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Topic: Climate Change Adaptation and Emergency Telecommunications in Urban Areas

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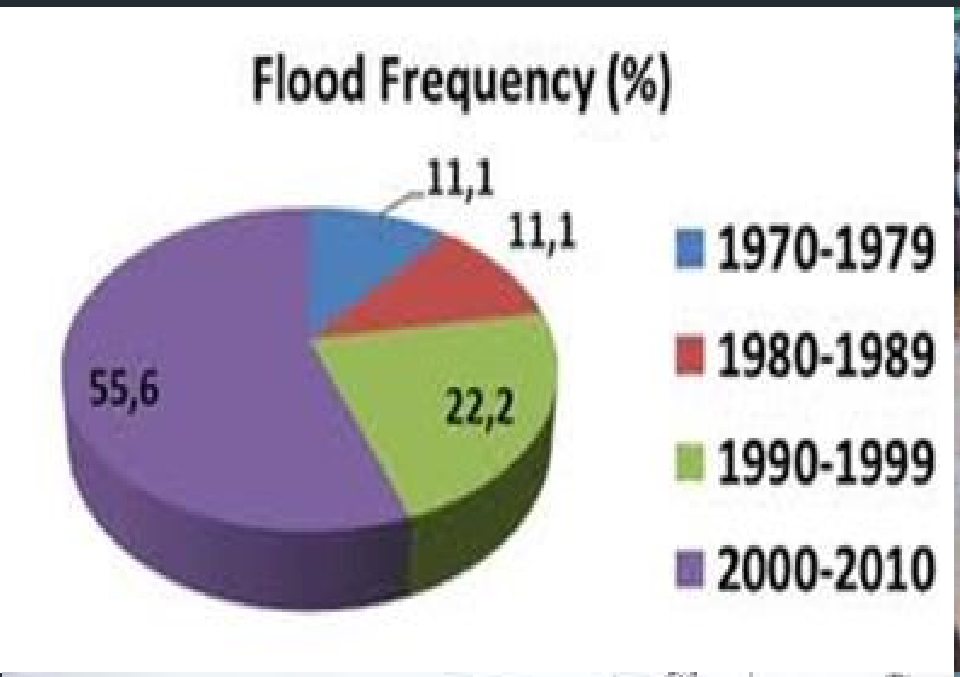
ICT is the game changer in Urban Africa….

- Highest urbanisation is taking place in Africa. Emerging middle class work force. Ghana is a good example (annual urbanisation of 2.7%)
- Widespread penetration and access (53% Africa pop. mobile subscription)
- Deployment as backbone for economic growth and rural development; growing market, saturated private participation, stable policy environment, substantial investments cutting-edge infrastructure and technology
- Greater technology uptake in banking, telephony and internet, mass media, education and research, informal marketing, public and security services.
- ICT applications in early warning, disaster and emergency management is still challenged?

natural disaster and
nple in Accra……


Flood Frequency (%)
11,1
11,1
22,2
55,6
1970-1979
1980-1989
1990-1999
2000-2010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Climate change adaptation and ICT case study in Ghana – collaboration between Ghana, ITU and UNFCCC…..

Some prevailing climatic impacts in 3 ecological zone in Ghana

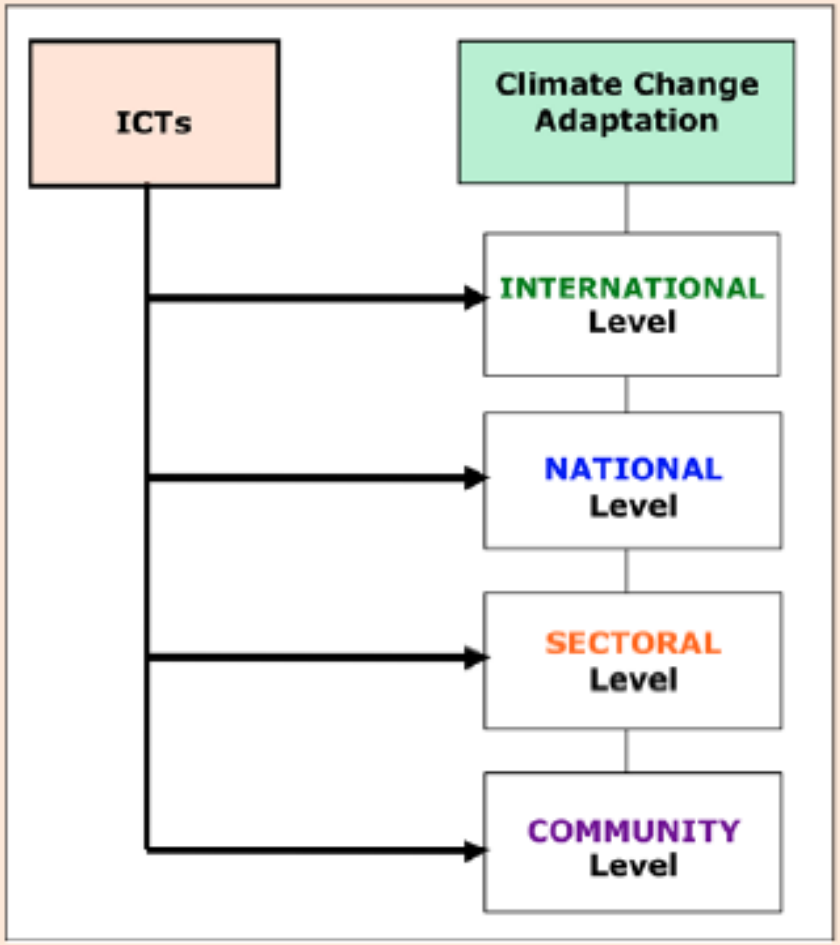
Savannah	Transition	Coastal
Stormy weather and destruction	Reduced water volume	Massive erosion displacing settlements
Top soil erosion and soil infertility	Changes in rainfall patterns, affecting planting seasons	Dwindling fishing stock
Increased food insecurity and malnutrition	Water stress affecting soil fertility	Drastic reduction in the volume of water
Increasing conflicts around resources such as land	Thick forests transiting into shrubs	Severe flooding along urban cities and towns
Increased migration	Extreme heat and waterborne diseases increased	Nexus of poverty, poor infrastructure and climate impacts

Source: Yaro, J. (2010). p. 25.

Disaster risk initiatives undertaken in Ghana

Building Gender Responsive Culture in Disaster Risk Reduction in Ghana	• Women and children are the most affected when disaster strikes, yet they are often marginalized from decision-making processes at all levels. As an effort to sensitize and increase women's understanding of DRR, NADMO in collaboration with ABANTU for Development, with support from the United Nations Development Programme (UNDP), organized regional forums on the theme "Promoting Gender Responsiveness in Disaster Risk Management/Reduction". These Forums were organized in the ten regions of Ghana. • Further to this, fifteen of the most affected districts in the disaster prone regions of the country have been selected for sensitization in gender mainstreaming in DRR.
Strengthening Early Warning System in Ghana	• The Ghana Meteorological Agency has acquired Automatic Weather Stations to improve the data gathering system. Also, to improve the weather surveillance, the government is procuring radar to locate areas of severe weather and precipitation. The government has also procured seismographs for effective earthquake monitoring. • Indigenous and scientific methods are being used and promoted to step up monitoring and early warning for pest and insect infestations.
Strengthening Disaster Preparedness for Effective Response at All Levels	• In order to ensure an integrated national response for disasters, the National Contingency Plan captures potential disasters such as floods, earthquakes, Pandemic Influenza (H1N1) and oil spillage. The document is used together with the National Disaster Management Plan and the National Standard Operating Procedures. Furthermore, Ghana has prepared District Disaster Management Plans for some of the most vulnerable districts in the country.

Linkages between adaptation and ICT



Source: Bueti, C. (ITU), adapted from Ospina and Heeks (2011)

Key lessons from the Ghana case study……

- There is no single mode of adapting to the changing climate, and thus no single mode by which ICTs can facilitate the adaptation process.
- ICT and climate change policy content should be developed in support of national adaptation plans (across the different stages of adaptation processes), as well as in support of specific sectoral strategies (focusing on key areas affected by climate change such as water, food security, health, disasters, etc
- Promoting the development and diffusion of technologies, know-how, and adaptive practices constitutes an important step for improving and enabling adaptation to climate change.
- Promoting awareness on ICTs current and emergent areas of potential climate change consequences.
- Addressing prevailing challenges of connectivity, access and use

Key lessons from the Ghana case study……ICT and Climate Change Policy

c) Sectoral and community levels

ICT and climate change content at the sectoral and community levels should foster the integration of these tools in the design and implementation of sub-regional projects and initiatives. Developing countries could develop content addressing the key vulnerabilities faced by the sectors impacted by climate change and variability, including:

- **Food security:** Promote the use of ICTs to disseminate information about resistant seed varieties and planting methods, or to access agro-meteorological information to protect crops. In the case of **Ghana,** policy content should tackle the use of ICTs in support of key agricultural livelihood sources such as cocoa production and fisheries, helping to raise awareness on sustainable practices, laws and regulations, and alternative sources of income.
- **Water supply:** Promote the use of ICTs to build local capacity for the conservation of water sources and more efficient water management during the production cycle. In the case of **Ghana,** policy content could tackle issues of water management during periods of extreme drought and flooding.
- **Health:** Foster ICT adoption to disseminate information on prevention and treatment of new diseases triggered by climatic impacts, or in early warning systems on disease forecast and control. In the case of **Ghana,** ICTs can be used to raise awareness and prevent the spread of vector diseases, particularly malaria. ICTs can also be used to disseminate information on nutrition and health conditions linked to heat stress.
- **Infrastructure:** Promote the use of ICTs to share lessons on safe building practices in areas of high risk for rural communities. In the case of **Ghana,** ICTs can be used to reduce the level of risk faced by slum dwellers, as well as in coastal and savannah zones that are exposed to frequent floods.

Source: Adapted from Ospina and Heeks (2012)

Thank you