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                     MARCH 6, 2019
                 9:00 A.M. MAURITIUS TIME
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>> 1, 2, 3 --
>> 1, 2, 3, 4, test, this is an audio test.
    1, 2, 3, 4, test. This is a remote participant. Can you hear me? 1, 2, 3, 4 test. Yes? 1, 2, 3, 4, test, do you hear me?
    I'm a remote participant, can you hear me? 1, 2, 3, 4, test, this is an audio test for remote participation.
    This is an audio test for the remote participation. Yes. The sound is muted -- this is an audio test. I'm a remote participant. This is an audio test. We're having the last audio test.
    >> I'm away a little bit. Normally remote participation

and webcast are working.

>> Greeting it's, everyone. This is a mic check for captioning for Sarah.
Testing the captioning to ensure all formats are working and everything looks well on the screen.
We are looking to see a break line to see how the captioning looks and how it is wrapping around the screen to make sure everything looks well on the screen.
>> Greetings, everyone. This is a mic check for the webcast. Thank you. For English and French.
>> Good morning. Good morning, everybody. May we all take our seats, please.
Thank you. If I can request everybody in the hall to take your seats, please. We're about to start.
Okay, so we'll have some major or essential housekeeping issues which is very important for the smooth running of the forum. First of all, we have headsets in the conference room which can be collected here for anybody who needs translation -- or interpretation rather. Interpretation is in French and English, except for the breakout session, Session 3.
We would like to also inform everybody that the ICT Authority, the host is offering lunch and coffee during the coffee breaks, so please feel free to have lunch in the main restaurant. We will indicate later.
And also this GET 19 Opening Ceremony and the sessions are going to be broadcast live, so threes are the essential housekeeping for this morning and we'll be starting very shortly, so welcome already to all of you. Thank you.
>> Good morning, again. May we all rise for the National Anthem, please.
(playing of National Anthem).
You may sit.

Honourable Mr Yogida Sawmynaden, Minister of Technology, Communication and Innovation,
Honorable Mr Etienne Sinatambou, Minister of Social Security, National Solidarity, and Environment and Sustainable Development, Minister Moniese laafai from Tuvalu, Vice-Minister of information and Technology of Samoa, Mrs. Doreen Bogdan-Martin, Director of International Telecommunications Bureau, distinguished delegates of the ITU, representatives of the media, ladies and gentlemen, it's a pleasure to extend a very warm welcome to all of you to the GET Forum in Mauritius,

and I would like now to invite the Chairperson the ICT
Authority, the host, Mr. Bocus to give the welcoming address.
Mr. Bocus?

        >> MAHMAD BOCUS: Thank you. Honorable Yogida
Sawmynaden, Honorable Marie Sinatambou, Ministry of Social
Security and National Solidarity and Environment and
Sustainable Development, his Excellency, Mr. Monise Laafai,
Communications and Transport of Tuvalu. His Excellency,
Mr. (?) that Vice-President of Communications and Information
Technology, Samoa, and Mrs. Doreen Bogdan-Martin, Director of
the Telecommunications Development Bureau, International
Telecommunication Union and Distinguished Delegates of the ITU,
Representatives of the Media, ladies and gentlemen, good
morning.

     As Chairperson of the ICT Authority, which is hosting
this Forum, I have great pleasure in welcoming you all this
morning to this very important event on Disaster Management.

     The Republic of Mauritius is getting used to facing
extreme and disastrous weather conditions like cyclones and
flash floods as such calamities have become recurrent, the risk
of disaster, therefore, a matter of continued concern for us.

     In such a context, this Forum, which is the third Global
Emergency Telecommunication Forum and its theme especially,
Innovating Together To Save Lives Using Technology in Disaster
Management can only be of immediate relevance to us.

     The use of technology, or more precisely, investigation
into how the use of technology, in particular ICTs may be
applied towards disaster management is a matter that the ICT
Authority has long been associated with.

     In 2009, and in 2013 with a close collaboration of the
parent ministry, the authority organized events under subject
of ICTs for disaster management with local and international
stakeholders. These events generated great interest among key
stakeholders involved in disaster management, and what emerged
from the discussions is that there was the need for a central
agency to coordinate disaster management in order to enhance
response in times of emergency and urgency.

     The ICT Authority has been engaged in close collaboration
with the National Disaster Risk Reduction and Management
Center, Telecom Operators, and other stakeholders in the
endeavor to work out and establish a framework whereby existing
telecommunication infrastructure and facilities can be put to
use during emergencies.

     Additionally, the Authority has set up a licensing
framework for radiometer in Mauritius based on the adoption of
the frequency allocation recommended by the ITU for this
segment.

The use of artificial intelligence to predict the occurrence of natural calamities, just like the use of drones to assess damage, and more importantly to assist in search and rescue operations, are living examples of how tech technological innovation can be a useful tool to enhance efficiency and responsiveness in disaster management.

With mobile penetration of 146% in Mauritius, the focus now is towards providing public warning systems over mobile networks.

The cell broadcasting system which resembles SMS very closely, is nevertheless in terms of implementation, by far the most practical technology, it satisfies most of the criteria required internationally in terms of requirement for WS cell requesting on GSM, MDS and Utron networks and enables prompt delivery of emergency alert messages on a one-to-many broadcast basis., and it also addresses security concerns as only authorized personnel may have access to the system for the broadcasting of alert messages.

The advantage of the Cell Broadcasting System over the Emergency SMS Alert System which is another means to reach the general public, is that it does not have the inconvenience of network congestion, resulting from the transmission of volumous SMS alerts as is the case with the emergency SMS Alert System.

Thus, there is no likelihood of delay in the delivery of critical alert messages with the Cell Broadcasting System.

Another advantage is reliability as regard to the source of the message. The alert is generated by a legitimate authority, whereas with the Emergency SMS Alert System, there is no indication of whether such is the case.

Also, the Cell Broadcasting System, does not involve any risk of spoofing of message from other phones, as is the case with the Emergency SMS Alert System. Thus, having regard to the fact that the Cell Broadcasting System offers the best combination of reach and reliability, action has already been initiated with mobile operators for its implementation in Mauritius. Concerted and critical thinking as well as collaboration are to my mind, key components which require continuity over time in regard to disaster management.

This is precisely the prime consideration of the ICT Authority in hosting this Forum with the blessing of the Honorable Minister of Technology Communication and Innovation and of the Government of Mauritius.

The common target is to explore the full spectrum of innovation through the use of ICTs and technology with the objective of saving lives. It is a matter of comfort to see so many experts gathered here today to share knowledge and experience on disaster management in order to save lives.

The topics of discussions will no doubt generate meaningful debate that will lead to more meaningful action in the future. I therefore wish this ITU Forum innovative outcomes and wish all delegates the fruitful and enjoyable experience, and an equally enjoyable stay in Mauritius. Thank you.

(Applause).

>> Thank you, Mr. Bocus, for your welcome remarks to the Forum. It is now with great pleasure that I would like to invite Ms. Doreen Bogdan-Martin, BDT Director of ITU to make her address.

(Applause).

>> DOREEN BOGDAN-MARTIN: Your Honourable Mr Yogida Sawmynaden, Minister of Technology, Communication and Innovation of Mauritius.

Your Honorable Mr Etienne Sinatambou, Minister of Social Security, National Solidarity, and Environment and Sustainable Development,

Mr Mahmad Aleem Bocus, Chairman of the Information and Communication Technologies Authority, of Mauritius.

Excellencies, Honorable Ministers, Heads of Regulators, ladies and gentlemen, it is a great honor and pleasure for me to be here with all of you to open this 3rd Global Forum of Emergency Telecommunications here in Balaclava, Mauritius as the newly Elected Director of the Telecommunications Development Bureau.

I would like to extend my sincere thanks to our hosts, the Government of Mauritius for your most generous hospitality and for making us all feel so very welcome.

Mauritius is a small island developing state that is itself vulnerable to natural hazards. To mitigate the risk to citizens and vital private infrastructure, the Government of Mauritius has been far-sighted in taking steps to reduce the impact of disasters and to improve resiliency.

We all look forward to hearing more throughout the course of the three-day conference about the experience of Mauritius and what they've done to make great strides in disaster management.

The theme of this year's GET event, Innovating Together to Save Lives, Using Technologies in Disaster Management. It reflects the fact that natural disasters continue to have devastating impacts on people and on economies across the globe.

In the decade from 2007 to 2017, the world recorded an annual average of 350 disasters, resulting in 68,000 deaths, 210 million people affected and 150 billion dollars worth of damage.

Human and material losses caused by such disasters are a major obstacle to sustainable development. Of the 17 SDGs established within the UN's Agenda 2030, four refer for the need for nations and communities to address the challenges brought about by disasters. The Sendai Framework for Disaster Risk Reduction recognizes the important role that ICT plays in disaster manage, and technological advancement and innovation are continuing to create very exciting opportunities for enhancing faster resiliency and risk reduction.

The important role played by ICTs was highlighted in the Caribbean back in 2017, when two Category-5 hurricanes, Hurricane Maria and Hurricane Irma, hit the Caribbean and telecommunications and ICT networks and services were extensively employed ahead of time to track not only the path of the hurricane but also to be able to predict the impact and to provide life-saving information.

I'm very much looking forward to hearing later today from some of our key stakeholders in the Caribbean some of the lessons they've learned and look forward to them sharing experiences with us.

Ladies and gentlemen, today half of the world's population is using the Internet, and mobile networks and services are offering unprecedented ways to communicate before, during, and after disasters strike.

During the course of the next three days, we're going to be looking at how ICTs can make a difference to humanitarian teams working on the ground, often in the most difficult of circumstances and under tremendous pressures.

ICTs can provide resilient tools and platforms that allow these organizations to communicate internally, to coordinate with humanitarian agencies, and to reach out to those communities in need. We are also going to be looking at new services, such as digital payments, as well as digital identification and how those can benefit communities in need.

And if we could just solve the problem around providing access. Today, as you know, many of the world's people in the most vulnerable population groups, including refugees, still do not benefit from connectivity, or they lack the necessary digital skills to take advantage of online platforms and services that could actually help them.

Other conference sessions this week are going to be looking at innovative ways of reestablishing connectivity in the event of a disaster and some of the technological innovations that are creating new possibilities for enhancing disaster resiliency and risk reduction.

These include developments in disruptive technologies, from artificial intelligence to the Internet of Things to Big

Data, and also innovations in the area of robotics and drone technologies.

Throughout the week as we've heard, our emphasis is going to be on Innovating Together. Innovating together through concrete partnerships. For example, helping countries build emergency telecommunications plans or to build digital disaster connectivity maps, an initiative that's going to bring together both public and private-sector members to identify better ways of understanding connectivity gaps following disasters.

I'm also looking forward to our tabletop exercise tomorrow, which is going to be very interactive, and that tabletop exercise is co-organized by the ITU and the Telecommunications Cluster and the objective of the session is really to engage all of us, to engage all of us in an interactive learning experience that will highlight the importance of coordination and the roles of differential stakeholders in the ICT Community from disaster management agencies, meteor logical offices and other public and private sector bodies.

I would also like to remind everyone that Friday, the 8th of March, is International Women's Day and that gives us all a great opportunity to reflect during our discussions on the digital gender gap, as well as on gender roles and the particular ways that women are affected by disasters.

The theme of this year's International Women's Day is Think Equal Build Smart and Innovate for Change, and I believe that theme is very appropriate to our conference this week.

Distinguished participants, ladies and gentlemen, I'm very proud to announce today that the ITU together with the United States Telecommunications Training Institute, known as USTTI is launching a global competition for three places for people from developing -- for colleagues from developing countries, you're invited to apply, three places to a training, a two-week training on emergency telecommunications, so we're launching that competition today and I invite you those interested to put in your application for that exciting competition.

I would like in closing to take this opportunity to, again, thank our host and also to thank all Member States, international organizations, industry groups, private sector companies, and experts that are supporting the vital work of the ITU in emergency telecommunications.

In closing, I wish all of you a successful and fruitful conference. I thank you very much.

(Applause).

>> Thank you very much, Ms. Doreen Bogdan-Martin for your speech to the conference today. And it's now with pleasure

that I wish to invite, Honorable Mr Etienne Sinatambou, Minister of Social Security, National Solidarity, and Environment and Sustainable Development,to address the Forum.

(Applause).

\>>

Honourable Mr Yogida Sawmynaden, Minister of Technology, Communication and Innovation, of the Republic of Mauritius, his excellency, Mr. Monise Laafai, Minister of Communications and Transport of Tuvalu, His excellency, vice minister of communication and information technology of Samoa and Ms. Doreen Bogdan-Martin Director of the Telecommunication Communication bureau. And Mr. Mahamad Allem Bocus, the chairperson of the Information and communication Technology Authority.

Distinguished guests, ladies and gentlemen,, it gives me great pleasure to be with you at the opening ceremony at this global forum on emergency telecommunications with my good friend and colleague, Minister Yogida Sawmynaden. I'm doubly lucky to be with you today to be with the head of ICTs on two occasions on my lifetime. This global Forum comes at a critical time where we are witnessing unprecedented calamities around the world. Climate change is posing a direct extension threat to us all. It is having dire and considerable implementations on the functioning of ecosystems on people's livelihood, food security, human health, and infrastructure.

Weather patterns are changing, sea level is rising, weather events are becoming more extreme and greenhouse gas emissions are now at the highest levels in history.

Millions of people around the world have suffered and continue to suffer from extreme weather events. According to the Economic Losses Poverty and Disaster Report published by the United Nations Large Tier, between 1998 and 2017, some 1.3 million people lost their lives and 4.4 billion people were injured, rendered homeless, displaced, or in need of emergency assistance.

Disaster-hit countries reported direct economic losses of merely 3 trillion dollars of which climate related disasters accounted for nearly 2.3 trillion dollars, that is 77% of the total.

Indeed, according to the United States National Oceanic and atmospheric administration, between 2015 and 2019 we have unprecedented four warmest years on record.

The year 2019 may be yet another milestone as the warmest year on record, largely as a result of a possible Al Ninio event.

The recent panel on Government, the IPC Special Report on Global Warming published in October 2013, the core developing

communities have been making over the past decades, and I quote, "climate related risks to health, livelihood, food security, water supply, human security, and economic growth are projected to worsen with global warming of 1.5 degrees celsius." End of quote. The same report furthered highlighted that a 1.5 degree Celsius threshold could only be reached in about a dozen years from now, while the world is already on the 3-degree Celsius warming up trajectory.

Ladies and gentlemen, we are just two months into 2019 and we are already witnessing a series of dreadful, unprecedented extreme weather phenomena across the planet.

For instance, Australia sweltered through its hottest month on record in January. The heatwaves have caused extensive wildfires as well as massive losses of wild biodiversity in affected areas.

At the same time, in the Northern Hemisphere a bitter cool polar vortex hit Canada and the United States with temperatures plunging as low as 50 degrees celsius below zero and impacting millions of people.

Mauritius is no exception. We are also being impacted regularly by extreme weather conditions. High intensity, short duration rainfall events are becoming more and more frequent.

We have also been able to observe an uncommon situation of having too tropical cyclones, namely Gelena and and Funani at the same time in the region.

The information and Communication Technology Sector has a wide range of technologies for gathering, storing, retrieving, processing, analyzing, and transmitting information in digital form.

ICT has already been used as a crucial tool for climate change adaptation and mitigation. For instance, to improve our disaster risk reduction and management, an early warning system has been set up under the adaptation fund program. This system allows for the monitoring of and provides early warning for storm surges with three days probabilistic and six hours deterministic capability.

So ICT has therefore been used in climate change mitigation processes to undertake vulnerability assessment works such there are identification of flood-prone areas.

Similarly, in order to evaluate greenhouse gas emissions, which is an obligation in the UN policy, special inventory softwares, as well as geospecial also known as remote sensing technologies are used to estimate greenhouse gas removal from land areas covered with forests.

This Forum has brought together government representatives, regulatory authorities, representatives of the ICT Industry, heads of United Nations Organizations, other

senior-level participants and non-governmental organizations, as well as members from academia, media, and other stakeholders.

I believe, ladies and gentlemen, that it is the right platform to discuss opportunities and challenges, to share experiences, discuss policies, and showcase the use of new technologies and services for disaster risk reduction and management.

With these words, I will conclude by wishing all of you fruitful deliberations, and to our foreign guests and delegates, please don't forget to enjoy Mauritius, also. Thank you for your kind attention.

(Applause).

>> Thank you very much, Mr. Etienne for your address. I would now like to invite

Honourable Mr Yogida Sawmynaden, Minister of Technology, Communication and Innovation,to give the keynote address to the Forum.

(Applause).

 >> YOGIDA SAWMYNADEN: My colleague minister, honorable agents and Minister of Social Security and National Solidarity and sustainable development., Mr. Monise Laafai, Communication and transport of Tuvalu. And his excellency Mr. of Samoa and Ms. Doreen Bogdan-Martin Director of telecommunication Development Bureau at ITU. And the chairman of ICT, the Secretary-General of the telecommunication union and the primary secretary of the ministry and different staff of different institutions and ministry attending the forum, members of the media, distinguished guests, ladies and gentlemen, good morning.

Welcome to the pride island of Mauritius. I'm proud to address you this morning on an issue which has been taking us by storm, lately.

There is, without any doubt, an utmost urgency to discuss and plan about our response to natural calamities. Two days back, maybe you saw all the havoc left behind by tornado in USA and 23 people lost their lives. Climate change is no more a question, it is a reality, we are living it every single day.

Mauritius is classified according to the World Risk Report 2018 as the 16th country in the world with the highest disaster risk on the world risk index of 14.27.

Mauritius, being a small island in the Indian Ocean is already witnessing extreme weather conditions such as flash floods, strong tropical cyclones among others, severely impacting on the livelihood of our nation.

Ladies and gentlemen, in the government's region to enhance the safety and security of our citizens against natural

disasters, we're constantly working on new frameworks and innovation projects to review and update the national multihazard early warning system and embark on innovative disaster management, education, training, and public awareness initiatives.

It's worth highlighting since 2016, my government has introduced the National Disaster risk reduction act to improve response and preparedness to disasters. An early warning system for storm surges with three days probabilistic and six hours deterministic capability has also been developed.

Moreover the National Disaster Risk Reduction and Management Center is already operational for the planning, organizing, and coordinating and monitoring of disaster risk reduction and management activities at all levels.

Dear participants, information technology plays a fundamental role in modern disaster management mechanism. Helping organizations identify and prevent disaster risks in operating activities. The mobile penetration rate of 146% and a total of 1.85 subscribers, Mauritius is working towards the implementation of the National Multihazard Early Warning and Emergency Alert System and discussions are started with mobile phone operators to launch the capabilities of the existing infrastructure and requirements for upgrading to accommodate disaster management functionalities in their different networks.

Ladies and gentlemen, with a growing intensity and frequency of natural disasters, there is a constant need to enhance the use of technology in all forms for disaster management before, during, and post disasters. Mauritius is investing considerable amount of its own resources on climate-related measures as highlighted in the budget speech 2018/2019.

Several automatic weather solutions have been stepped up with sensors to capture realtime data on weather conditions around the island. Moreover, Mauritius being an island exposed to tsunamises, sensors are installed at strategic positions in the sea to monitor the water level.

Mauritius is now equipped with a tsunamis warning system that gives us a time of five to seven hours before the tsunamis waves are likely to reach our coasts. The government is working toward the implementation of enhancing meteorological information and warning capabilities and is expected to start in April 2019.

In light of the above, a state of new Doppler solid state Doppler is already acquired and started in Mauritius to enhance dissemination over information and actionable warnings, such as to reach disaster-related organization and population in a

timely manner.

It is a fact that land-based communication systems are prone to damage during disasters, given that communications provide the critical path for relief in emergency and disaster, and the use of satellite phones is now considered as an integral tool for disaster management. Moreover, satellites will also be used in disasters for communication, remote sensing, and mapping.

Mauritius is maintaining its broadcasting service, and it is in the process of upgrading the 1, 475 kilohertz transmitter as an emergency radio transmission for island-wide coverage during disasters.

In time of crisis and natural disasters, a radio is often used as a means of emergency communications. The ICT Authority has set up a conducive licensing framework in Mauritius for adopting the frequenting bands and by the International telecommunications Union. And besides the military of doan, there is no doubt that drones play an important part in emergency incidents. The use of drones to map disaster areas provides great advantages in cost and rapid response time when compared to traditional methods.

Several local bodies, includes first responders, have expressed interest to deploy drones for disaster management. Base on a urgent need to introduce the necessary framework to deploy drone for community resistance and disaster response. And Internet of Things refers to objects and references and soft ware that collect data and communicate with one another. As it relates to emergency management, the IoT can be used to enhance data collection from the physical environment and quickly communicate this data to different bodies involved in disaster management.

With implementation of several Smart Cities in Mauritius, realtime data about weather, traffic, police, and medical services will be readily available gathering information from various sources is vital in crisis situations. However, some pose certain challenges in analyzing and presenting the information in a relevant and actionable manner.

Now, innovative solutions, including augmented reality integrated with live drone footage may be used to provide a experience and enhance decision-making capabilities, broadband so far a solution including mapping and digitalization features can aggregate live video feeds to provide a view of what is happening at various affected areas.

Events and responses can be built in a timeline -- into a timeline and be reviewed after the incident to determine the best course of action in the future.

Dear participants, it is without doubt that the ICT plays

a pivotal role in enabling timely disaster response, management, and reconstruction of the disasters and in promoting disaster risk reduction and preparedness. To conclude, I wish to stress that my Ministry will enable to provide all necessary facilities, registration, and framework for the establishment of any emergency communication network in Mauritius.

I wish you all a fruitful Forum with possibilities of exchanging each country's experience and I'm sure that we shall all come up with a solution, so thank you for your attention.

(Applause).

>> Thank you very much, Honorable Minister, for your keynote address to the Forum. And we now reach a very important moment during this Opening Ceremony, where I would like to invite to the stage Mr. Jerome Louis, so in charge of the ICT Authority, the host, Mr. Jerome Louis is going to be the Chairman of GET. Ladies and gentlemen, applause, please.

(Applause).

So we wish Mr. Louis who has this staff ahead of him for the next three days, very best wishes, best wishes to the Forum, and we thank Honorable Sawmynaden, Ms. Bogdan-Martin, and Chair of the ICT Authority, Mr. Bocus, for gracing the occasion this morning. We will now have the photo session before the tea break, so I request all -- we will have two sessions, one outside, and so I request all delegates to now move to the outside of the hall where we will have the group photo. The doors are being opened, and the IPs, just a souveneir break. So please come back for the high-level dialogue to start. Thank you.

Tea and coffee break.

(silence)

(music)

(music)

(silence).

>> Okay. Can everyone hear me? Good morning, and welcome again. My name is Vennessa Gray from the International

Telecommunication Union and I would like to take just two or three minutes of your time to introduce you to your poll app. This is an application that we're going to use over the next three days to receive feedback from you. We're hoping that this will create some more interaction between you and us, the organizers of the event, and that this will allow us to improve the way we organize the events.

So what you will need to use this polling app is either a phone, a computer, a laptop, anything or any device with a browser or with a QR Code, and what I would like everyone here now to ensure is that you are using the WiFi network GET 19 and that you're not on a mobile network, but that you're using the GET 19 Network, and we have the GET 19 Network here and the password which is ITU at MAU2019 so please make sure to use that network because that will allow you to use this polling app.

Then what you will need to do is either to type in your browser the URL, http.//.-- or if you have a QR Code on your phone you can scan this, and please if there is anyone who has problems using this or accessing the polling app, please let us know and there are a number of people in the room, maybe those people could stand up. There are a number of people who are helping us, so can you please -- okay, maybe it you can move through the -- there is a number of people who can help, so if you have problems accessing the URL or downloading the QR Code.

And so what we will do now is we will ask a question, and this is more of a test, to make sure that this polling app is working. And please be assured that this is anonymous. We do not know what you're voting. We do know how many people in the end voted but not what you voted, and again this is important because we will be using this over the next three days, and following every session we will ask for your feedback on the session, and so this is very important, again, for us to improve the way we're organizing this conference.

If you receive -- if you receive the question, and what we will see now is the poll results.

Maybe if we can go back once more to the slide so to make sure that everyone has the URL and the QR Code.

So if I hear nothing, I'm assuming that everyone has been able to vote. Shall we show the results? Pamela, please. The.

The question asked in this poll is what is your key expectation of GET 19 and the answers were networking, going to the beach, learning about preparedness for emergency telecommunication, visiting Mauritius, developing ICT disaster risk reduction and risk management and enjoying the local food and other.

So the results show that first of all we have 181 votes that you see at the bottom, which I think is very good. And so most of you are here to deepen your knowledge of ICTs and disaster risk reduction and management, 32%. 29% are here to learn about preparedness for emergency telecommunications, and almost 22% are here for networking.

So I think these are some very good results, and I hope that we will meet your expectations over the next few days. We also see 7.5% are interested in visiting Mauritius, and 5.3% going to the beach, which is fine, I think, as long as it's not during the hours of our conference.

So this is just to show that this is the tool we will be using over the next few days. If you were not able to vote, if you had any problems, please let us know and we will help you. It's very easy to use this app, and we will be able to help you if there was any issue with this. So thank you very much, and with this I would now like to pass the word to the Chair of GET 19. Thank you very much.

>> CHAIR: Thank you. Thank you very much, Vanessa.

Good morning to you all and welcome to this first session, which I'm pleased to open now.

So this first session is the Leaders Dialogue: Disaster Management and Risk Reduction, going to talk about the ICT opportunities and challenges.

The Moderator for the first session is Ms. Doreen Bogdan-Martin. Ms. Bogdan-Martin is the newly Directed of the Telecommunication Development Bureau and elected the 1st of November, 2018 during the conference in Dubai and she took office on the 1st of January this year. Ms. Bogdan-Martin, the floor is now yours.

>> DOREEN BOGDAN-MARTIN: Thank you so much, Chair. So, I would like to welcome you all to this Leader's Dialogue. We heard a lot in the opening session this morning about the importance of technology and the role that technology plays in resilience management preparedness, and we've also heard a lot about the role that technology plays in the UN Agenda 2030, as well as in the Sendai framework.

We have with us this morning an amazing panel. I would note that we have more women than men, which is very exciting, four women panelists, four amazing women.

We have with us this morning a regulator, we have a Minister, we have our UN colleagues, we also have Civil Society, and a representative of the you know Secretary-General high-Level Panel on Digital Cooperation, and so we're all very excited to have you with us this morning and we look forward to hearing from you about your experiences about your challenges, and about some of the opportunities that you might see as we

move forward.

I'm going to introduce our panel, and then the way that we will proceed, is each panelist will get a question, and then we'll come back for a second round of questions, and then we will open up to the floor so we can have some discussion. So I ask you to keep in mind your questions, and you can intervene.

I would also like to mention that this event is webcast, and we do have remote participation, so I would invite our remote participants, if you have questions, you should also feel free to intervene.

If you're on Twitter and you want to send in a question on Twitter, you can also use the hashtag, # ITUGET and send in your questions that way.

This morning we have with us Dr. Rooba Moorghen, the permanent Secretary of Ministry of Technology, communication here in Mauritius, welcome. Also his Excellency Monise Laafai, the Minister of Communication and Transport, welcome to you, sir. And on the far right, Dr. Ram Sharma, the Chairman of the telecommunications Regulatory Authority of India and I had the pleasure of listening to the chairman last week in Barcelona at Mobile World Congress, and on the left we have Ms. Kirsi Madi, the Director of United Nations Office for Disaster Risk Reduction. Then Enrica Porcari, Chair. Telecommunications Cluster and Chief Information Officer and Director of Tech nothing at the World Food Program, WFP, and then last but not least we have my colleague and friend, Nanjira Sambuli at the World Wide Web Foundation and part of the yaition's Secretary General's Panel on Digital Cooperation.

So I'm going to turn first to Dr. Moorghen, in your role as Permanent Secretary in the Ministry and we've heard a lot in the Opening Ceremony about the great strides Mauritius is making available and access to all the citizens of Mauritius, and we also understand that you've made tremendous strides in closing the technology gaps between men and women, so congratulations on that, and we do understand that one of the objectives of the Ministry is the implementation of a e-government program that would make services electronically to everyone at any time.

Could you, perhaps, tell us more about e-government services and how they can be tailored and used to provide better disaster risk reduction and management services for citizens of Mauritius?

>> ROOBA MOORGHEN: Yes, okay. Thank you. To start with, as you know, Mauritius, when we look at the indicators, when we look at the International Indicators, Mauritius is first in Africa in terms of the ICT Development Index, global cybersecurity index, e-government survey of the UN, network

readiness index, ISO doing business, those are a few of the international indicate, but the level of the Ministry, the mandate of the Ministry tries to set the basics right to provide the enabling environment for ICT to prosper.

When we talk about the Minister and others, they also highlighted when they talk about the readiness and readiness of the population in Mauritius, we have the like was mentioned earlier, we have the Internet penetration, we have the broadband penetration, 81%, we have mobile penetration rate of 145%, we have fiber to home, all homes are fully fiber, cables -- and then the ICT sector is contributing around 5.6% in the GDP.

We are supposed to have a growth rate of around 4.4 to 5, and there are around 800 ICT-based enterprises right now in Mauritius, and they are employing around 25,000 people.

So when we look at this, we create the enabling environment. Now, including for disaster management, but then we are too, that we have from different perspectives. One, we look at the regulatory framework. We have the ICT Act, we have right now, we are merging the two regulatory bodies, the Independent Broadcasting Authority and the ICT into one regulatory body for more coordination.

We have the other legislation. We are working towards -- we are ensured that whatever regulations that we have, we have an implementation plan and this becomes mandatory to do things. So when looking from the technical perspective, to ensure that we have the right approach, for example when you talk about AI, we talk about emerging technologies and there is the need for data, datasets, and in the Ministry we have launched the Open Data Portal and we have around 256 datasets which are being shared. We have the Info Highway System, where we exchange information based on the wants of principal with citizens of Mauritius, we have a card, and so we have a series of all of these in order to help us to go ahead with disaster management, with e-government services, with e-services, with mobile applications, so we have a series of initiatives.

And last year in November, we launched our Digital Strategy 2030 where we highlighted in terms of infrastructure, talent management, cybersecurity, e-government services what we are doing.

So for e-service, I guess we have reached around 238e-services, and many, many have been computerized, we have our technical department at the Ministry where we work out the technical specifications, and many ministries, like Registrar General for registration of birth certificate, so they're all working properly and we provide the support.

So all of this being said, we ensure that ministries and

departments, because it's in line with our mandate, they have all the facilities, all the technical facilities we provide them and advise to do this.

        We should not forget also that we have the -- we work towards security of data as well, and in general last year, we aligned our data protection act with the GDPR. We have also have a consultant to work on the Blockchain because we need security of data as well, and we are also looking at the cybersecurity because even when talking about cybersecurity, Cyberspace across all initiatives, so what you're planning to do in Mauritius, it is that we're setting up an original center, a capacity-building center for cybercrime and cybersecurity where we'll promote international cooperation, alignment of legislation, and also capacity building. One of the major challenges that we have right now, it is that we don't have the right mix of demand and supply in terms of ICT, IUT and all of these.

        For example, we had in November last year, a conference the AI, where we had the robotics coming in, but then we need to train people into AI and the Government of Mauritius is right now setting up the AI Council where there will be different people joining in to assist us in this initiative.

        So all of this being done, and we have also another challenge. It is that you can have a very good system, but then the recipients of the services, they have not taken it up, so we need more sensitization, especially in the warning system, disaster management system because we don't want to leave anybody behind. There is no disparity in Mauritius between men and women, but there is a section of population that maybe are not aware of the right approach in using technology, so along side, we are planning to have other means on how to warn them about emergencies in terms of disaster.

        So I would stop here, as always I could go on.

        >> Thank you very much, Dr. and we'll come back to you. You spoke about AI and tomorrow morning we have a session speak being a background session on disruptive technologies, including AI and impact in terms of disaster management, so thank you for raising that and sharing Mauritius' experience.

        So now we're going to turn to another island nation, to the Minister from Tuvalu, so moving to the Pacific, and Tuvalu, if I understand correctly, basically is nine small islands that stretch 1,000 kilometers from north to south, an island that is often associated with the rising impacts of climate change and vulnerable to disasters such as cyclones and droughts and king tieds. IP minister, can you share with us how Tuvalu is using ICTs to connect its remote islands and can you also share some of the opportunities that connectivity offers for development

in terms of addressing climate change, but also in terms of disaster management? Please?

>> MONISE LAAFAI: Thank you. Hello?

>> DOREEN BOGDAN-MARTIN: I think the microphone is not on?

>> MONISE LAAFAI: Testing, testing. Is it working now? Hello?

>> DOREEN BOGDAN-MARTIN: Yes. Go ahead, sir.

>> MONISE LAAFAI: All right. Thank you, Doreen, and Chairman, and fellow panelists, distinguished delegates and ladies and gentlemen, before I answer the question, if I may, on behalf of the government and the people of Tuvalu to express our sincere gratitude and thanks to ITU and all of its partners for bringing this here today.

And also to our hosts, the Government and the people of Mauritius for the tremendous hospitality extended to us and the welcome, the warm welcome extended to us since arrival in their beautiful country.

I think the government, the safety and saving lives during a time of disasters, have become our top most priority and there is no exception.

And I don't think there is any government or anybody in this room who would want to be unaware during that time of disaster, so we have all of our plans, our aspirations in getting ourselves ready, prepared during times of disaster.

So, for the past years we've been enrolled in several projects looking at developing our preparedness, our communication sectors and infrastructures, and a couple of them I would like to specifically mention here.

First and foremost, you must have heard about a project that Tuvalu is commonly working with the World Bank. It's a 29-million U.S. dollar project and it was recently approved about just a month ago, which involved the reviewing of existing legislations to address current challenges in the sector. And then there is also the development of the infrastructure and all of those platforms that will help improve communications in the country.

And then, finally, is the possibility of like submarine cable connectivity, that's the World Bank approach that has recently been approved, and we are really, really keen to get those activities rolled out in the months ahead.

And then there is also this, just last year in March, ETC, Tuvalu Communication Service, the only services in Tuvalu country, rolled out 4G network connectivity platform, and the initial idea is to phase out the existing 3G platform, but after since March, since it was launched we have experienced quite a few problems.

And then finally they decided to maybe integrate the two systems, so we can have both systems running simultaneously. So that provides additional connectivity and improvement in our network nationwide.

And then also, last year, quite interestingly, NAPA the national adaptation program of action deals with specifically emergency and early warning systems, something or a project which my Ministry was specifically responsible for, and our meteorolgy office which is also under my ministry and this involved the installations of make-shift systems around the country, including those beetles, I thought those were things of the past, but apparently they were still applicable now days.

And what happened was all the islands were provided with this unit and several other sectors in the country, important units and agencies were all equipped with this latest technologies and their specific purpose was to address related communications, so I'm very, very happy that we've been able to help that program roll out in the past year.

And then also, we had an ITU program that was supposed to have several telecenters installed in the islands, but I'm very, very pleased because initially the idea was to have just two, two centers installed in the country. We have eight islands and we were initially provided with two installations for two islands, but now as I speak, the additional equipment already in the country and they are yet to be installed, and I think with all of those new equipment and new infrastructure being installed, things will certainly improve communications in terms of disaster-related telecommunications.

I think I will stop there.

>> DOREEN BOGDAN-MARTIN: Thank you very much, Minister, for sharing those achievements and your ambitious plans for the future. Thank you for that.

So ladies and gentlemen, we've heard from a Minister, we've heard from the Permanent Secretary of a Ministry, and now we're going to hear from a Regulator, so Dr. Sharma, as Head of the telecommunications Regulatory Authority of India, can you share with us the role of regulators and what they can do to make sure that telecommunications networks and services are optimized for disaster risk reduction? Please, sir.

>> RAM SHARMA: Thank you very much, Doreen and let me complement ITU and all for organizing this program because it's so timely and so important and, of course, coming here in Mauritius for the first time, I feel really proud to be here, especially because Mauritius has huge, you know, cultural connections with India, and our ancestors came here and built this beautiful country, so it's really a proud moment for us.

Talking about the issue, the question which you posed, let me just give a little background as to, you know, about India.

India houses one-sixth of the human population, 1.3 billion people, and India is an extremely diverse country in terms of culture, in terms of languages, in terms of cuisines, dresses, whatever. It's also extremely diverse in terms of environment. You know, India, you have Himalayas on the norths, you have a large coastline which is thousands of kilometers, and of course the young kind of mountains and they build a lot of the -- they bring a lot of sort of sand and other things, you have big place.

Now this combination of diversity also makes India a vulnerable place for a lot of natural calamities, you have landslides, you have glaciers sort of which are melting and creating floods and creating all kinds of natural disasters, you have earthquake, we have a large part of our population is earthquake prone. In fact, 58% -- just to give you this, 58% of the land mass is prone to earthquake. 12% of the land is prone to floods, and we have 7, 500 kilometers of long coastline, and out of that 5, 700 kilometers prone to cyclones, tsunamis, and drought and floods. In India you can have droughts and floods at the same time. You know, some parts could be having a drought and some parts will be having floods, and so you know actually, we are unfortunately prone to a lot of these disasters.

And on the other part, you know, we have the second largest telecommunications market in India, 1.2 billion cellular mobile connections. We have the cheapest data rates, we have the data delivery on these networks is the largest in the world and in fact it is more than U.S. and China combined together. We have the cheapest data rates, and so on that front, we are pretty good in the sense that we have a very vibrant telecommunications market.

Now, the question is how do you ensure that this infrastructure, this telecommunication infrastructure is used in a productive manner to really mitigate disaster, to forecast disaster, to prepare for emergencies when the disaster happens, so that's broadly the issue at hand.

Fortunately, we have at the legislative and policy level, we have a Disaster Management Act in 2005 which actually has created a national disaster management authority at the national level, and of course India has a number of provinces, and at the province level we have the State Disaster Management Authorities and all the authorities are fully geared in a sense to, as and when the disaster happens, then to reach there and immediately take care of those.

And disasters, natural of broadly two types, and one you know which are you can see them coming, you know, like the drought, for example, it happens and it's over a long period of time and the intensity intensifies, but there are certain other disasters which you don't see coming, earthquakes and tsunamis and all those other kind of things.

So therefore the question is how do you ensure A, at a policy level and B at operational level that you are able to mitigate some of the disasters you can forecast. For example, can't really forecast the earth dwaiks.

So we have a natural disaster management act which essentially creates a number of institutions which are geared and which have developed standard operating procedures, which also have developed that all the agencies which are created, which are there, for example, we have the disaster, you know, manage the authority of the state level, we have the center water commission which looks after the floods, and so we have a number of institutions which actually -- and all of these institutions do use technology, whether it's VSAT or other kinds of communications that they use.

Now, what has been done at our policy level is, one, we have created a framework where there is a common number, 1-1-2 at the national level, which actually now in the needs of disaster in these times of disaster it works as a common communication protocol, so you can call on any network.

And B, we have ensured and we have standard operating procedures to say as and when the disaster happens, the telecommunication providers must create redundancies in terms of diesel engines and all of those things which operate because normally what happens when you have disasters like floods, for example, all the communication systems break down, so therefore it is important that if there is a service provider whose communication network is alive at some place, there is another one whose things are alive at another place, they interoperate and they actually communicate, so therefore in terms of disaster there is a standard operating protocol which mandates that the call routing and call-forwarding and interoperability will operate and you will not say that, you know, my network does not have -- I will not allow the calls for the operate to go through, so that's another very important part.

We also have the machine-to-machine communication and Internet of Things policies in place, which essentially will mean that we can create systems which can provide us early warnings of floods or tsunamis or other kinds of things. We can't predict them from a long perspective, but we certainly can provide immediately. And so for example, we had a cyclone in 1999, in which as many as 10,000 people died, and we had

cyclone of the same intensity of 2013 in which only 29 people died, and this was possible to ensure because the telecommunications infrastructure, that essentially what happens in these times of crisis, is the communication is the most important part, and if you can set up systems in place which can ensure that communication systems are ready, for example the floods and our systems actually worked and communication tower, and we also have created systems whereby you can create temporary communication infrastructure. It's important because foo them to work, so therefore how do you create temporary communication infrastructure using satellite phone, VSAT and using those communications.

There are a number of -- these are the things which have been put in place to ensure that we use the infrastructure. Let me also share with you that we have, we have a telecommunication policy in 2012 which actually had a chapter on how do you mitigate disasters and how do you create frameworks for that.

Recently in 2018, we had just last year, we have now a new Digital Communication Policy which also, you know, dedicates a full chapter on the issue as to how all kinds of, you know, how to ensure communications.

Most importantly, we are also creating what is called the National Interoperable Framework for communications because until now what is happening is that each authority, each province has its own systems. They have their own wireless system for example, some other agencies have their own system, and these systems don't interoperate.

So what is important is that you create a national, you know, a protection and disaster management plan which essentially provides that communication framework, so what happens is that we have recommend to the government as yet is to happen, that a certain band of frequency may be allocated for this particular plan. Now, this network is created, and the agencies are allowed to ride on to the network, so they become a part of that network, and they can intercommunicate, so essentially let's say a policeman is trying to communicate with another authority, he can do so using the same network.

So essentially public protection and disaster recovery framework has been given by TRAI which will essentially take care of that need an the government is actively considering that, and our Prime Minister has also given a 10-point program especially for meeting mitigating disasters and one of the most important things he emphasized is that the technology must be used to the full extent. ICTs must be used to ensure that they are, you know, we are able to mitigate and we are able to minimize the loss of life and property due to these disasters.

Of course, you will all agree that many times it's not possible to do that, if you have an earthquake you have an earthquake and you know people and property gets damaged and you can't do much about that. Unless of course you do things and plan and do these things, but beyond a certain point, it's not possible to prevent.

However, it is possible to minimize the risks and minimize the damages which happen in these situations, so I think I just wanted to share these thoughts with you as to what we as a country are doing and have done to ensure that we are able to minimize the loss of life and property, using the information and communication technologies to mitigate the natural disaster consequences. Thank you.

>> DOREEN BOGDAN-MARTIN: Thank you very much, Dr. Sharma, for sharing those challenges with us. I'm certainly -- it's challenging to have such a large population that you're dealing with.

I saw a lot of heads nodding in the room when you spoke aboutinteroperability so maybe we'll come back to that, and I'd also like to talk about some of the digital services, digital ID, but we'll come back to that perhaps on the next round.

So ladies and gentlemen, now I'm going to turn to my left to Kirsi, who is the Director of the UN Office for Disaster Risk Reduction, and as you may know, UN, ISTR is the koshed naturer of disaster reduction and coordinates synergies of United Nations and UN organizations and ISDR supports the Sendai framework which was adopted the same year as the 2030 Agenda, and so Kirsi, media reports often feature these dramatic figures on the cost of disasters or provocative data on the issue of risk, who and what is at risk, and the UN, ISDR has a specific role as I mentioned, in terms of reducing risk, but also in terms of reducing impact. Can you tell us have we made any measurable progress in this area? Has being better prepared actually paid off? Are we, in fact, actually better prepared, I would say? And how has this impacted the achievement of the SDGs? Please, over to you.

>> KIRSI MADI: Thank you so much. Can you hear me? Thank you so much, Doreen, for the question. That was a challenging question, so I will try to be as concrete as possible.

Before doing, that I just want to thank the Republic of Mauritius as well as the ICT Authority for hosting this conference, which is very timely and critically important also in the context of the Global Guidance that has been developed and start the review process, so delighted to be here.

Have we made progress? Let me just dial back, perhaps four years. In a couple of days, it will be the 4th

Anniversary, if you want to say, of the adoption of the Sendai Framework for Disaster Risk Reduction. The Sendai framework, in fact met a paradigm shift in how we are looking at disaster risk because it really meant that we moved away from a concept of managing disasters to managing disaster risk.

And I think that really builds on what Dr. Sharma just was saying, and this is coming from the recognition that unless we are addressing the disaster risk, we simply will not be able, A, to achieve sustainable development, but B, our capacities to respond. However prepared we are, the capacity to respond will not be there if we will not be systematically understanding what are the disaster risks and trying to reduce those through prevention, through mitigation, and also of course preparedness.

So I think it's really important to keep that shift in mind, and I want to say this particularly in this meeting with this audience because there has been tremendous progress made. The work that the community, the ICT Community has done over the decades, the investments it has done in the early warning systems, have been absolutely critical.

I mean, if we just look at the past couple of years, 2017, 2018 where the most costly back-to-back years in terms of economic loss are weather-related disasters. But at the same time, the number of people died is less than before.

So there is progress that has been made, but at the same time as also speakers in the Opening Ceremony were saying, with the increasing number and intensity of extreme weather events, it is very clear that this is going to be an area of work where, unfortunately, we will not see a reduction.

So working on prevention, working on preparedness, is absolutely critical. And for that we really need to understand what are the vulnerabilities and what are the risks, and to make the world a little bit more complex, the Sendai Framework also moved away from considering only natural disasters, as if natural disasters would not in themselves be terrible, devastating calamities, but it put together the concept of considering technological, biological, other man-made disasters because in today's world we're so interconnected that we cannot just talk about natural disasters in isolation. And we're talking a lot these days, for example, about NAPA scenario where you may have a devastating extreme weather event, a natural disaster, and that may lead to technological disaster, and that may lead, for example, disabling a power grid and what will that mean both for response as well as overall survival of the society and management of the society. And that furthermore can create a society evermore vulnerable to also challenges, malicious use or so of technologies.

So I think I want to just bring that, and I know it makes the matter more complex, but I think it's important that we are taking that into account because technology has been making tremendous progress and has been helping to make tremendous progress. The accessibility of data, the availability of the data is a key component of us understanding the risk and being able to reduce the risk effectively.

But at the same time, it also brings more complex elements to the risk scenarios and potential cascading risks.

But what I really want to perhaps say is that in order for us to really move forward, and this is also why I was very happy to be part of the meeting this week, because it's so important that we are building our understanding collectively and together.

There is a tendency everywhere in the humanity and in the countries to work a little bit in silos, and it's critically important that we are looking at the synergies so that we are effectively able to reduce disaster risk.

The Sendai Framework has seven targets, reducing mortality, reducing the number of affected people, reducing economic loss, and reducing loss damage to critical infrastructure, and we want to achieve that by increasing the number ses of disaster risk reduction strategies at national and local level, by increasing access to international cooperation and by increasing access to multihazard early warning systems.

I want to go back to what we call in the disaster risk reduction community, the Target E, the increasing the number of disaster risk reduction strategies because these strategies are due by 2020, so in two years, we have less than two years. There is a good number of countries who have them. We have now less than 100. We have almost 200 countries in the world, and these are only the strategies at the national level, and the national level alone will not do it. We have to make sure that we have the local level plans and we have the community engagement.

Why I'm emphasizing the importance of the strategies is because I think this is really an opportunity for us. It is often the national risk reduction and emergency management agencies that are responsible for developing the strategies, but it's critically important that there is a close collaboration with the ICT Community, with the regulators, with authority, government, and with planning ministries and finance ministries because we need to make sure that when we understand what the risks are, the vulnerabilities in the society, at the same time we need the tools.

The Honorable Minister mentioned legislative changes, and

these are critically important whether it relates to
communication, ICT, or disaster risk reduction, and so really
bringing these elements together, working could he here
enterally together, that would be my appeal to all of you as
you go also back to your respective homes and back to your
respective assignments to really see how we've forged that
close collaboration at the national and local level. Thank
you.
          >> DOREEN BOGDAN-MARTIN: Thank you, Kirsi. Coherence,
collaboration and communication all part of that. Now we're
going to turn to Enrica, who is wearing two hats today as Chair
of the Emergency Telecommunications Cluster and CIO at the
World Food Program as well as Director of Technology at the
WFP. And maybe before I turn to you, how many of you are
familiar with the Emergency Telecommunications Cluster, if you
could raise your hand?
          Okay. That's good. How many of you are actually part of
the Emergency Telecommunications Cluster, raise your hand?
Okay. That's still good. That's encouraging.
          Okay. Enrica, maybe if you could share a little bit
about the cluster for the colleagues that may be less aware,
and if you could also share with us what progress the Cluster
has made and also the potential of the Cluster, the
opportunities?
          >> ENRICA PORCARI: Great. Thank you. First of all, I
want to join my fellow panelists in thanking the Government of
Mauritius and the ITU for hosting, and I take this as an
opportunity. I see a few hands that came up in knowing what it
is, and I hope to take a poll who knows what ECT is and want to
be members, so I put that as a target for my own work here and
that's the excitement of coming here. I see great values in
the clusters, and in the approach of the collaboration that
Kirsi was advocating, many countries go through similar
challenges.
          Natural disasters know absolutely no boundaries, no
national boundaries, and so the opportunity of he establishing
a platform that works across countries, to work across
humanitarian actors, be that in the UN Sector or the NGO
Communities or governments that will be able to share
knowledge, share information, look at advocacy in the
regulatory framework and looking at standard operating
procedures and learning how to respond will create value for
those who eventually may be affected by natural disasters or
other calamities. This is what clusters are. Clusters are
these groups of international organizations.
          The cluster system itself is designated by the
inter-agency standing committee of the UN, and there are

currently 11 clusters. Originally they were created after the earthquake in Pakistan in 2005, where a lot of humanitarians go on the ground to try to provide support, but they kind of step on each other's toes, who is responsible for what, and so organizations went and looked at their mandates, looked at their preparedness, and it became obvious that that was an approach that needed to be coordinated, and so the Cluster Approach came in.

And so I'm here wearing my WFP hat and my ECT hat because WFP has been designated as the lead of the Emergency Telecommunication Cluster as well as the one on logistics and co-lead on the one on nutrition.

Organizations are designated as leads when capabilities in a specific area are recognized, so WFP has a very strong tradition of investing in telecommunications, and being an extremely operational organization, our mandate is to be the first on the ground, and communication is aid, communication is survival, and so we've always relied on communication to provide support to our own staff on the ground.

And as such, our role in the ECT is an extension of our capabilities as an organization, and so what we see as an opportunity is that we've had through the cluster approach is multi-pronged. I think that first of all, the factor that I see in the initial poll that there is a willingness to learn more about preparedness. I see that as a good sign, that we are now been able to raise not only as ECT, but as an international community, the awareness about the value of being prepared, and being prepared goes into capabilities, capacities, into regulatory framework, in coordination before an emergency happens.

During an emergency, they need only to be the activation. We cannot start negotiating spectrums during a crisis. We can't decide who does what during a crisis. It's a matter of life and death. Every hour that passes, they are hours where more lives can be lost, so we can't afford ourselves not to take that work seriously in the preparedness phase.

So I think that that is for me extremely encouraging, that there is this willingness to look more into the preparedness, not as a cost, but as an investment in furthering reduction, the effect the calamities may have. We may not be able to prevent all the risks, but maybe able to mitigate the effect it may have.

Among the achievements so far that I'm particularly proud of, I think it's the some of the charters that we've been able to with support of GMSA have been able to activate, 15 4 mobile network operators across the countries subscribe to the connectivity charter, which is basically a set of principles

that goes to what Dr. Sharma was saying. During an emergency, there is no business that we need to look at. Our business is about saving lives, and so as operators, there has been a lot of willingness, and we've seen both in the mobile network operators and in the satellite providers, to set aside their commercial interests to support humanitarians, and I think that this is groundbreaking platform to provide support.

The next is about something that I think as a cluster and as an international community we should be very proud of, the sense of partnerships. We have been able to attract a number of private sector partners whose capabilities are around technologies, so how do we create a space where private sector organizations are able to contribute to not only as part of the CSR, but also as part of their doing good while doing well provides support in humanitarians.

I think as a cluster, we're very proud to have partnership to go back many, many years, and the number of partners that have been willing to join the clusters is growing, and which again I think it's part of the realization by private sector organization of the value that they can add, and their willingness to do so is something encouraging because they see it not as a cost but as an investment into doing good, and at the same time not taking away from their business.

I think about, lastly, innovation. The innovative spirit and the international community which is really ignited as of late is really encouraging. I don't think a few years' back we would have been here talking about, you know, drones and IoTs and 5Gs in an environment like the one of small islands or emergency preparedness or response.

And I think that the growing willingness, desire, appetite of countries to invest in technologies, to know more about what could happen, to know better that people that they serve so that they can serve them better is something extremely encouraging.

So, much yet to be done, and I'm sure there is going to be a question about what else needs to be done, but I'd like to close my first question with, the good news of when the international and national community comes together, embracing partnership, embracing innovation, embracing that collective sense of responsibility towards serving the communities, progress can indeed be made.

>> DOREEN BOGDAN-MARTIN: Thank you for that. So welcome back to you on what else can be done, and you know, thank you for stressing the importance of the awareness, the preparedness, and the progress that has been made as well as the technological opportunities that are making many of these things happen.

And tomorrow, and even this afternoon, we'll hear more from some of our private sector participants. We do have GSMA with us as well, and so I hope even during the discussion on this panel that some of you will jump in.

I also wanted to mention that ITU, of course, is a member of the Cluster, and we look forward to strengthening our participation in the cluster and, of course, to working more closely with you.

So now I'm going to turn it over to Nanjira, who is also wearing two hats, so the World Wide Web Foundation and I think Tuesday next week we're celebrating the 30th Anniversary of the world wide web, is that right?

>> NANJIRA SAMBULI: 30 years.

>> DOREEN BOGDAN-MARTIN: 30 years, wow. And she's a meb of the UN SDGs digital cooperation panel and maybe if you can put it all into context if you can, in terms of digital and ICTs, in terms of the global development agenda.

>> NANJIRA SAMBULI: Sure. Again, thank you so much both to the ITU and the Government of Mauritius for having us here, having all of us here today.

Much of those words and how they all come together is really what Kirsi also started talking about. We're living in unprecedented times where so much is happening in one sector having impact in others or in one country having impact in others and what is really interesting is the node to all which is digitalization, which is multi-faceted from the kinds of technologies people have from digital technologies of the day, AI or IoT devices or simple mobile phone that does just call and voice, and then also concerns around once we're all connected, what does that all mean, who gets to harness the collective insights that we're all generates, how do people learn, and I think if you place a individual in the center of all of this, where the hell do they start understanding from A from B and C to Z, and it's within that context that the UN Secretary General thought that it's about time to see how can we start talking about cooperation in the digital age, borrowing from how the world has been figuring out cooperation, but with the understanding that with digital it's a bit different. It's upcoming conversation and disaster preparedness has very strong links to what people who are talking about just pure code has to do.

It's really about the fact that we're living in a time where we need decisions and structures that do the lateral to connect the vertical elements, and that's what we're doing over this nine-month period that we were set together to speak to the speed of times, we have nine months to figure out a set of recommendations on what digital cooperation means at a local

level, global, and regional level, which means, how do we go beyond silos where sometimes they're very necessary to deepen knowledge, but also need to be broken for us to understand that we don't exist in a vacuum, and how does that happen in this digital age and feed into a system that makes sure that ultimately that this digitalization minimizes harms and maximizes the benefits that can be unlocked to the societies today.

So one example that just came to mind listening to everyone here today, is with increasing digitalization, increased number of mobile phones, increased number of service to store all of our data, does mean there are new risks created in terms of disaster. We've already seen what has been happening in terms of sites of extraction to get the cobalt or other elements in our phones and also thinking about e-waste management, where there is a cycle that emerges when we move from the last iPhone to the next iPhone based on e-waste being generated there, how do we manage that and there is a huge new stream of work that needs to be considered there.

But at the same time, asking ourselves that we understand we need to connect people. People will be the first responders even before any organization comes in when something happens, so we definitely need to connect them, but in the process, we need to think in the back of our minds about a whole cycle to make sure that that process of connectivity doesn't create more harms.

So it's just to say that I understand that the world of a policymaker today can be very heady, and it is for ordinary citizens as well, but it's really through this process through the UN SDGs Panel to come to the key set of recommendations for starting points, where it might just mean that when you go back to your resident country, maybe the Ministry of ICT finds coordination of other ministries to coherence with all the issues and what they're thinking of and how digitalization can help with that. It's finding examples, spending time listening all over the world, to find examples how people are organizationing to find concrete and illustrative areas that can make it sound practical rather than just a series of passwords, so that's a sense around of which the work that we're doing is coming in.

Now, to worrying about the Web Foundation and Doreen was saying earlier, March 12, early next week, we mark the 30th Anniversary of the WWW. As you may know it's the most friendly way we all access the Internet. But as we mark 30 years of that, it's also the realization that we've only gotten 50% of the world connected in 30 years. In the last years alone it's dramatically slowed down growth, less than 1% of new people

online in the last year alone, and so something is happening, and we have to think about it in the context of what that means, who are they, why is that the case,nd a what are the intersections of things that we need to do to address that going forward?

What has happened is the last 50% were not connected, tend to be in geographical areas that are either harder to reach with infrastructure already, and so it then unfortunately tends to be the same mountainous areas, small island nations, it's a really weird thing that the world is making us reckon with, people left behind with other waves of revolutions or technologies and name it, and for the first time we're having to confront the intersection of inequalities, which you can either see as a huge problem or huge opportunity to rethink absolutely everything we do.

What lies ahead is a moment to reinvigorate people to think about these people showing us for the first time and placing people at the center to say that we don't just build one thing and hope that the other one will build upon it, but we start thinking and incorporating ways to say, as I build, I make sure that I mitigate best possible for the harms that could come, like I was saying with e-waste cycles and connectivity to e-waste and all of that, and we have the knowledge that has come from the last 30 years of digitalization to build upon that, so there are great opportunities that lie ahead with that, but really it's about again, coherence, and I'll just maybe stop by saying that, again, when you place people at the center, you realize it always makes new ways of thinking, new ways of organizing, and I think that's the hardest part. The technical stuff is easy to figure out, but changing mindsets is where the secret slows which should be seen as a opportunity and not a challenge, and that's what we're trying to address at the World Wide Web Foundation by working with a wide range of stakeholders many represented on this distinguished panel, so happy to talk more about it as we go along.

>> DOREEN BOGDAN-MARTIN: Thank you very much for that, and also for zooming in on the sort of 50% milestone because it is a big problem that we still have half the world not connected, and when we talk about awareness and preparedness, the challenge becomes so much more complicated when you can't get to that other 50% of the world population.

And as you mentioned, you know, we do need new ways of thinking shows and we also need new business models when we try to figure out ways to actually get to that other 50% of the world's population.

So thank you for that, and welcome back to you. I'm now

going to turn back to the Permanent Secretary. We're going to go through one more round of questions, I'm going to ask you to be brief, maybe two minutes, so that we give time to the audience and those following remotely.

     If you wanted to perhaps share any reflections or thoughts from the interventions of the other panelist as well as possibly highlight some of the good practices that you think Mauritius has undertaken?

     >> ROOBA MOORGHEN: The issues that come up that we don't need to operate in silos. We can't do that now.

     >> DOREEN BOGDAN-MARTIN: Can we turn on the microphone?

     >> ROOBA MOORGHEN: Hello. Yes. For example, in Mauritius, we have the National Disaster Risk and Management Center which is responsible during activation of national emergency operations, and so we have the protocols, we have everything set up. We have the legislation, and everybody knows their role and responsibilities, and different stakeholders, the police, the (?), the fire service, the Coast Guard, ministries, telecom operators, meteor logical industries, it's a very good system which works perfectly, but then I think this is working but then we should go beyond that and then document case studies.

     For example, we need to look for in terms of research and development and anything that happens, sharing of best practices, sharing of experiences, we need to document if there has been a flood, something, a calamity, what has been done, and this can help the university students to do case studies and learn and take more research as well.

     Another point is that now we have the opportunities for international cooperation. We should go not only local but regional and international and we should benefit for the expertise of all of those involved so that we can work out like you mentioned in the speech, roadmaps, develop protocol, so we need to document all of these. Maybe I think -- maybe nothing of documentation, not enough research, and maybe this should be incentives from international agencies to provide scholarships to students, to new students, so how far they can investigate, carry out in terms of emergencies and disaster management. Thank you.

     >> DOREEN BOGDAN-MARTIN: Great. Thank you very much for that. So, Minister, I'm going to turn back over to you, and again invite you to offer any restrictions based on the comments of the panelists on the first round as well as the opportunity to note perhaps some of the main challenges that you're facing in terms of disaster risk reduction and preparedness.

     >> MONISE LAAFAI: Thank you, moderator. I think when

we talk about the challenges, at least in the context of
Tuvalu, I think two things that always pop up, accessibility
and availability, and those are in relation to funds, funding
and capacity and skills because ultimately they all go back to
like the issues of connectivity and pricings and affordability
and latency and all of those bottlenecks that make things in
life a bit difficult for us both with our capacity to fund the
proper infrastructure, the proper reliable infrastructure that
could facilitate more efficient and effective communications.
Thank you.
          >> DOREEN BOGDAN-MARTIN: Thank you. Thank you very
much. So Dr. Sharma, back to you again. If you could share
with us again, and you're welcome to comment on the previous
interventions, but also the experience in India in terms of
some of the digital applications and services and how they're
linked to disaster risk reduction and management.
          And maybe you could comment specifically on your Adahar
effort and the role of Digital ID in managing and preparing for
disasters. Please.
          >> RAM SHARMA: Thank you very much. I think one
central point which comes out of this discussion is that we
don't need to work in silos. We have to break the silos and
unfortunately bureaucracies, you know they all love silos.
They don't want to share what they're doing with others, and I
think that's very, very important.
          And so again, you know, on the same team, in India we
have done and which can be very useful even for the purpose of
providing relief and assistance to people, is essentially the
identification. How do you ensure a unique digital
identification so that in the times of disaster when you are
distributing relief, you are distributing and it doesn't become
crashing and stuff like that and it becomes very uniform and
very scientific.
          So what we have done in India is essentially we've
created a digital identity infrastructure, which is you know,
providing a unique, verifiable, authenticatable, identity to
1.2 billion, 1.3 billion people now, of course, in the country.
          And what happens is that one is it is unique and it's not
a card, it's a tokenless identity. Also eligible identity.
And it's a separate concept that can be built on top of
identity, and so we've built a common digital identity which
can be plugged into any kind of, you know, system.
          And one application of this is just to share with you is
what we call the Direct Benefit Transfer and so essentially,
this identity becomes a universal financial address of the
person, which means you can just transfer money or whatever you
want to transfer, even communications. And so having, you

know, what you do is you link your identity with your mobile number, and the mobile becomes a de facto digital item and, in fact, we've done work with ITU and others with digital framework which was published recently, and I think that will go along way in creating those frameworks.

But that identity is now, as an example, we are using about 2 billion credit transactions of very small values of less than a dollar every year to transfer the subsidy of the liquid petroleum gas, you know, the cooking gas. One of the small application, but what I want to say is that if you do create such applications which are interoperable, which are pluggable, which means which can be used by any domain that want to use it, those applications are extremely useful for, especially for vulnerable people for those groups of marginalized people who are poor, marginalized, and they are the ones who are always left out in any disaster situation or any other situation also, they're normally the people who get left out.

That's one, and then secondly, I think you can create a specific applications which are targeted at a specific group of people. For example, we in India have created an application for fishermen. So fishermen who go in the sea, they can get early warnings of the calamities or those things which are coming, disturbances in the sea, and they can come back.

Similarly, you know, there can be also applications, specifically meant for fishermen, and so essentially if you do that, then it's very important.

Lastly, I would like to say about the collaboration in the time of crisis. What happens is, it is wonderful to see that in a crisis all people come together and want to help. The question is, how do you coordinate that help? How do you ensure that, you know, everybody is, you know, willing to provide clothings, everybody is willing to provide food, but how do you ensure the distribution, and how do you ensure it's orderly and kind of reaches everybody.

And therefore, it's important to have these standard operating procedures in place so that at the time of crisis, you're not looking for books and you know, what is my responsibility or somebody's idea. You are essentially geared and you know what is to be done, who is to do what, and how it is to be done, and therefore that can ensure that you are really able to provide to the people who are effected.

>> DOREEN BOGDAN-MARTIN: Thank you very much for that. I'm sure Enrica will pick up on that because that's what you were saying, we don't have time once a disaster strikes and we need to take action immediately and have our plans in place.

I'm going to come back to Kirsi, and maybe if you could

offer some reflections and even some recommendations should you have them for ensuring that the disaster management community and the ICT Community is ready?

>> ENRICA PORCARI: Thank you so much. As I said earlier, really, the connectivity, the breaking the silos and ensuring that you are all connecting with the broader community, working on disaster reduction and not only disaster response, but really keeping disaster reduction in the forefront of your mind.

And looking at the climate change adaptation side, I think it's really important that that brings again to the operating silos because we tend to look at the climate change, mitigation and adaptation, disaster reduction, disaster management, sustainable development, we tend to look at all of those in separate silo, so I hate to use the word silos, but that's a reality. The commitment, the recommendation is for me just to reinforce that, so it goes beyond that broader spectrum of not just from the technology ICT, the RR, but to the broader spectrum of partners.

I think what is really important to keep in mind is that nothing reveals inequality and vulnerability and marginalization better than disaster. And it's so important that we are aware of that, that we address that. That's a critical part in the response side, but it's a critical part in the prevention and mitigation.

And gone are those days when I started in this field almost 30 years ago when we said oh, but that's not a human rights issue, it's about human rights, it's about protection of those who are most at risk and who are most vulnerable, and so for me the call from my side is to make sure that really no one is left behind, that you think about those people and those communities and those individuals who are hardest to reach because when you reach these individuals, you are able to reach the majority.

I think for me, that's the strong call. And I really would like to invite you to partner also with us in this reflection of who is at risk, what are the vulnerabilities?

We are about to launch what we call Global Risk Assessment Framework, where it's a very ambitious process where we are bringing experts represented in the different fields of hazards and understanding of hazards but I think the ICT community, the technology community need to be more present in that conversation so that we can really layer the different elements of risk so that we get a better understanding, so that at the local, regional, national, and global level we can really come together and understand how we can most effectively address the vulnerabilities, reduce the risk and ensure that

there is also better preparedness and response.
>> DOREEN BOGDAN-MARTIN: Thank you. And I think that
everybody has a role to play in achieving that, and when we
look at the vulnerable groups, as I mentioned before, those are
the ones that are not connected. And last week at Mobile World
Congress we heard some alarming results at the data the growth
rates in the bottom of the pyramid are actually slowing and the
digital gap is actually getting wider and so this makes our
challenge even greater.

And as our Minister from Tuvalu was mentioning, a lot of
those challenges have to do with things like skills and
affordability, and so there are a number of issues that we need
to tackle, and I think eve of us in this room has a job to do
to tackle that. Thank you.

So Enrica, back to you, if you'd like to offer some
reflections and maybe if you could also share with us your
thoughts about the role thatinnovation has to play.
>> ENRICA PORCARI: Absolutely. Thanks, I think
reflecting on what has been said here, it goes back to the SDGs
principles of Leave No One Behind and unfortunately we're at
the moment where the risks of this growing digital divide is
becoming real and present.

So what can we do as a community, as a collective here in
Mauritius here this week to come to some realization of these
risks and how do we mitigate them?

I think we've seen that only 15% of the population is
reached by the World Wide Web and you hear at the same time
that there is a growing number of individuals who have access
to communications, but again these are in countries where they
already have it, and so we still are leaving a lot of people in
remote areas without connectivity.

Technology is becoming growingly available. You will
hear this afternoon, some of the innovations in communication
technologies from others who make this connectivity possible,
affordable, we need a stronger collaborations with host
countries to make sure that they also are best, not only seeing
as an opportunity to invest in their own peoples. Peoples, the
way we do in the humanitarian sector, we see beneficiaries are
not only those who receive support, but they themselves can
become part of the solution. They are the ones who need to
determine what the agenda is and not for us to do it for them.

And with the growing penetration of technology, they can
be given this, they can be given this opportunity.

And going back, however, to what Dr. Sharma said about,
there is over a billion people who don't exist in this world,
the ones who have no identity whosoever, and I think these are
the invisibles and you might not even count them of victims of

a disaster, they just simply don't exist.

And because of the know your customer regulations by operators and regulators, they will never have access to communications, they will never have been given that chance to paint their own future, and so how do we as an international community start overcoming that from a regulatory perspective because technology advances are doing their job, they're progressing.

I think we need to ensure that as regulators, we work along that, and as a shared responsibility.

On the innovation piece, again, I think it's through innovation that we can somehow jump some of the cycles. Many of you will have seen that in certain countries, they have skipped the whole landline infrastructure in telecoms and jumped from having none to being able to connect to satellites at 60,000 feet. You know, how do we embrace this? From a regulatory perspective, from an organization, from a country perspective, how do we embrace innovations without -- we do have to take care and I agree with Nanjira, but sometimes it's unintended consequences are hard to predict and I think we need to go in there with eyes wide open, but 2030 is upon us and I don't think we have the luxury anymore of not taking risks, calculated risks, but I think as humanitarians, regulators, government officials, we have the responsibility of embracing technologies, innovations, in a way that makes it possible for us to -- to leave no one behind, and I think that's something that we should continuously take seriously.

>> DOREEN BOGDAN-MARTIN: Thank you. Nanjira, as we just heard from Enrica, the urgency is there, but you were talking about risks before and Enrica picked up on that. What can we do to overcome those risks, and in the room you do have a number of policymakers and regulators, so how do you see the role of this community in advancing digital cooperation for disaster and emergency preparedness?

>> NANJIRA SAMBULI: One thing that has been coming up in consultations on the panel is a really simple way to remember this is form equals function. If we put the function of what we're trying to do at the center, we can start thinking about the form of how we address it a bit differently. A very practical example is that we want to help a particular community that has been afflicted by some disaster, and if we focus on the form and like we have some biometric cool thing that is just plug and play and go, but what they had available and what was most appropriate was just simple SMS and we have missed the mark, and this is a risk that is coming in with technologies. There are advancements from a pure R&D side that are fantastic, but they may not be appropriate. And this comes

true, especially when we think again of the ones left behind, inequality is faced, the fact that their voice has not shaped perceptions that have even led to innovations, we have to be very careful not to impose starting world of technologies on people without the right to adequately be consulted.

A simple way to think about it again is form follows function. That's when you start thinking of technical things that come from different silos, everything from rights and I think about it in terms of how the human rights framework is being disrupted quite a bit by what's happening with technology, and now we have a reached a point where we're starting to gain consensus that digital rights are human rights, including the rights to have access, and at the same time the right to opt out of that access. That's the kind of heady world we're in today, and so we also as policymakers have to be careful, that even if we're saying yes, we're pushing our particular agenda to get people connected and that we're not imposing that, and with identity is a good example of where we have to be very careful and not say that digital ID is what will finally give people identity. They have been missing for a reason, and that reason, unfortunately, is more political and it's just intersections of inequality. The people woit a form of legal ID, how is it you navigate identification and build upon that, and again function following form, and coming up with a cool new fresh out of the lab solutions that may be appropriate,nd and those are sort of like the end-to-end aspects to it.

The other way is really thinking about it for ourselves, that even when we talk about digital skills, for example, often times we talk about skilling those who have not had access to technology, but I want to just maybe give a takeaway that it's even maybe more important for those of us making decisions to adopt a life-long learning process, it's really about what I learned 10 years in school is not what will help me be efficient in the job I'm doing today.

Even as we think about digital skills for the populations that have not been keghted, it's really about our own digital skills and how we understand the different things that are happening, and so with the positions of influence and power we all the hold, we're able to make the best possible decision with form following function.

>> DOREEN BOGDAN-MARTIN: Thank you for that. Ladies and gentlemen, we do have some time left to open the floor, so I would invite anyone that has a question, please to raise your hand. We can start questions in the room and then question can ask our remote moderator if there are any questions from our remote participants.

So the floor is open. Who wants to be the brave one and go first? Sir, please, if you would like to state your name and your question.

>> AUDIENCE MEMBER: Good afternoon, now. Thank you very much for the Government of Mauritius and ITU. My name is Mohamed Altura chief IT sector in Kuwait, communication information technology regulatory authority. CITRA. As we see in this era, that technology is becoming very critical to every economy in the world, and as individuals, we cannot be efficient without smartphones these days, as organizations we cannot be efficient without proper IT, and the same thing with the economy. To be an efficient economy, innovative, we have to make sure that technology is being deployed properly in healthcare, education, government, commercial sector, public safety, and so forth.

I really enjoyed the session today. I really believe what has been happening regarding disaster recovery, disaster -- or natural disaster and with the climate change, we witness it in Kuait. This year and last year, we had -- last November we had a very big rain storms and me and my parents haven't seen before because it caused flash floods almost everywhere, and we witnessed very intense sandstorms last year that you cannot see me from here, from this distance.

So my question is, we have been seeing more reactive roles after the facts that technology plays a role and we have to make sure that our ICT infrastructure is intact to go through those emergencies so that we can recover quickly.

But how about putting things together proactively before the storm hits because we know storms are coming, we get alerts, maybe 48 hours, but we always react after the damage.

So now with technology, maybe we can proactively solve a lot of problems and minimize the damage before the storm hits. That's, I know it's a challenge given that most countries have silos when it comes to national emergency, but again technology can put everything together. Technology can make things efficient, can fight such challenges, and so I would like to hear it from you. Thank you very much.

>> DOREEN BOGDAN-MARTIN: Thank you very much. I should mention that Kuwait was the previous host of the last Global Telecommunication Event so thank you for that question. Can I ask if there is one more question or comment in the room and then I'm going to turn back to the panel, and then at the same time I would like to request from the interpreters, if we could have 10 extra minutes? Would that be possible?

I'm seeing a thumb's up. Good. We have 10 more minutes. Is there another comment or question in the room? Sir in the back over here, please go ahead if you could state your name

and your question, please.

>> AUDIENCE MEMBER: Okay. Thank you. I am Commissioner Joseph from the Regulatory Body. I think this particular leadership dialogue is very important, but however I know we have Civil Society people here and we have media people here.

Our communities in Africa, most of them are a hard-to-reach area and most of them don't have networks, and we are really finding it difficult for ICT facilities and mobile facilities to reach hard-to-reach areas.

So we're trying to see how Civil Society and media can help propagate the message advocacy and then showing that disaster management and risk reduction is popularized, how to do it is popularized and I think that is a cause that we should all be thinking of when we go to our various countries, that is a cause we should put on top of priority because information is very key to the least community that we are living in. Thank you.

>> DOREEN BOGDAN-MARTIN: Thank you very much for that comment and question. So, ladies and gentlemen, I'm going to turn back over to our panel. We have two questions. One from our Delegate from Kuwait about the need to be more proactive as opposed to reactive, and then also from the delegate from Siera Leone Civil Society and media can play in places that are hard to reach through normal network coverage.

And so in comments, I would ask you that if you have maybe one last word to throw that in there, and if I could ask you each for a maxim of 1.5 minutes, if we could do that.

I'll start first with you, Dr. Sharma, and we'll go down the line this way. Please.

>> RAM SHARMA: Let me just make a small comment about the technology, you have to be careful, you made that comment.

I think it's very important that any technology, ultimately that technology exists for people, people don't exist for technologies, and any technology has got to have certain basic attributes. One is that it should be inclusive. You know, it's very important for technologies to be inclusive, and it should be interoperable, they should not replicate silos in technology areas also, and it should be based on open standards, should be based on open APIs, and so there are certain minimum standards which technologies have to possess to be of real value and help the mankind.

That's one comment I wanted to make about technology.

The second about the preparedry aspect of it, I think technology can play an extremely important role. For example, look at cyclones. Cyclones you can get a warning, something is developing from there deep down in the sea and it is expected

to cross the, let's say a particular coast in 48 hours, and
stuff like that.

So you have many times a window, a window to recreate and
warn people and those technologies are essentially ICTs and
ICTs on the basis of that you can recreate and make plans and
already standard operating procedure for how and if and when
that disaster happens. So I think that is very important. And
of course, some of these don't give you any window of
opportunities, for example, earthquake, but some of them do and
those things can certainly be taken care of.

And what has to happen in that is you need to have
certain, you know, basic standard operating procedures that if
you do that, these are the areas which are to be effected and
therefore the SMSs and basic SMS is everywhere, whether it's a
future for a smartphone, and so those should be the basic ways
of communicating with people in their own native language.
That's also important. You don't communicate with people in,
for example, in my area in English, they won't understand it.

So I think it's very important that we communicate, and
again there is the part of the inclusion of technology, and so
I think that's very important. And I'll stop here.

>> DOREEN BOGDAN-MARTIN: Thank you. Minister?
(silence).

>> MONISE LAAFAI: I think in the hour and a half we've
been discussing this, this is overall what we've been trying to
discuss here. I think that's sort of adequately covered all
the concerns raised by people from the floor, and I yeah. I
don't have anything to add because I genuinely believe we have
covered everything that has been discussed. And I totally
agree with my friend here, in that it's -- thank you.

>> DOREEN BOGDAN-MARTIN: Thank you. Dr. Rooba, over to
you.

>> ROOBA MOORGHEN: For example in the preventive
measures in Mauritius, whenever we have a cyclone we have a
well established system announcing the different stages of
cyclone, Class 1, 2, 3, 4, and each stage what are the
precautions to be taken by the population. And the media plays
a significant role, around the clock, advising people,
inhabitants, what to do and direct intervention of people where
they're having problems so that they all respond to these.

And also, the population in Mauritius, whenever there is
a calamity, the Civil Society, the people, the inhabitants, we
all group together to help one another.

And for talking about the preventive measure, what we are
doing right now, it is to make sure all the equipment like
drones, make use of them, and this year we'll be launching our
first SAT -- satellite by the Mauritius research council which

will enable us to read data and so these are some of the
initiatives we're doing on the preventative side.

>> DOREEN BOGDAN-MARTIN: Great. Thank you. Kirsi,
over to you.

>> KIRSI MADI: Thank you. Thank you so much for both
of the questions. Just for the colleague from Kuwait, I think
really very concretely, the key opportunity and I'm repeating
what I said earlier, I think the key opportunity would be
really to work on disaster risk reduction strategies because
these strategies are supposed to identify what are the threats,
what are the risks, and the action plan on how to actually
address those.

And part of those is building the capacity, building and
ensuring and understanding of what the risk are and that the
communities are part of the identification of risk, and this
way also understand and are aware of what needs to happen.

I think that's really the key issue, it's not only the
availability of technology and alert and early warning, but
it's actually knowing what needs to be the action that needs to
follow, so the behavior change that we need to institute.

And if I may link to that, actually Dr. Sharma was
mentioning earlier, for example, the system, the alert system
that has been done for the fishermen. Now, that may work very
well, but it also creates a challenge because in these cases of
some of the natural disasters, actually your potential of
having a really big amount of fish, being able to fish, is also
sometimes an incentive for the fishermen to go to sea, and
that's a saying that it's understanding what are those and what
are the tradeoffs that the fishermen are going to take. Are
they going to take the risk and risk their own life and
survival in order to have a greater catch and get the monetary
part, so it's also that we need to understand the challenges
and therefore the engagement of community is critical, and that
links to the question of our colleague from Siara leone,s it's
very challenging when you work on the prevention side, it's
challenging to get the attention of media to get the story that
prevention pays. Everybody is interested in a disaster, gets
the figures, talk about the tragedy. But who actually tells
the story? It's really challenges because we're working very
hard for that and really challenging to get that across, so I
appeal to you to help tell the story. Thank you.

>> DOREEN BOGDAN-MARTIN: Thank you. Enrica.

>> ENRICA PORCARI: A story falling on deafer and deafer
ears, because the crisis, I remember at the time we called it
the CNN effect, the few crisis CNN goes in there and money
would come in, and there would be no problems in the response.
It would be the opposite, too much response with no

coordination.

Right now, I think the World Food Program currently responding to eight L3 emergencies, the most complex emergencies in the world, unprecedented.

And you know, collecting, you know, and drawing attention is becoming an issue. We talk about numbers, we talk about famine, starvation, those are becoming part of our daily news, and therefore become less of a problem and, you know, perceived problem. And I think this is where it's another crisis ourself that we have to deal with, how do we heighten and continue the responsibility when we don't want -- when we don't hear anymore this news.

But I think as humanitarians, I think we need to never forget that people are the center of everything that we do, and I think we have a responsibility and an opportunity with the penetration of technologies to empower them to themself, for themself to be shaper of their response, to be able to be the first responders, and we need to ensure that we do no harm, but at the same time by penetrating technologies that are known appropriate, but at the same time doing no harm by preventing this innovations from reaching the furthest behind.

And so, it's always dichotomy is always a dilemma, and I think is where, I think it's an art and it's not a science, and I think that this is where sharing lessons, sharing good practices, things that go well and things that don't go well, I think it's a shared responsibility.

I think trust is another big issue. I've seen many early warning systems working, but I don't trust an email or SMS coming from someone I don't know. I work, and I'm in a village, and I trust my Chief and I don't trust an SMS that comes to me written in a language that may not be mine, so how do we create, and that's where I go back to my earlier prepare, prepare, prepare, which is part of working with the communities and understanding what their sensitivities are, understanding what their own coping mechanisms are, and don't build a status on top that doesn't belong to them just because SMS are available, and that doesn't mean it's going to be actionable, and so I think otherwise we run the risk of saying, we have systems but we don't see the benefit.

So and again, as I think is this call to action to straddling between the opportunities and the risks and the action on the ground that I think it's important for us to continue thinking of.

>> Picking up from there, more and more collective knowledge, innovation and everything else, we're increasingly in deep distrust of one another and this has a lot to do with the way we've organized the world today, from politics to how

societies have come to be, the dimensions and that kind of thing, and at that intersection an ordinary person that we're supposed to be serving today has to contend with all of that.

And so to try and answer the question about the role of Civil Society and media, if you look at the declining freedom of the press in the world today, the media is just trying to stay alive. Why would they be incentivized? It's often seemingly boring information and make it a priority and these things go hand in hand, and really I think we're living in a time where we're being asked to be intellectually honest, but to understand that everything has a cascading effect, everything from press freedom or this freedom of Civil Society to exist, will have an impact on whether they're able to be rallied on and called upon in the moments when we need them as public sector actors.

But at the same time, there are methods that they're already using that are probably offline and it's really about when government reaches them and empowers those communities to get people online.

We work a lot on this on the ground through our alliance through affordable Internet, and it's just a headache really of getting different actors at a local level to understand. These people are hard to reach because they've not been this the business of providing infrastructure to them, and everything from roads to electricity and everything else that builds upon, it all goes back to that effect, so just remember that whatever we're asking on the tail end, if we start going back to the enabling environment around it, it becomes about, I guess it's part of the headache but it's a necessary headache we must carry so that all of these things actually work to the good.

And then just to the question with proactive technologies real quickly, one thing I've always come to realize is that we have to be careful not to outsource this idea of all the things we've not done as humans to these technologies we've built because we have the best technology in the world but it will not make up for lack of political will to implement. That's all.

>> DOREEN BOGDAN-MARTIN: Yeah. Thank you for that. I need to wrap up and hand back to our Chairman, but I'd like to thank all of our panelists for this extremely rich discussion this morning, and maybe just to share a few of the key messages that I picked up.

Enabling environment was one of the first messages and now one of the last so I just want to underscore the importance of enabling environments, and in particular for disaster management. The importance of data was also stressed, digital strategies and the need to work across silos or I should

actually say no more silos I think is what came across. The
need for disaster risk reduction strategies and remembering
keep people always at the center, the need for prevention -- or
the fact that prevention pays, I thought that was a good point
that was raised. The importance of coordination, not only at
the national level but also at the municipal level. The need
for communications throughout, the importance of
interoperability that came through by a number of you, the
importance of keeping the risks in mind, the need for a
collective understanding, and again the importance of
collaboration, of coherence, the importance of awareness, and
that's where as our last comments came on the role that the
media can play in promoting awareness. The opportunities are
huge, and we'll hear about some of the opportunities throughout
the rest of the week. Trust is a big factor, the importance of
sharing best practices, and so we've already heard a number of
best practices, and so we need to document those best practices
and then ensure that they are shared widely. I think that's
something that the ITU could certainly be helpful in.
        The importance of skills, digital skills, but also
life-long learning and even re-skilling I would add. The
importance of appropriateness, and then there I think we need
to keep in mind local content, and so if you want to make an
impact you need to make sure that it is appropriate for those
that you're trying to impact.
        The need to be proactive instead of reactive, I think our
friend from Kuwait. The importance of always being inclusive,
and so you were mentioning technology, that we need to be
inclusive, we need to make sure that we leave no one behind,
and my last point would be on the urgency that this is urgent
and we cannot wait because the 2030 Agenda is around the
corner, disasters are happening every day, and so it's urgent
and imperative for all of us to come together and ensure that
we take action now. With that, Chairman, if you allow me to
thank again our amazing panel, and hand it back to you, sir.
        >> CHAIR: Thank you very much. Thank you very much,
Director, and I would wish to thank the panelists and for
sharing with us your experience and the views you've expressed.
        And I believe that this has increased the understanding
of everyone to that very important topic, and with that I would
like to close this session. Thank you.
        >> DOREEN BOGDAN-MARTIN: Thank you.
        (Applause).
        (session completed at 2:18 a.m. CST)

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>> You may now resume your seats. Lunch is at 12:30, but it's going to be 12:45 because we've run into the lunch hour time, and at 12:00 we were supposed to have the Role of Satellite Communication Disaster Response presentation, and so we're going to start that now.
It's by Mr. Ethan, the Director of Regulatory and Public Policy.
(session completed at 2:19 a.m. CST).