**KEYNOTE ADDRESS**

**ICTs & CLIMATE CHANGE : AN INCLUSIVE APPROACH**

**BY:**

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**AT:**

**5TH ITU GREEN STANDARDS WEEK**

**NASSAU, THE BAHAMAS**

**14 DECEMBER 2015**

Ladies and gentlemen,

Over the past years since the historic Rio Summit took place, we have become more aware and knowledgeable of climate change and its impacts on the planets and human lives. We also know that human influence on the climate system is clear. We as global community, have extensively discussed and debated on what could be done to **MITIGATE** the problem, searching for various innovative ways to limit the global temperature, tending to the needs of our people and making efforts to strike a balance that is essential in developing sustainably.

As we continue to face the impacts of climate change, we have witnessed, not only the melting of polar ice caps and glaciers and the increasing number of endangered species, but we have also begun to experience our own personal encounters with significantly extreme weather and climate events.

It appears that climate change is indeed inevitable. IPCC revealed that there has been **overwhelming scientific consensus that the impacts of climate change are indeed accelerating.** The rising sea levels and increase in rainfall makes our communities vulnerable to floods, threatening our islands, coastal areas, and riverbanks – where our very homes and families are located. Frequent heat waves exposes us to droughts and forest fires, threatening our food production and air quality. When we think about climate change and its effects on our food supplies, water resources, health, homes, infrastructure, wildlife, and so on, we are reminded of how much of our lives will be, and already are!, **personally** affected by this global phenomenon.

The precise details and scale of climate change impacts in specific regions remain uncertain. And even if we were able to limit the global temperature rise to two degrees above pre-industrial levels, there will still be areas across the world that will experience an increased risk of destructive impacts. The World Resources Institute, at IPCC mentioned that these risks are expected to increase with every degree of warming.

Understanding the risks involved in climate change and how it might affect us could help us **ADAPT** ourselves, and prepare for the changes that would occur. One of the most important strategies is to utilise the resources and knowledge we have to empower our communities so that we become more resilient.

Ladies and Gentlemen,

The world is experiencing rapid technological advancements that provides us with new opportunities for more effective solutions. Technology has played an important role in helping us to come up with solutions that are needed to face climate change impacts. Smart city planning, water-saving technologies, food and storage preservation facilities, integrated renewable solutions, and crop diversification are among the solutions that have been developed and implemented.

Certainly, Information Communications Technology (ICT) play a very vital role, in not only mitigating climate change through reducing energy consumption and greenhouse gas emissions, but also in enabling communities to prepare and respond to imminent threats of climate change. In many cases, ICT can contribute to both efforts of mitigation and adaptation, such as through hazard and vulnerability mapping and monitoring, early warning systems as well as intelligent transport systems. While ICT can be used to save lives, it can also be used to empower communities to participate and contribute their local knowledge and experience towards building resilience.

In Malaysia, our vulnerability to the impacts of climate change has been experienced in various ways, including through the increasing severity of the floods that occur annually. Based on Malaysia’s experience, engaging with the public and including members of vulnerable communities in planning, decision-making and implementation of policies for climate change adaptation and preparation process can significantly influence the outcomes of Government efforts.

Ladies and gentlemen,

I stand here before you not only as a civil servant, policy-maker and representative of my country, but as someone who personally knows what it feels like to grow up in an area where natural disasters are a recurring part of life.

I was born in the state of Kelantan, Malaysia, located on the east coast of the country, facing the South China Sea. Kelantan experiences floods each year that are regarded as a normal part of life. When I was young, floods occurred during monsoon seasons and were quite predictable. Without access to technology or scientific information, the people of my village were still able to estimate the arrival of the floods and preparedness was planned using their indigenous and tacit knowledge and the wisdom passed down from their parents and ancestors.

However, that has all changed in recent times. Kelantan and many more states in Malaysia have become more vulnerable to climate change. Floods do not only occur during the monsoon seasons. When they do occur, they have become significantly more aggressive and destructive than ever. Most recently, Malaysia experienced one of the worst floods in its history, with at least 200,000 people evacuated from their homes. At the end of 2014, the residents of the affected states welcomed the New Year in floodwaters that reached their necks, and in some areas, as high as the roofs of their homes and shops.

I reported duty as Secretary-General at the Ministry of Communications and Multimedia at the flood site. Kelantan was the most badly affected state, with over 100,000 people evacuated from their homes. I went to visit various places in Kelantan with our then Minister and also our Prime Minister, who joined us on the ground to assess the situation.

We visited some of the villages that were severely affected, to offer financial and moral support as well as to display our solidarity with people who had lost everything dear to them in the disaster. Our military, rescue teams, and volunteers tirelessly made efforts to save the lives of those stranded on the roofs and trees, and to deliver food and supplies to the victims in need. Malaysians near and far came together to contribute supplies and basic necessities for those affected. BUT it was a great struggle for us all – as we had never had to manage floods that were as unpredictable and devastating as this one.

The situation in Kelantan was made worse when the electricity was cut off and phone lines and Internet were disconnected. People were stranded in areas that were surrounded by water and could not travel from their isolated homes and villages to nearby shops or towns to get food, water and other supplies. Many people, especially the youth, who had grown dependent on ICT devices, were unable to use their phones to reach family members or call for help. They were also unable to interact with the outside world through their social media networks online, and had no means of charging their devices. Misinformation had also begun to run rampant, as people did not have access to newspapers or other sources of information, so they relied on others to tell them what was going on.

However, the experiences of the people in Kemaman were in stark contrast to those in Kelantan. Terengganu shares a border with Kelantan and is also usually affected by floods caused by the monsoon seasons each year. During the floods in 2014, many people in Terengganu had also become victims of the disaster, with more than 34,000 people evacuated. What made it different this time around was that the district of Kemaman had recently implemented its own FLOOD PREPAREDNESS MODEL.

It was formulated after the severe floods that took place in the years of 2012 and 2013. The model is divided into three phases – **pre-flood, during flood, and post-flood.** Most importantly, the model is based on the premise that disaster preparedness must begin from the grassroots, engaging local leaders and the people themselves, whose lives will be most at stake in the event of a natural disaster. The inclusive flood management in Kemaman is based on the following principles:

* Bottom-up approach;
* Enhancement of community infrastructure;
* Content that meets local needs;
* Role of local authorities;
* Institutional collaborations;
* Local leaders and people as champions;
* Replicability, scalability & reachability; and
* Sustainability

**In the pre-flood** preparation phase, the Kemaman central committee for floods was set up, with representatives from each of the four state legislative assembly constituencies of Kemaman. Each of the constituencies decided on the location of their main flood relief centers, and then collaborated with the central committee to engage the public through flood awareness programs, which was then run by the National Security Council.

The people of Kemaman were provided with advice on how to respond to the floods. Information on the location of relief centres, and flood kits were also distributed to them. Additional information on what to do before, during and after the floods was also provided in the form of pamphlets. Based on advice provided by the locals, three helipads and three supply depots, with exact GPS coordinates were built to allow army helicopters to send and pick-up supplies for the flood victims, which were prepared well in advance.

A Forward Operating Base (FOB) was set up to support tactical and logistics operations. This included areas that served as a placement center, cooking space and location to store donated items. Evacuation plans were made public and a flood simulation was carried out to test the readiness of rescue teams and relief centers in an event of a flood. To ensure that communications system during floods would not be adversely affected, telecommunication companies were informed to raise their equipment at the transmitter sites to above water level. The Terengganu amateur radio and recreation club was also involved in delivering on-the-ground information and communication to the people. Permanent and mobile generator sets, cell on wheels, and walkie-talkies were provided. Progress on the district’s flood preparation efforts were shared amongst members of the committee through social apps.

**During the flood**, the model’s plan placed priority on rescuing flood victims. At the same time, seven-day supplies of food and drinks were sent to each flood relief center. These relief centers were provided with sufficient items such as blankets, sarongs, mats, sleeping bags, and power banks to help the flood victims feel comfortable and connected. Some activities were organized at the relief centers to keep up the spirit of the community such as religious prayers, cooking meals together, and coloring activities for children. A temporary clinic and vector control was also made available to treat injured victims and prevent the spread of disease, while meetings on the flood operations were held daily at 8.30pm.

**In the post-flood** strategy, the committee assessed the damages caused by the flood to public infrastructure and private properties. The donated items for flood victims were centralized at Kemaman’s district office one week after the closure of the last relief center. A post-mortem of the flood management operations was carried out, along with proposals for further improvements.

The morale of the story is that : Kemaman was hit by the same severe floods that occurred in Kelantan, but the people in Kemaman underwent a completely different experience. The Government’s move to engage and involve the local district leaders and people in Kemaman, on flood preparation helped them all to be better prepared in facing the disastrous floods. Through the use of ICT and the inclusive approach, most people in Kemaman knew exactly what they were supposed to do when they received the flood signal. Many people in Kemaman were also able to save some of their personal items and properties such as cars and furniture, as they were informed beforehand through **text messages** that the flood was going to arrive at an estimated time. In Kelantan, unfortunately, some people lost their lives in the floods. People’s cars and household items were inundated or carried away by the waters, while many homes and personal items were completely destroyed.

Kemaman’s model proved to be successful in managing last year’s floods, which continued well into the beginning of 2015. It had also showed us how we could make use of ICT in not only helping people to adapt to the impacts of climate change, but to also cope with the destructive consequences of such impacts by strengthening community cooperation, access to information, education, and public engagement activities. While the people are indeed at the core of such a model, it is equally crucial for Government to take the lead in providing the initial building blocks of inclusivity through offering support, guidance, initiatives, and facilitation so that the people will be more likely to cooperate and get on board with Government action to combat the effects of climate change.

Ladies and Gentleman,

While we are here in the Bahamas discussing and deliberating on issues surrounding ICT and Climate Change, in Chennai, India, people are suffering from the fatal impacts of severe floods. I would like to take this opportunity to extend our deepest sympathies for the victims. I would like to share with you the image that I have received yesterday. This moving image serves as a reminder to us all that life does not just revolve around economic growth, sophisticated technologies and machines. While those are very important tools and enabler, the driving force is the human being - the people. Thank you ITU, UN Habitat and all the partners who have jointly organized this gathering. Your sheer hard work has powered the success and brought us to where we are today. It humbles me to be part of you, and to think of the collective intellectual capital that you have built over the years. I truly believe that the citizen-centric, people-oriented and inclusive way of doing things will keep us fired-up, keep us innovating and keep us thinking again, thinking ahead and thinking across.

To the industry, it energizes me to see that most of your businesses' objectives are always being associated with societal agenda - not just tokenism but the one that involved the minds and souls of your organizations. This is a reflection of your belief that profits are only meaningful when accompanied by the well-being of the communities.

This is the spirit that glues and binds us all, and I hope the feeling of pride may always fuel our noble efforts.

Thank you