ICTs and e-Environment

Overview of BDT Scoping Study for Developing Countries

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Telecommunication Development Sector
International Telecommunication Union

Overview

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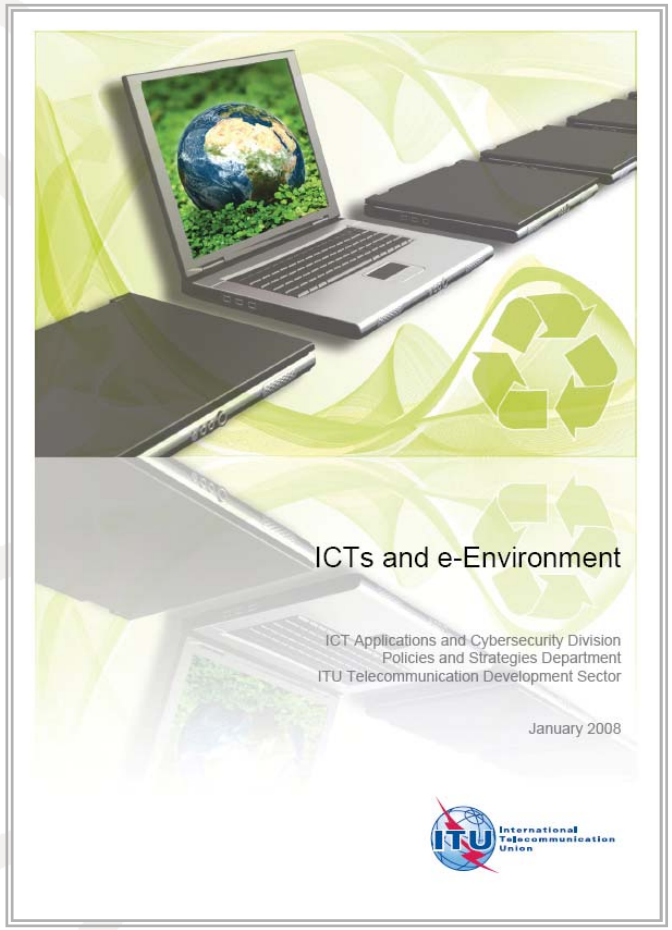

Background

- Principal investigators:
  - Richard Labelle (The Aylmer Group) with input from Ralph Rodschat (independent advisor) and Tony Vetter (International Institute for Sustainable Development)
- Deliverable: Programme 3 Scoping Paper (now ~200 pages)
- Work started August 2007
- First draft January 2008
- Revised final version March 2008
- See www.itu.int/ITU-D/cyb/app/e-env.html

Objectives of Study

- To understand impact of ICTs as tools for dealing with environmental issues in developing countries
- Scope on e-Environmental matters:
  - Observation
  - Analysis
  - Planning
  - Management & protection
  - Impact & mitigating effects of ICTs
  - Capacity building

ICT Applications

- Observation
- Analysis
- Planning
- Management and Protection
- Capacity Building
- ICT Mitigation

Growing number & type of remote sensing technologies and platforms

Growing processing power, efficiency, storage capacity & intelligent algorithms

Growing broadband & wireless connectivity: GRIDs and clouds

Growing miniaturization & digitization, Web 2.0 and beyond services

- Satellite Observation
- Direct Sensors (Air, Water, Soil)
- Human Observation
- Data Archives

- GIS Systems
- System Modeling
- Grid Computing

- Data Correlation
- Forecasting
- Policy formation

- Implementation
- Enforcement

- ICT operation
- Telecommuting
- Collaborative tools

- Public Awareness
- Professional Dev't
- Education

ICTs for the Environment: Facts and Trends

- Massive amounts of digital data including imagery available online to support research and decision-making
- Better understanding of the environment and environmental change
  - Environmental/climate models are more accurate and predictive

Environmental issues grow in importance

- Growing population
  - Growing industrial activity and pollution, growing GHG emissions
  - Growing human populations in more environmentally sensitive areas with lower carrying capacities
  - Growing human populations in areas that are more disaster prone
- Weather events more severe
- IPCC Fourth Assessment Report shows climate change is real and need for action is critical
- People everywhere more environmentally aware & concerned

Effects of ICTs

1st Order:

- Negative impact of resources and energy to operate ICTs

2nd Order:

- Efficiency gains from ICTs
  - Telecommuting, dematerialization
  - Supply chain and production efficiency
- Structural benefits
  - Transportation efficiency
  - Warehousing and infrastructure efficiency

3rd Order

- Behavioural adaptation
  - Consumer
  - Political priorities
  - Needs more research

Draft Recommendations

- Awareness promotion about importance of ICTs for environmental decision-making and action
  - Get decision-makers on board
- Strengthen capacity of developing countries to use ICTs for sustainable development
  - Work within existing mechanisms: National development planning frameworks & priorities, international multilateral aid frameworks, ITU, WMO, OECD DAC, PRSP process, etc.
  - Work closely with UNEP-WCMC, GEO and others
- Develop and promote e-Environment strategies
  - Develop national planning framework & toolkit
- Help countries acquire direct fiber access to IP backbone

National e-Environment Strategic Planning Framework

- Assessment
- Consultation and awareness promotion
- Vision statement, goals
- Strategy:
  - Policies
  - Development objectives
  - Immediate objectives
- Action plan
- Performance indicators (RBM → PRSP indicators)
- Monitoring and evaluation

Possible Next Steps (1)

- Circulate report, gather feedback (2 months)
- Consult with key partners (2-3 months):
  - ITU Member States, ITU, WMO, UNEP (UNEP-WCMC, UNEP-GRID, Convention Secretariats), FAO, UNESCO, WHO, UNIDO, UNDP, other UN specialized agencies and programmes, UN Regional Commissions, GEF, WSIS partners, World Bank, etc.
  - Regional environmental centres/groups: AOSIS, REC (Budapest), Bogor (Biotrop, etc.), IICA/CATIE (Costa Rica), IDRC, IISD
  - Key private sector partners: ICT industry (e.g. GeSI), business associations (WBCSD)

Possible Next Steps (2)

- Consult with key partners (2-3 months) cont'd:
  - Environmental / agriculture organizations:
    - IUCN, WWF, FOE, IIED & other stakeholders
    - CGIAR & NARS (National agriculture research services)
  - Researchers:
    - IPCC, ICSU, GEO/GEOSS, etc.
    - Research associations, networks and centres, etc.

Possible Next Steps (3)

- Option: undertake rapid e-Environment plans in 6 countries TBD (6 - 12 months)
  - Develop proposals
  - Gather feedback
  - Seek support
  - Implement
- Undertake e-Environment strategies and action plans in selected countries
- BDT Programme 3 develops national e-Environment toolkit

More Information

- ITU-D ICT Applications and Cybersecurity Division
  - www.itu.int/itu-d/cyb/
- ITU-D e-Environment home page
  - www.itu.int/ITU-D/cyb/app/e-env.html

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