

RATIONALE FOR THE SUB-THEMES AND CARIBBEAN SPECIFIC ICT INDICATORS

ENVIRONMENTAL ISSUES

The use of information and communication technology (ICT) products have grown enormously in the last decade with the use of mobile technology, access to PCs and access to internet access increasing in both developed and developing regions of the world. The impact of human activities on the environment – and on climate change in particular – are issues of growing concern confronting life on Earth. ICTs require energy resources and this is of major concern for a world which is increasingly focused on climate change and the way in which we use our environmental resources. At the same time, ICTs are being used to monitor and protect the environment.

In developing the Caribbean specific indicators under this theme, the question was asked: “*What impact does the use of ICTs have on the environment?*”.

Definition

The environment is defined as the totality of all the external conditions affecting the life, development and survival of an organism.

A broad concept of environment is assumed to include: climate change, energy, water, sustainable development, pollution, waste, land use and degradation, and conservation of species and ecosystems. These elements are not mutually exclusive.

The sub-themes and issues under this area are:

- **Climate Change - What role does ICT play in climate change?**
- **Energy Consumption - Does the use of ICT products impact energy consumption?**
- **Waste/e-waste - What impact does the disposal of e-waste have on the environment?**
- **Land use – How can ICTs be used as a driving force for land use changes?**

- **Water resources - Does the use of ICT ensure the efficient use of water resources**
- **Conservation of eco systems - How can ICT be used to monitor the ecosystems**

1. Climate Change

The following table shows the proposed indicators and the justification.

Proposed Caribbean Specific Indicators	Justification
Total emissions of carbon dioxide from the ICT sector	Key indicator of contribution to climate change,
Total emissions of carbon dioxide from the ICT sector as a per cent of the total of GHG emissions	
Number and type of telecommunications equipment used in weather forecasting and monitoring	Measures the role of ICT in climate monitoring and weather forecasting
Incidence of mobile telephone technology being used to provide climate related information and alerts	Used to inform and raise awareness (e.g., media campaigns) at all levels of society – including the poor – about the effects of climate change. Can be used for coordination of emergency efforts, and dissemination of locally specific and relevant information (e.g., early-warning systems, meteorological information for preparedness disseminated through telecentres or mobile phones).

2. Energy Consumption

The following table shows the proposed indicators and the justification.

Proposed Caribbean Specific Indicators	Justification
Total electricity consumption by ICT sector	Measures the effect of ICT on energy demands
Total energy consumption by ICT	
	Measures ICT potential for Energy efficiency

3. Waste/e-waste

Proposed Caribbean Specific Indicators	Justification
Total amount of e-waste collected by type and quantity	The objective of this indicator is to quantify the amount of electronic waste discarded and e-waste recycling efforts. Toxic and hazardous elements are present in e-waste and therefore proper handling and treatment of such harmful elements to prevent environmental or health impact is necessary.
Total e-waste collected as a percentage of total municipal waste collected	
Total amount of e-waste being recycled by type and quantity	
Total e-waste recycled as a percentage of total municipal waste collected	The appropriate handling of e-waste can both prevent serious environmental damage and also recover valuable materials, especially for metals.

4. Land use

Under this heading, indicators regarding the use of ICT for land use are examined.

Proposed Caribbean Specific Indicators	Justification
Number of ICT equipment and applications used for Land Use Management by Type	ICT has the potential to facilitate land management processes and activities. ICT applications can be used in urban planning (i.e. GIS), and in monitoring and provision of relevant environmental information to support decision-making processes contributing to the adaptation of human habitats and infrastructure. Good land information creates better land use policy.

5. Water resources

Proposed Caribbean Specific Indicators	Justification
ICT Equipment and applications being used to monitor the water supply	Supports MDG Goal 7 Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation
ICT tools used in Water Distribution	Water smart meters and ICT tools to support leak detection, automated meter reading through communication networks

6. Conservation of ecosystems

Proposed Caribbean Specific Indicators	Justification	
ICT tools and applications used to monitor the ecosystem	Used for observation, monitoring and networking changes in the ecosystems	
Protected Areas monitored using ICT		Used for environment management and protection
Biodiversity monitored using ICT by species		