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Ecuador hosts climate change symposium

Focusing on Latin America and developing countries



This satellite image of a hurricane in the Caribbean shows how ICT monitor extreme weather

Although, as a group, developing countries are not the world's biggest emitters of greenhouse gases, they are where the impact of climate change is likely to be felt most. "Equitable solutions must be found so that the major contributors to greenhouse-gas emissions cooperate with the countries that are suffering most from climatic impacts," is one of the key messages in the Conclusions endorsed by ITU's Symposium on ICT and Climate Change, held in Quito, Ecuador on 8–10 July 2009.

The third event of its kind (following those in Kyoto and London in 2008), the symposium was hosted by Ecuadorian research institute *Centro Internacional de Investigación Científica en Telecomunicaciones, Tecnologías de la Información y las Comunicaciones* (CITIC). It was attended by 400 participants from 20 countries, as well as 60 who joined online. The meeting was chaired by Jorge Glas Espinel, President of the *Fondo de Solidaridad del Ecuador**.

The symposium focused in particular on the concerns of developing countries, and especially Latin America and the Caribbean. "While Latin America is not a leading generator of greenhouse-gas emissions, it suffers significant damage from the emission produced by other countries. Climate change is a global challenge that demands global solutions," said Malcolm Johnson, Director of ITU's Telecommunication Standardization Bureau (TSB), in an opening speech to the symposium.

Deforestation

He noted that deforestation is one of the key concerns of most countries in the Americas. "Deforestation is a critical issue, as it contributes some 17–20 per cent of total emissions. When forests disappear, the Earth loses a carbon sponge. According to one calculation, during the next 24 hours the effect of losing forests in Brazil and Indonesia will be the same as if 8 million people boarded airplanes at Los Angeles and flew to Quito," said Mr Johnson.

Cutting down trees also increases a country's vulnerability to the droughts and fl oods that can result from climate change. Professor Roque García Zanabria, from the Polytechnic of Chimborazo (*Escuela Politécnica Superior de Chimborazo*), Ecuador, spoke at the symposium about how the college is using information and communication technologies (ICT) to educate farmers about more sustainable methods of agriculture and forestry.

Dangerous weather

Mount Chimborazo, Ecuador's highest peak, is an extinct volcano, but the country also contains several active ones. Oswaldo Salazar, Head of Operations of the Technical Secretariat of Risk Management (*Técnica de Gestión de Riesgo*), described the ICT

emergencies such as extreme weather events. A threat experienced particularly in the Caribbean is the rise in devastating hurricanes. Roderick Sanatan, of the University of the West Indies, Jamaica, talked about such challenges, and how ICT are helping to monitor and model dangerous weather.

Periodic El Niño events have a worldwide impact on weather, but one that is often felt first in Latin America. Rises in sea temperatures caused by global warming could magnify the phenomenon's effects, said Jean Pla of France's Space agency, *Centre National d'Etudes Spatiales* (CNES). Along with several other speakers, he stressed that remote sensing by satellites is essential for monitoring such events, as well as for tracking the fierce storms they may create.

Reducing the footprint of ICT

Improved methods of manufacturing and more efficient use of energy can limit the greenhouse-gas emissions of the ICT sector. Julio Cesar Fonseca, from the Brazilian telecommunication regulator Anatel, described its work on this issue. He talked about the need for lifecycle analysis of ICT equipment, and about a case study on ways of producing more environmentally friendly fibre-optic cables. Other speakers noted the advantages of expanding broadband wireless networks that are more energy-efficient.

The introduction of new technologies produces benefits, but also potential e-waste as old devices become obsolete. Luis Carlos Ariza Gordillo, of the National University of Colombia, showed that the move to digital broadcasting in his country could lead to over half a million tons of old television sets being junked. An effective recycling system is required, he said, that includes technical standards. Eliminating e-waste is one of the goals of the "Regional Action Plan for the Information Society" developed by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), said Néstor Bercovich.

Using renewable sources of energy to power such equipment as mobile phone transmitters is another way that ICT can cut its carbon footprint, said Maria de Fatima Rosolen, of CPqD, Brazil (a research institute in telecommunications). She compared various solutions, including wind and solar power, and advocated incentives being introduced to promote the adoption of these technologies.





Deforestation is a major concern in tackling climate change



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" Climate change is a global challenge that demands global solutions." TSB Director Malcolm Johnson

Renewable, off-grid sources of electricity are also especially important for taking the benefits of ICT to rural areas, noted Fabián Saenz Enderica, Director General of the Fund for Telecommunication Development (*Fondo para el Desarrollo de las Telecomunicaciones*, or FODETEL) in Ecuador.

Damaging UV radiation



ICT are being harnessed to provide people in Ecuador with warnings of dangerous UV

levels

Climate change is thought to be one of the factors that will exacerbate depletion of the ozone layer and raise the level of ultraviolet (UV) radiation hitting the Earth. This will lead to increased risks of skin cancer, blindness and genetic damage. Regions close to the equator (including a large number of developing countries) will experience the highest levels of UV, especially at high elevations, such as the Andes mountains.

The Ecuadorian Civilian Space Agency (Agencia Espacial Civil Ecuatoriana, or EXA) researched the issue, using data from ground observations and from satellites operated by the Space agencies of various countries. The results showed that Ecuador received UV radiation exceeding the highest point on the scale produced by the World Health Organization. Ronnie Nader Bello, Honorary Chairman of the EXA Board of Directors, explained that "the power of the radiation that reaches our region is the highest on the planet and represents a clear and present danger to all the an opoulations".

Ecuadorian, Peruvian and Colombian populations".

However, he continued, ICT are being harnessed to provide people in Ecuador with warnings of dangerous UV levels. A National Radiation Monitor updates readings every five minutes from equipment in the cities of Quito and Guayaquil, and posts the information online. The Real-Time Satellite Imaging Centre gathers images from ten meteorological satellites that show cloud cover and UV and ozone levels. These help in forecasting surges in radiation. The third element of the warning system is the Real-Time Climate Reporter, through which anyone can access up to a year's worth of data from the EXA meteorological satelions.

The costs of tackling climate change

According to Mauro Flórez Calderón, President of CITIC, adopting new, low-carbon technologies will cost developing countries between USD 20 and 30 billion. Eventually, this will save money; but meanwhile, how can the change be paid for? Mr Flórez described the carbon trading and clean development mechanisms under the Kyoto Protocol on combating climate change, and proposed that businesses should pay a fair price for the right to emit greenhouse gases, while higher taxes should be imposed on carbon-hungry goods and services. He also called for technology transfers and stronger cooperation between developed and developing countries. "Stabilization of the climate cannot be achieved at the cost of perpetuating poverty among our peoples," he said.

This topic was addressed in the Conclusions issued by the symposium, which said "we recognize that urgent and swift action is needed for cooperation between developed countries and those countries most at risk, to enable the latter to adapt to climate change, including assistance if they request it." The symposium's participants also agreed that "bridging the digital divide and bringing the benefits of ICT to all citizens is fundamental to tackling climate change," and global efforts to combat the problem "should not impede the economic and social growth of developing countries." The burden of paying for climate change needs to be shared fairly by all.

* Mr Glas is now Ecuador's Minister of Telecommunications and Information Society

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