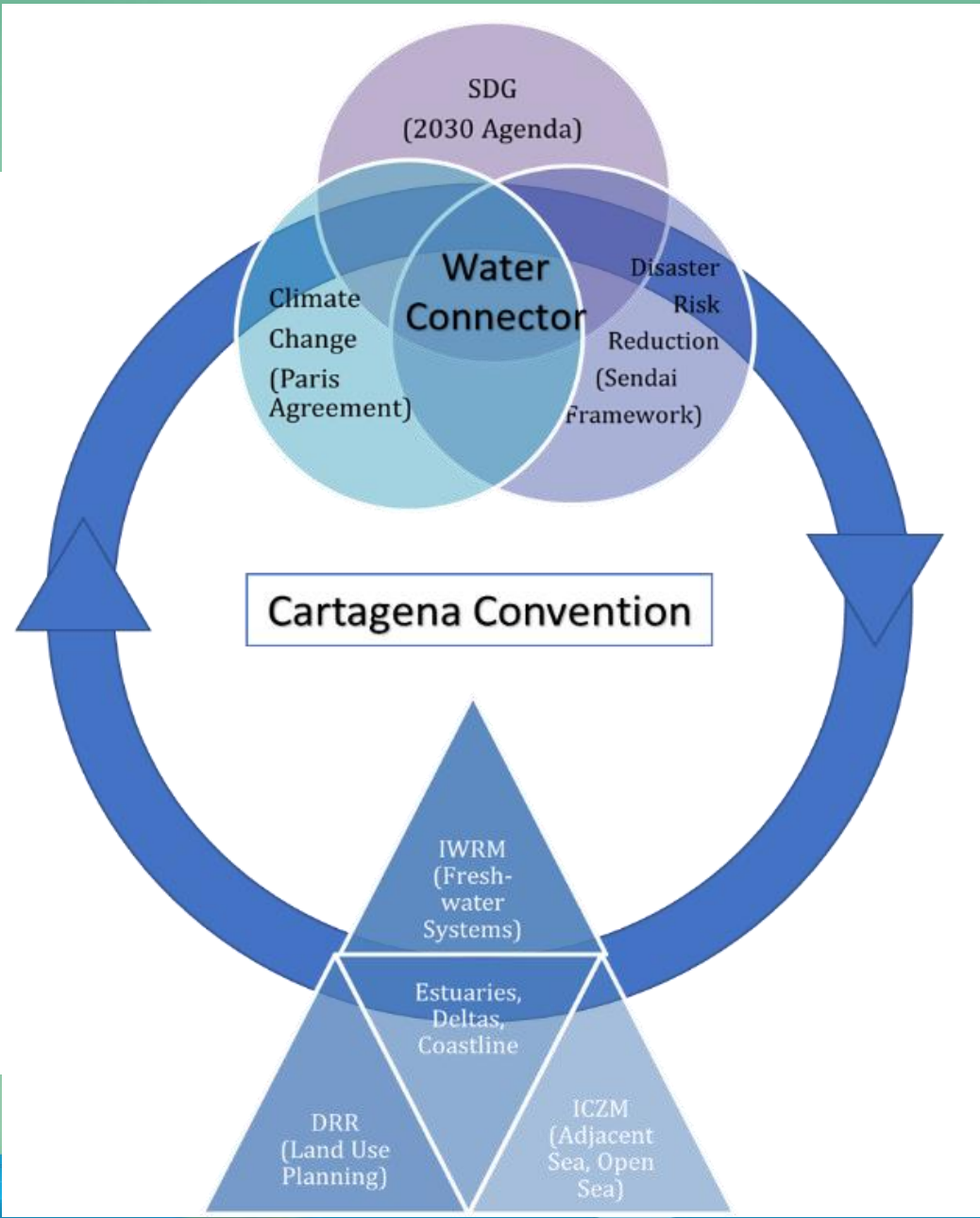




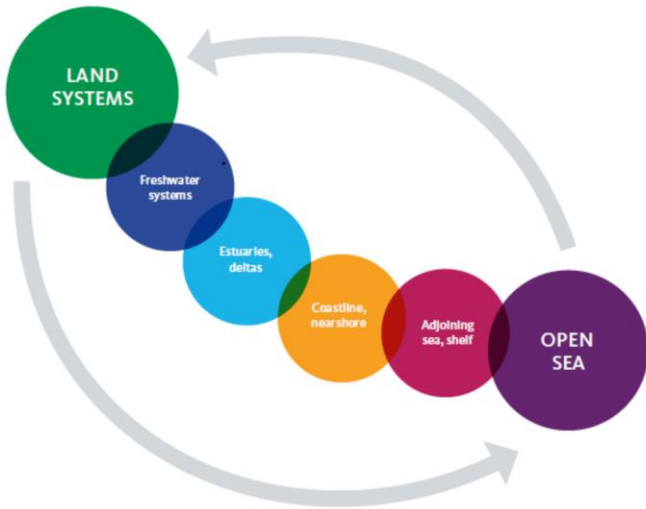
## KEY IWRM ACTIONS



# Conceptual framework



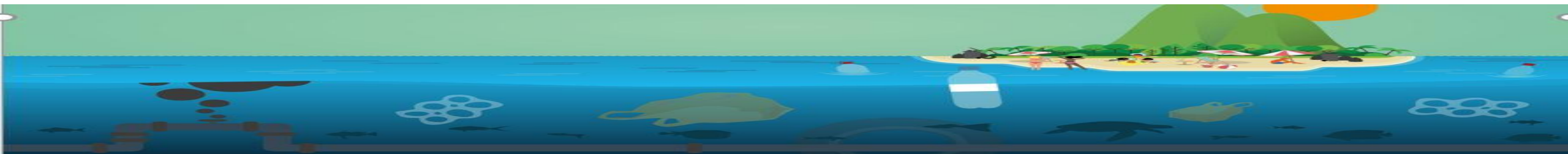
## Example of a common IWRM-DRM-ICZM program:



| Principle                         | IWRM   | ICZM   | DRR   |
|-----------------------------------|--|--|---|
| <b>Ecosystem-based management</b> | <ul style="list-style-type: none"> <li>Eflows based on hydrological regime/hydroperiod of coastal ecosystem including water quality (pollution, sediments, nutrients)</li> <li>Water allocation for coastal ecosystems as a goal for IWRM</li> <li>Land use plans for coastal ecosystems risk reduction</li> <li>Green infrastructure for DRR</li> </ul> |  |   |
| <b>S2S</b>                        | <ul style="list-style-type: none"> <li>Protect water catchment, storage and distribution</li> <li>Regulate water uses</li> <li>Ensure connectivity</li> </ul>  | <ul style="list-style-type: none"> <li>Set limits to sediment and nutrient loads</li> <li>Define ecological process for migratory species</li> </ul> | <ul style="list-style-type: none"> <li>Define river hydraulic capacity for protection (floodplains, riparian corridors)</li> <li>Avoid invasion of flood prone areas</li> </ul> |
| <b>Sustainable consumption</b>    | Wastewater resource recovery   | Pollution control<br>Fisheries   | Risk reduction from pollution   |
| <b>Natural Capital</b>            | Integrated value of ecosystem services (e.g., Mangrove Management)   |  |   |
| <b>Resilience building</b>        | River basin resilience (water resilience + coastal resilience)   |  |   |
| <b>Science-Policy</b>             | Integrative knowledge socio-ecological systems   |  |   |
| <b>One health</b>                 | <ul style="list-style-type: none"> <li>Safe drinking water and sanitation</li> </ul>   | Healthy coastal ecosystems   | Ensure resilient infrastructure   |
| <b>Social participation</b>       | River basin councils   | Coastal communities, port authorities and tourism sector   | Vulnerable groups   |

## 5. Implementation

- Develop strategic arguments (make the economic, social and environmental case)
- Opportunities on current projects and initiatives
- **Comments from this meeting**



*Thank you, Gracias, Merci!*

