



## *ICTs and Climate Change*

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## Summary

Tackling Climate Change has been called “the moral challenge of our generation” by the UN Secretary-General, and the need to develop realistic adaptation strategies is an essential part of this challenge. The seeds of future global warming are already planted and some degree of adaptation is unavoidable, even if there is still time to prevent the worst outcomes. Closely associated with climate change are related threats such as desertification, food insecurity and energy shortages, all of which are major barriers to communities wishing to escape from poverty. Thus, action on adapting to climate change is an essential component in any development strategy aimed at poverty reduction and achieving the UN Millennium Development Goals.

## Purpose and objectives

ICTs contribute just over 2 per cent of global greenhouse gas emissions; a percentage which is likely to grow over time. However, ICTs can play a significant role in reducing the remaining 98 per cent, in particular through enabling smart energy efficiency and by providing a substitute for the physical transport of goods and people. However, mitigation strategies are likely to be most effective in the developed world, which is the main source of greenhouse gases. For the developing world, it is the role that ICTs can play in climate change monitoring and adaptation that is likely to be more important. In particular, the indirect effect that the use of ICTs can have in raising awareness and dialogue about the effects of climate change on vulnerable communities is the focus of this project.

The main objective of this activity is to provide developing country communities with the tools they need to adapt to the impacts of climate change, and in particular to communicate to the wider world the challenges that they are facing, by using ICTs to their fullest extent. The underlying concept behind this programme of digital adaptation is that developing countries are only in small part responsible for climate change, but are already becoming the victims, so they need to be supported in developing effective adaptation responses. To reduce the severity of Climate Change impacts and adaptive needs, developed countries need to develop robust mitigation policies which include influencing consumer behaviour towards reducing emissions. The period covered by this project, starting in 2009 and running until 2011, is the key phase for shaping the successor to the Kyoto Protocol agreement, under which countries will make commitments on limiting and reducing greenhouse gas emissions (GHG). This work will be closely coordinated with that process, and in particular with the series of regional adaptation centres that are currently being planned.

## Project description

This proposed activity on ICTs and Climate Change is part of a wider programme of work on digital adaptation that also covers sustainable food production and clean technology. The main components of the overall programme are:

- **Policy Advocacy**, using ICTs for monitoring and adapting to climate change and establishing links with environment, agricultural and other livelihood related sectors requires a major shift in ICT policy thinking, including coordinated investment strategies and regional level co-operations.
- **Capacity-building**, in particular through awareness-raising of climate change and training in digital activism techniques for parliamentarians, government officials and community representatives at national, regional and local levels. The aim is to assist local communities in getting their story heard in order to influence climate change policy development and mobilize external resources -- for instance, from the Adaptation Fund or the Clean Development Mechanism (CDM) established under the Kyoto Protocol -- and to modify consumer behaviour, both locally and in the developed countries.
- **Environmental monitoring**, using such tools as ubiquitous sensor networks (USN) combined with remote sensing and geographic information systems (GIS). Environmental monitoring needs to be closely integrated with early-warning systems for disaster recovery and prevention. The professional tools training component of this action will help to bridge the gap between the academic community and local populations in accessing and interpreting this data.
- **Incubation and entrepreneurship**, building on *infoDev*'s successful business practices in the areas of encouraging small business creation, with a particular focus of developing green technologies.
- **Sustainable development**, by engaging local communities in developing practices that will extend beyond the life of this programme and which will address the full cluster of related challenges, including emerging new problems such as food insecurity. In this way, ICTs can be mainstreamed to address broader development challenges.
- **Knowledge creation and dissemination**, by evaluating best practice techniques for climate change adaptation and by disseminating these widely, especially within the donor community and between regions. One aim of the programme will be to establish a *knowledge map* of digital adaptation strategies for coping with climate change. Dissemination of this knowledge will ensure that the benefits of the programme extend beyond the immediate beneficiaries.

It is proposed that a number of focus countries are chosen for the intervention, spread among different developing regions, but with an emphasis on Sub-Saharan Africa, the Caribbean and the Pacific.

Specific activities to be undertaken in the focus countries include the following:

1. Awareness-raising sessions and development of communication materials, at the initial stage of country engagement, to reach out to Parliamentarians, senior policy-makers and other thought-leaders, and to publicize the project within the country.
2. Provision of ICT multimedia training workshops, aimed in particular at journalists, local community leaders and other thought leaders, with the goal of helping local communities to develop and publicize their local "story" with regard to climate change, for instance through videos, reportage, blogs etc.
3. Provisions of university-based training in use of data from professional ICT tools (e.g., Geographic Information Systems, Remote sensing, ubiquitous sensor networks etc) to central and local government departments and other institutions to help develop a local capability of anticipating the impact of climate change (e.g., forecasting extreme weather events).

4. Developing a platform for south-south knowledge transfer, using ICTs, through the proposed International Climate Change Network, the planned adaptation centres, and through development of a knowledge map on successful digital adaptation centres.

## Indicative Budget

Depending upon the level of funding and the interest among the donor community, the following indicative budget, in US\$, could be proposed for this activity. It is shown on a per-country basis, with the number of countries being varied according to the level of donor support:

| Item   | Duration   | Location  | Cost  |
|--|--|---|---|
| 1. Awareness-raising sessions, with parliamentarians and policy-makers | Typically, held over two days, with lead-time of two months preparation.<br>Two countries per year | Up to 6 countries:<br>Sub-Saharan Africa: Ethiopia, Mozambique, Tanzania,<br>Latin America & Caribbean:<br>T&T<br>South Asia: Bangladesh,<br>Pacific: Fiji, | 40 per session =<br>240K  |
| 2. ICT Multimedia training   | Typically over one week, with three months lead-time. Two countries per year in 2010-2011          | Up to 4 countries, with the decision on which countries to include being taken after the awareness raising sessions as above.                               | 120 per workshop =<br>480 K   |
| 3. ICT professional tools training                                     | Typically over two weeks, with four months lead time. Two countries per year in 2010-11            | Up to 4 countries, as above   | 200 per training course = 800K  |
| 4. South-south knowledge transfer                                      | Over the duration of the project (three years)   | Multi-regional: SSA, LAC, Asia-Pacific  | 150K  |
| <b>TOTAL</b>   | <b>Three-years, 2009-2011</b>  | <b>Multi-regional: SSA, Latin America &amp; Caribbean, Asia-Pacific</b>   | <b>1'670 K</b> on the basis of 4-6 countries, with one workshop and training course per country |

## Project principal partners (if applicable)

The multi-dimensional nature of this project requires a multi-stakeholder approach. Discussions with partners are ongoing but include the following:

- NGO and other civil society partners: IISD, PANOS, LIRNEasia, EDGE Institute
- Institutional and donor partners: DFID, EU, WMO, UNECA, African Union and African Development Bank (Climate for Development in Africa Programme), World Bank, Global Facility for Disaster Reduction and Recovery (GFDRR), and other regional organizations such as PITA, CARICOM
- Academic partners: University of Cape Town, University of West Indies, University of the South Pacific
- Private sector partners: IFC

## Key risks to implementation and sustainability

Inevitably, in a project of this nature, in which digital activism is mixed with science and entrepreneurship, there are risks to both implementation and sustainability. There are a number of risks that can be identified at this stage, and steps have been taken in the project design and choice of partners to mitigate them.

- **Lack of political commitment to the project at the highest level.**  
An essential step in mitigating this is the awareness-raising sessions aimed at parliamentarians, which are planned in the early stages of country engagement.
- **The training courses (ICT multimedia tools and ICT professional tools) may be pitched at an inappropriate level, or may have a very mixed ability audience.**  
For these reasons, the two are separated both in concept and in time, with the latter being delivered via universities.
- **Overlap with similar project planned by other organizations.**  
In this respect, careful coordination and research of policy initiatives is planned in an initial scoping study for the project.