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CRY FOR HELP: RAPIDLY RECONNECTING THE DISCONNECTED IN DISASTERS
11:30 A.M.

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>> IZUMI AIZU: Okay. Two more minutes. Is there any reason
why most Asian people don't take the front row seat? Usually
they start to fill with the back seats, right? While some
Americans, if not many, most, they don't hesitate to take the
front seat. I'm sorry, sir. So I see you come forward, if you
like. Come forward.
>> Izumi, I was sitting forward. I have been told to go back.
>> IZUMI AIZU: Okay, I reverse the instruction. You should
come now.
Sometimes the referee reverses the judgment of the judges in the
tennis court, right? Overruled.
Please, come forward. Otherwise, this room looks empty,
visually. Especially, is this also remotely televised?
Visually?
Many people outside Bangkok are seeing now this, no? You will
be aware of that.
So where is Nuwan? Shall we start, please?
Yes. Here is the timetable that our real organiser, Nuwan, will
explain in a minute. But this is a white paper which is
intended to be used for the questioning form, the question form.

In view of little time allowed, I would like you, all of you guys to fill any questions or comments on the paper. The moderators will pick them up and read them out with the most appropriate timing to the speakers. You may be persuaded you don't have time to raise your hand and talk your questions. We'll see.

Okay. I think now it is time, so Nuwan, if you can start.

>> NUWAN WAIDYANATHA: Hello, testing. Good morning, everyone. Thanks for coming into this session. This is -- can I get my slides? Yeah. So the session is titled "Cry For Help." How do we reconnect the disconnected during disasters?

Usually, is silence a cry for help? Does that mean like if you are not hearing anything, like a tree falls in the forest and you don't hear it, does that mean there is no disaster there? This is the basic theme. Like if you don't get any data, information from where the disaster happened, does that mean that everything is okay? Everything is not okay?

Next slide, please.

Right after the Nepal earthquake, I did some analysis. They had a quake map. It was basically people sending in text messages, making phone calls and reporting this data to the quake map people which was hosted by the Katmandu Living Labs. They had a wealth of data, several thousand records which I crunched to see if I could find any patterns in terms of finding areas where there might have been any deficit in telecom telecommunications. This is one story from some of the data that I got.

You see, like the top most, it says it was five days before there was any kind of report that came from that green pegs. Later on the sixth day you see them moving down to where the blue peg is. So I'm wondering whether actually somebody had to hike this entire distance in this rugged terrain to provide the data. And then you see that there is this natural thing where they went to one village the next day and one after that the next day. And then eventually took them nine days just to cover that small area which is about six square meters by about ten square meters, right?

Next slide, please.

And then thinking about all that, there are several components in emergency communications, especially the functions, in terms of saving lives. We talk about business continuity. We talk about governments having a communication, emergency communication channel. We talk about survivability and availability, availability. Do we have access? Survivability, can the telecom sustain a disaster? We talk about rapid restoration. Do we bring in equipment from outside? And then we try to restore the telecoms for the public.

Because we need all that to generate a common operating picture as to what is happening during the disaster. So mainly focusing on that first 72 hours is the critical period.

Next slide, please. We can break that down into robust infrastructure at the base. When I say robust infrastructure, talking about survivability and availability, we also need to talk about like not just telecom infrastructure but the roads. And them, the engineers to be able to access the telecom towers to fix them. Or they might be victims themselves. Do we think about that? Resilient ICT sits on top of that. You think about most times, the telecom, we have a BC continuity plan. They only think about having extra equipment. But they never think about, what about the personnel and other resources?

We need all that for the communication to work. And emergency services, making phone calls, sending text messages, all of that. Our focus in this session will be the red and the orange sector. I think Izumi-san is going to go over later on in the session.

Next slide. Having talked to the Panelists, we broke this down into, let's discuss about the issues and strategies. So you will have to tell us what the issues are and possible strategies might be. That's the whole focus of this workshop; not us telling you. And then we looked at international coordination mechanism. How can we help the UN and then also about local infrastructure, how can we get the local telecos to be better prepared. Most importantly, empowering the communities. They are the ones that have to use this at the end.

Do we look at community-based ICTs? Or do we look at strengthening all of them? Is it a mix of all that? So as Izumi said, there's a piece of paper. You will hear from the Panelists. Write down your question and take it to one of the vertical -- sorry, these columns that you have, or leave it as other. Pass it on to us and we will ask the Panelists. Thank you.

>> IZUMI AIZU: Thank you. Next one, could you introduce yourself briefly?

>> NUWAN WAIDYANATHA: My name is Nuwan Waidyanatha. I'm Sri Lankan, but I live in China and have been there the past ten years. I work with LIRNEasia as a researcher. That's where I do my research. I work with the Sahana Foundation and I do my implementation. I bring my research into actual implementation and work closely with the UN organisations. I like standards, so I work on that. Mostly focusing on affordable and low cost, easy to use solutions. Thank you.

>> IZUMI AIZU: Thank you very much. Now we would like to go into the first real session and demonstration, led by Kanchana Kanchanasut.

The current challenges are in telecommunications resources. Seems like she is like the mother of the Internet in Thailand and, well, sort of included in the Internet Hall of Fame as the first person from Thailand and southeast Asia as well. Could you introduce the team members and then do the demonstration? Thank you.

>> KANCHANA KANCHANASUT: Thank you very much. And I thank the organiser for allowing us to have this session at APrIGF. My team composes of my members of the Internet Education and Research Lab at AIT. The first one is Misarap at the back. She is the boss. Next is Pio, one of our researchers in Internet networking. He is going to assist. We run many activities and he is one of our key persons. Next is the gentleman standing there. He is our coder, does the coding. But today with all of us here, we are trying to show you what we have done.

Okay. So let us, what we would like to do is to run through our experience and hopefully from this you can analyze the situation and maybe come up with good suggestions for the whole community. So let us look at what we have done. We call this session DUMBO and Sahana Foundation demo. And DUMBO was, both Sahana and DUMBO were developed after the tsunami in 2004, I was working with a research lab in France and a project in Japan. We put that aside; we diverted our effort to focus on emergency communications.

And we did a demonstration in 2006, which you can see the diagram on the left where we set up an elephant network in two elephant camps. We have headquarters in AIT, which is in Bangkok. All of this we communicated through satellite link provided by the IPSTAR satellite.

Our philosophy is to use commodity devices, low cost. We started by assuming that everybody who came to us as a volunteer had their own notebook. We also used handheld single bot Unix machine at that time. Gradually we moved to having our own mobile routers.

In this room we already set up our DUMBONET. We'll show you. You can see that there are four nodes of our network which we could set this up very easily. All these volunteers took our mobile routers and they just walk around the room. And we can monitor on the network. Okay? That can be done in just a few minutes.

All right. So this is our low cost and easy to deploy network that can be deployed anywhere. And we had two deployments. In 2008 in Myanmar they were struck with a cyclone and our Asia-Pacific Internet community tried to find a way to help them. So engineers from Myanmar were trained in IT because at that time the government of Myanmar would not let foreigners to go in to help. So that was our strategy. We brought out Myanmar

engineers and we trained them. We gave them all the needed
equipment, AA PC netbooks were donated by APNG, many of you in
this room may have known the gentleman who donated those.
The people went back to Myanmar and they deployed the network in
three locations. DUMBONET was deployed by Myanmar people. None
of us went into Myanmar.
And the coordinator of that activity was by an NGO in Myanmar
called Myanmar Egress. Satellite transmission was donated by
IPSTAR.
We have both DUMBO and Sahana. There were people who joined the
APNG camp. This is how we got together. So the deployment
could start three weeks after the disaster. So that period
should be reduced.
So the second deployment was in Nepal in 2015 when Nepal was
struck by an earthquake. I tried to coordinate AP communities
and I failed because everybody said oh, we wanted to wait, but I
didn't want to wait. So I asked the Sahana Foundation to donate
money to buy equipment. We bought 50 small TP-Link routers and
put our own firmware in that and shipped that to Nepal.
And we got Nepalese students in AIT who spent almost one week
building the routers and then we sent them with the medical team
from Thailand to Nepal and got the Nepal NRAN, the research
education network people in Nepal, to help us in deploying the
network in four hospitals in Nepal.
And the activity that people used the network for was for voice
call. They use it for VOIP.
Okay. So today we are going to demonstrate how the DUMBONET
that we already set up can be used for voice call, for social
media line and we will skip that. And we will show you how to
use the Sahana on this one. Sahana is the software for disaster
management system which you can tell us about.
>> NUWAN WAIDYANATHA: Sahana Foundation originated after the
tsunami, like Kanchana said. A bunch of volunteer coders got
together and developed a mechanism for the government to manage
the chaos. There was no open source system free to use. And it
was adopted worldwide and now we have a worldwide organisation
that is being used. Some of the avid users like Red Cross,
State of New York, Myanmar, Maltese, Philippines, lots of
different templates, countries, packages.
>> KANCHANA KANCHANASUT: So, okay. To set up, we would like to
get everyone to have experience on our network. So if you can
turn on your phone, your cellular phone. And you select wifi
SSID DUMBO.
>> NUWAN WAIDYANATHA: 28, 29, and 30.
>> KANCHANA KANCHANASUT: 28, 29, and 30. Choose whichever one
you want. That means you are connected to the network.

And you can either scan the code in front of you, type the address, you will go to the landing page and we will show you how to, how each one works.

Okay. So in our demonstration we assume that we are 48 hours after a major flood. Everything failed. I mean, you know, sometimes during disasters, the communication networks are still functioning. But you will face a heavy congestion because everybody is trying to use it.

So if you can upload that kind of communication from the telecos, it will be helpful for the situation. So what we assume is that we have three groups of rescue centre. And there is one volunteer per group. So Nuwan would have a first group at the call centre. And you are the second group. And Biji, the third group.

The first group, Nuwan. That is the call centre here which is handled by ...

>> NUWAN WAIDYANATHA: I will be the call centre for this demonstration. So okay, I will show you the page. Oh, sorry, the page of the Sahana form.

You get the information from the people in the disaster area, what they need, what they want.

>> KANCHANA KANCHANASUT: So maybe for the first time maybe Nuwan will call the call centre.

>> NUWAN WAIDYANATHA: If I can get a volunteer? What we are going to use here is a real IP phone connected to this modem. So we don't have Internet, right? We can not talk with the outside world. What we are doing is going around and collecting data in the disaster zone. That is the call centre. Anyone who wants to read out this passage? Come on!

>> KANCHANA KANCHANASUT: This is just a scenario. First you dial 10001, make the call.

>> NUWAN WAIDYANATHA: So now you have a call here, right? Hello? Call centre.

>> AUDIENCE: Hello? All the adults, children and infants of the Red Rose Middle School. They need food and water for the next three days. Thirty-five adults and 15 children and two infants. Can you hear clearly?

>> NUWAN WAIDYANATHA: Can you repeat?

>> AUDIENCE: There are 35 adults, 15 children and two infants at the Red Rose Middle School. They need food and water for the next three days. Can you hear?

>> NUWAN WAIDYANATHA: Okay. So that was through the VOIP on our network.

>> KANCHANA KANCHANASUT: Next volunteer 2 will key in Sahana form directly from the laptop, from the tablet.

Misarap, you are doing that?

So while she is keying, another volunteer will report his
incident using social media line, which is very common in this
region. Even though -- I mean, this is not an advertisement,
but we picked the most commonly used social media.
And the line that we are using is local. Our own software. It
is not, you know --
>> (Speaker away from microphone.)
>> KANCHANA KANCHANASUT: Okay, done. You've got the second
one?
The third one?
>> AUDIENCE: Yes.
>> KANCHANA KANCHANASUT: Done?
>> (Speaker away from microphone.)
>> NUWAN WAIDYANATHA: So now I have the report.
Now I call the two new reports as you can see here. So this is
the, today is the 27th, right?
>> KANCHANA KANCHANASUT: Okay. So we go to the next slide.
Right. So there are three scenarios that were reported. And
let us see what have you got on your Sahana.
>> NUWAN WAIDYANATHA: While maybe while Pio is doing that, can
I explain?
>> KANCHANA KANCHANASUT: Go ahead.
>> NUWAN WAIDYANATHA: Now what we are imagining is, we have
collected the data in this disaster zone. Pio is going to
establish an Internet connection. Maybe he hikes another two
kilometers and gets a connection.
>> IZUMI AIZU: Nuwan, can you wind up in four minutes, please?
>> NUWAN WAIDYANATHA: This is the last one. He is going to
show how he is going to synchronize it with Sahana instance on
the cloud. So now the decision makers can see this data and
make decisions from a Australia location.
>> KANCHANA KANCHANASUT: Okay, so he has uploaded the records
that he gathered from these three camps. Okay.
Next. Okay. So the thing is that Pio has to walk maybe two or
three kilometers in order to find the site that has coverage,
and upload the information for help, getting the help from the
outside world.
So in the future we hope that we can use drones to come around
and pick up his requests from where he is.
Okay. So we are doing research on that at the moment at AIT.
Okay, thank you.
>> IZUMI AIZU: Thank you very much for Kanchana, Sahana
Foundation. I'm so sorry to push you to the time frame. That
is my job as a moderator. Not my personal preference.
But anyway, so after this we will have three presentations.
Unfortunately, there's one cancellation of speakers. Three
presentations about the crisis communication and related areas

on this region. Our first speaker will be Mr. Naveed Ul Haq.
He is well-known ISOC guy. Can we show his slide somewhere?
Let me read some of this. His specialty is related policies and
linkages among others. He used to work for the Pakistani
Telecommunication and was an ICANN Fellowship, among others.
Now it is your turn.
>> NAVEED Ul HAQ: Thank you very much, Izumi-san.
Good morning, everyone. I haven't made a Power Point
presentation. I will speak the thoughts I have around this
topic.
What I am going to cover is the community empowerment. So most
of my discussion and probably I will try to finish before five
minutes. I'm not sure if I can speak five minutes.
>> (Speaker away from microphone.)
>> NAVEED Ul HAQ: Oh, okay! So imagine ten years back when --
I'll just take an example from Pakistan. In 2006 we had a
flood. And it is kind of, we have this geography within
Pakistan which is very much prone with the floods. Ten years
back we had a flood which affected the whole big geography area.
Unfortunately, that area was the underserved area. I'm talking
about the villages, not the big cities.
Now, the analysis that we did after that flood concluded that
most of the casualties were caused due to the panic, the panic
which was caused due to the flood that hit those areas. The
first five to six hours, the community was so much in panic that
they were running around trying to find a shelter, trying to
look for their loved ones and trying to rescue them by their
own, whatever resources they had. Unfortunately, they didn't
have much resources. Now, the point is that now after the 12
years or 11 years, unfortunately the same area has the same
problem. We are expecting a flood coming in in the next two
weeks or so. And I suspect that the same thing will happen.
The discussions have been done in the main capitals, the big
industrial players, et cetera, have been discussing that. We
should do something, we should do something.
Unfortunately, I suspect the same thing will happen. The first
five, six hours, whenever the flood is coming in will create
that panic and we will not be able to save many lives.
So going back, I think the point I'm trying to make is that we
probably are more prepared when the disaster hits that area.
And we send emergency response teams and try to ensure that they
get the food, they get the shelter.
But the missing point is that we are not preparing that
community, those areas to prepare themselves by their own to
reduce that panic. You know, the point I'm trying to make is
that something hits an area and the next 72 hours we deploy
teams, everything happens. But that five to six, the first five

to six hours is the missing link. And the discussions that we are trying to do with the community or with whatever stakeholder is probably that we have to give more focus to empower the community so they can help themselves.

Another barrier that we observe is the language. Now, what happens is that the main communication means or the main Internet means or whatever we see around is primarily based in English in most parts of the Asia-Pacific. If I talk Nepal or Pakistan or even Vanuatu. We rely more on English as the primary language. And we assume that those people in that village or in that remote area would understand what we are trying to communicate with them. But that doesn't happen as well. So we have to look into this as well, you know. When we talk about the community empowerment, I mean, pick up the local people. Try to tell them in their own language that if something happens, God forbid, what they can do in their own local spaces.

So we should not expect me going into that place and trying to tell them or teach them something in English. Rather we should rely on the local resources which can communicate with each of them in their own language, which is understandable to them as well.

>> IZUMI AIZU: You have three more minutes.

>> NAVEED Ul HAQ: Okay, Izumi-san.

The next point I will try to make is in our observation there have been a lot of progress done through the Internet because the Internet is a decentralized resource. You don't need a centralized place to operate the Internet. It is decentralized. You can use it wherever you have it. The same approach is probably something we have to replicate when we talk about disaster preparedness and mitigation. I am not saying don't have a centralized coordination. You should have it, but it probably will have more effect if we can follow a decentralized approach. By that I mean let the community empower itself. Let the community get itself ready with the social media or the tools, et cetera.

An example from Nepal is that it happened after the earthquake that Nepal police started using social media. I mean they were using social media, but the account that they made specifically to address the disaster in Nepal actually helped that much. There is a story, there was a person who was stuck in a car somewhere in a village. He was able to tweet using Twitter and putting that handle of the Nepal police in his tweet. That actually helped the police to contact some of the local people and get that person who was stuck somewhere with his family in a car, get out of that situation.

Then in Vanuatu there were satellite phones which were deployed.
But again, they were deployed after the disaster was hit. So
those areas were already having that equipment available to them
and available to them to respond and try to help themselves.
>> IZUMI AIZU: One more minute to wind up.
>> NAVEED Ul HAQ: Okay. That is just a kind of brief points
that I wanted to highlight here for the discussion. I hope that
once we move forward with other Panelists as well, I would like
to have your points and thoughts as well. Maybe sharing some
stories around, I can see people from Nepal.
Last point, just very quick last point. It is the benefit that
it brought in Nepal that people have realised the power of ICT,
not only for disasters but also using ICT for other things as
well. The ICT was deployed heavily in Nepal and now what is
happening, the people have started using ICT for education and
for health as well. So I won't say it is a blessing.
(Whistle.)
>> NAVEED Ul HAQ: It actually started the realisation by the
community that how they can use ICT not only for disaster but
for their own social and economic empowerment. I'll stop here.
Thank you very much.
>> IZUMI AIZU: Thank you very much, Naveed. If you have
questions for the first presentations of the demonstration as
well as for Naveed, you have the white paper. And at the next
...
(Lost English translation.)
>> IZUMI AIZU: Without further ado, I would like to invite
Jeffrey Llanto. He is another pioneer in the Philippines on
disaster communication management and got several awards. I
don't know the details. But yes, he will talk about -- what?
Yes, you have the floor.
>> JEFFREY LLANTO: Thank you.
>> IZUMI AIZU: It is a story after Yolanda and Haiyan.
>> JEFFREY LLANTO: Thank you, Izumi-san. I notice you have all
the signals, the whistle. But it is too old. Next time you
should use the DUMBONET.
(Chuckles.)
>> JEFFREY LLANTO: Good morning, everybody. I'm Jeffrey Llanto
from the Philippines. Let me show to you the project that we
had together with the government of Japan called movable and
renewable -- we are very lucky. We have the historic tsunami
and the historic typhoon. All of us in the Asia-Pacific, we all
have our own shares of disasters. So maybe all of us already
know that the 2011 was the highest recorded earthquake. And the
Typhoon Haiyan was called the super typhoon. Maybe because of
the Hollywood movies, even the typhoons want to be called
"super."

So this is a joint part with MIC, the Department of Science and Technology in the Philippines, NTT, and the municipality that was one of the worst devastated areas in the Philippines. So we have these learnings during the disaster. It might sound ironic that we learn a lot from disasters. Here it is moving from the grassroots, going up. Normally we want to ask ourselves, what are the available communications at the community level? Right now smartphones are getting cheaper and cheaper. You notice that DUMBONET, all of them just went to your tablets, installed it? What is keeping there, all of you, you have your own smartphones and you just write on DUMBONET as the infrastructure. Basically this is what NTT did. During the 2011 Japan, we are talking Japan, the number one in technology, it took them -- correct me if I'm wrong, my Japanese friends -- two months to recover the telecommunications. That is Japan. Maybe in the Philippines it will take us another 20 years. So that is how, you know. So the aim of this project is to establish an immediate communications.

First it started in 2012, funded by NIC. It is a very big container band. It is not appropriate. If there is a disaster, the first one that gets hit is the physical infrastructure. It means the road. How can you transfer that one to the remote areas? Next, you make it smaller. It becomes the van type. You notice that in the middle, that is the van. It can traverse roads, smaller roads. Next slide, please.

So this is the application. If you notice during the second and third days, the disaster, during the disaster, the emergency period, that is the highest point where there is a demand. Slowly, gradually it goes down in the next six months. So this is what our learnings. But again when we were having this research together with Japan, for the past two years it was recognised also by ITU. We asked them, do we need this technology just during disaster? Why not use this technology to provide infrastructure to remote places like remote islands, to mountainous areas? So the infrastructure is there.

So we made some researches and we made some agreements. And right now it is already part of NTT. We call it as the wireless IPBX system. It is already part of the, I think it is already a product by NTT.

So next slide. It is a community-wide wireless IPBX system. It offers voice communication. It has a command centre, evacuation centre, hospitals and other disasters. This one is being based from the Japanese point of view of software.

>> IZUMI AIZU: You have two more minutes.

>> JEFFREY LLANTO: Fortunately we were talking with someone from the Sahana foundation. We are very happy that we can

integrate several softwares because it is typically open source.
They are using also the zip disaster system.
Next slide. So this is the modularised MDRU system. It is
already in an Hitachi case setup. You can carry it around, port
it to remote areas, might be on a motor bike or bicycle or just
put it in your backpack and set it up. In less than three
minutes you can have wireless infrastructure using ICT.
That wraps up my presentation.
>> IZUMI AIZU: You have one more minute.
>> JEFFREY LLANTO: Maybe during the questions.
>> IZUMI AIZU: Please write your questions and comments now.
We are getting more interactive.
Without further ado? Yes, okay. I would like to invite our
next speak or last speaker, Atsuka Okuda. She is based in
Bangkok. When I met her first she was in New York in 1999, went
to Bhutan to help deploy Internet there. Went to Africa,
Beirut, and now back to Bangkok. Head of ICT at the UNESCAP.
>> ATSUKO OKUDA: Thank you very much for the introduction.
Now, first of all, I want to explain a few things just in case
you haven't heard about. UNESCAP is a UN agency. Do you know
ESCAP? Raise your hands. Thank you, thank you. More than
half.
We are the regional arm of the UN Secretariat which means that
you know the headquarters in New York and which are the smaller
version in the Asia-Pacific and we are in Bangkok. We are happy
to be in Bangkok. We cover the 62 Member countries from Turkey
from Kiribati. We are one of the largest regions in the UN. My
job is to promote the ICT connectivity from Turkey to Kiribati
and looking at everything holistically.
Disaster is a very important component for us. As you heard
repeatedly, when disaster hits, infrastructure gets destroyed
and disconnected. And we have to build from the scratch again.
That affects people's lives, and peoples' lives meaning lives.
There are lots and lots of loss of people's lives.
We came to the conclusion that this has to be looked at from
many different angles including from the ICT infrastructure.
Our purpose is to make sure that when something happens,
earthquake, floods, tsunami, the disruption on the ICT
connectivity will be minimum.
There has to be something left if it takes two months it is too
long. So our objective is to start now to look at what kind of
disaster risks we have from Turkey to Kiribati and how we can
mitigate that kind of disruption. Our initiative in the Asia-
Pacific superhighway, is to start designing the ICT
infrastructure, taking in mind slow -- slow down, yes, I got
your message. Early warning.
>> IZUMI AIZU: You have three more minutes.

>> Thank you. To design the ICT infrastructure now so that we
know where possibly the earthquake may hit and we will avoid
these possible natural hazards.
Next slide, please. So the information superhighway is an
initiative to provide the affordable and resilient ICT
infrastructure. Now, I know that many of you have heard what
ITU and other agencies have been doing. I can already see the
question marks in your minds. The role of ESCAP in doing this
is not to repeat or create overlap in what other agencies have
been doing, but we clearly see the gap. For instance, our main
mandate is to make sure that countries, 62 in our case, work
together and collaborate to make things happen.
And two, we are a socioeconomic entity of the United Nations.
Now is the time of data availability. We analyze a lot of
socioeconomic data to use for the design and implementation of
ICT infrastructure and services. So this is our strength that
we have 62 member countries. ICT ministries as well as disaster
agencies and to analyze where are the pain points. So we have a
team in fact in the office analyzing the disaster risks.
Next please. So the information superhighway has four pillars.
I talked about comprehensive pictures. This is the way how
member countries wanted us to work. Connectivity, physical
infrastructure, to the network and traffic management.
Sometimes even if there is cable, it doesn't do much. We look
at resilience as well as broadband for all.
So this is the map that we create. The left-hand side, this is
the cable, where the cables are at the moment.
(Whistle.)
>> IZUMI AIZU: One more minute.
>> ATSUKO OKUDA: The hazard map. As a way to communicate with
all the stakeholders, we have a gateway.
Next, please. This is the URL. We have, I have fliers for more
detailed information. Next, please. We also -- Ahh, thank you.
So this email address, I will be more than happy to provide more
information on what exactly we do and how we can engage your
groups in this initiative. Thank you very much.
(Applause.)
>> IZUMI AIZU: Thank you very much for following a very strict
time coordination. I'm sorry.
Yes, the flier? You can bring forward. And meantime, please
all the panel members come here. Also send over your questions
if you have them. How many? Please, give us some heavy
questions. And you can write down later when it happens to you
again.
We may have failed to explain. We will have 20 minutes of an
exercise that you will be gathered as a team and discuss these
issues in 20 minutes time. One reason why we keep this time so

compressed is disaster is like that. You have not much time to
think. You have to act. And there is a lot of confusion. You
don't know where the information is coming from, where the bus
is, things like that. Sometimes we do these kind of simulation
exercise of a chaotic situation and experienced people say this
is much better than when it actually happens. Be mindful of
that. We have questions?
>> Yes, these are local infrastructure, nothing international.
>> IZUMI AIZU: Nothing international? There are three
questions about community. How do you deal with persons with
disabilities who are most vulnerable to such disasters? How do
you --
Provide capacity building support to a country that speaks 800
languages?
Okay. No AI. So the question about disabilities? Yes, Naveed?
>> NAVEED Ul HAQ: I think that is a very important point. The
short answer would be that I think we have to really push for
accessibility by design principle. What we have been observing
lately with some of the work we have been doing with the persons
with disabilities on their issues when they try to access the
Internet is that most of the programmers, the software
designers, those people who build these solutions that we use in
our communication channels through the Internet, they have no
idea on the accessibility standards. So I think best way,
actually, is to promote the accessibility by design so these
products and solutions when they come in the market, which we
use during the disaster mitigation and the recovery, they have
this accessibility options available by design.
>> IZUMI AIZU: Yes. Whoever had that question, can you raise
your hand about this? Thank you. I may come back to you or
not.
>> NUWAN WAIDYANATHA: So I want to add to it. So we are looking
at it from a disability component something called low literate,
functionally illiterate. That's me living in China and not
being able to read Chinese. So if I get an alert in Chinese, I
destroy it. So we are looking at pick to graphs. We want
people to communicate their distress signal saying we have five
people injured or we need water or we need ten people rescued
from the flood. So with GIFs, being able to convert this into
pictographs, something like that.
>> IZUMI AIZU: Anybody for the 800 languages.
>> When we talk about resiliency and the netbooks, we have to go
through resiliency in the community as well. If we are able to
come up with the plan, community empowerment, we can make the
resiliency in the community by itself. That is the only
solution I can see. It is really hard to, you said 800
languages, we have countries in the Asia-Pacific, multiple

hundreds, local languages. It is very important when we build up the community resiliency plan we take into account the local language and local communication factor as well.

>> For me sharing the same language, the same linguistic community using the SMS, Twitter or WhatsApp or emoji or whatever, usually has better effective way than translation from the capital city to the local community. Help each other is one way to put it.

>> IZUMI AIZU: So the next question is, during the disaster emergency situations the local communities in the State of panic and chaos. How can we bring them into proper coordination to provide maximum possible help and support affected victims. Yes, Jeffrey?

>> JEFFREY LLANTO: One of the learnings with the Japanese team is they are focused more on technology. When we apply it, it is more on the social side. So the first thing that we are going to ask is if applicable to the residents. The first concern is where do I get the food? It is not the communication. Where do I get the fuel?

So here I think the best way is to integrate what are the existing way of life of the community? Then you introduce technology. You cannot introduce a tractor to a farmer who is very keen on using his tools. We told the Japanese friends this is the way it is. You cannot introduce something new to them. What we did, we made technology entertaining. Just like Facebook, make it as simple as it is so that it can really penetrate to the community level.

>> IZUMI AIZU: Thank you. Any comments from the audience about this? I changed the rules, yes, thank you. Any microphone there? Please, use the microphone.

Some of us have hearing problems.

>> AUDIENCE: From my experience, because Fiji had last year a very bad cyclone, one of the strongest in the will region in the past very many years. Like you said the cultural context plays an important part. Even though we have access to social media, there was no centralized sort of action by civil society or the government to collect the data from the social media and to use it on the ground in the field. Even though we probably have good sort of Internet penetration rate. I was wondering, with social media and emergency management and also the virtual operation support groups, is there anyone who could share their experience in this field?

>> Have you heard of Humanity Road? So they help in gathering social media data and polishing it a little bit and presenting it to the emergency managers because you're right, you know, you get a lot of noise in this that you need to weed out. For

example, in Nepal, Twitter, about 70 percent of it was about people saying God bless you. You know? That's it.
>> IZUMI AIZU: In Japan, our team called IT Dot, Disaster Assistance Response Team has some members from IBM. We were offered Watson to do the analysis of the tweets and some of the social media. And still in the early stage but we are working on that. A similar thing is done by Korean researchers working with Twitter, there must be scattered activities like that. There is yet to be seen coordination for that.
With that I would like to ask Kanchana to answer to the two questions given to DUMBO. Can you explain the question and then the answer?
>> KANCHANA KANCHANASUT: Thank you for the question. Actually, I received in reverse order, but I would like to answer this one first. So DUMBO routers consume very low energy. What is the assumed power sources, especially to recharge, as power supplies are usually down for a considerably long time.
Our experience, when we send out DUMBONET to Myanmar, they are out of power. We sent them a power generator as well. They can charge batteries at night. And they can, like your phone, they charge everything at night. And during the daytime they can use DUMBO.
So I think you can have solar panels today. It's quite easy to power your battery.
Now, the second question is can you explain if the DUMBONET, MDRU, can be used in cases of government-ordered Internet shutdowns? In Thai we normally answer ha ha ha.
(Laughter.)
>> KANCHANA KANCHANASUT: Ha ha ha means fi fi fi.
I think, I believe in power in this case. I hope this situation would never happen. The government is using the Internet. If they shut the Internet down, they are shutting themselves too. So thank you.
>> For the MDRU, the shutdowns, I'm not sure if we can really have that as a solution, but definitely the MDRU can be a community-based telephone communication system. That is being operated by the local residents. So if this community will have its own back connected to another community, they create what they call a municipal wide or city wide information system. So maybe in the near future it can help for such shutdowns.
>> IZUMI AIZU: Thank you. Before moving to the next very interesting question I would like to ask you guys a question.
How many of you have really faced serious disastrous situations yourself? Raise your hands.
How many of you may not have a direct experience in the front, but also involved in some kind of rescue or support operation of

some kind? Could you raise your hand? Maybe the same people or
other people.
How many of you guys anticipate that something really serious
may happen to your community, your country? So that you are
here, okay. Thank you.
Is there any reason who hasn't raised any of your hands? Raise
your hand? No, I'm kidding. Yes, thank you. It is valid.
Thank you for your interest.
Now, the next question, please.
>> NUWAN WAIDYANATHA: So this question is very interesting. It
is about all the countries around the world have their own
Cybercrime Act. But for people who did crime outside the
borders, we can not track them as well as there is no treaty
between the countries. MCAT, MLAT? Whoever wrote it? Is that
right?
Lead off regulatory is not in use, countries like Nepal. How
can you manage the criminal outside of the country? Organised
crime, yeah. That's the question.
>> ATSUKO OKUDA: Thank you for this important question. In
fact, we get this request from almost everyone. At the moment,
this is one of the topics that we are dealing with in the UN as
well. As you know, we have now counterterrorism unit which was
just approved. And we are working with all the UN agencies.
What is problematic at the moment is really maybe the slow speed
of gaining understanding and understanding on the part of the
government. And this is where we are concentrating our support.
Sometimes the technology is new. And the mechanism that is
involved covers many sectors. You see the cybercrime related to
banking recently in the Asia-Pacific, it has millions of dollars
of damage attached to it. We are trying to speed up these
efforts as well as to cover other sectors other than ICT.
>> (Speaker away from microphone.)
For your information, there is a (indiscernible) convention on
cybercrime that is already in place. So it asks the government
to be a signatory. What it means is, you can have mutual
responses from those who are the signators.
>> IZUMI AIZU: Does Nepal already have protection?
(Overlapping speakers.)
>> Most of the countries, I mean in Southeast Asia, I don't
remember if they have, I don't think they have signed it. It is
some legal, international cooperation convention, document
already available.
>> I would like to add a personal experience. Like we have a
server that is running in Maltese because there was an attack, a
DNS attack. They are unable to issue warnings during the
tropical storm seasons. I've talked to ITU, UNESCAP. We need

to put in data centres and standards, saying you need to have A, B, C.
>> IZUMI AIZU: I'm wondering, what is the relation between the criminal act cross-border and the disasters? If you wrote your question and you can explain the context, can you do so with the microphone? It's important, I bet.
>> AUDIENCE: As I work in the area, I face so many problems. Last year we had an earthquake and during that time there were many foreigners coming from outside the country and the main, they didn't get the phone. And many people were saying that there is a cybercrime that people outside Nepal, they are taking out the money, but not the -- get the money. And we are told you have gained the data, but we haven't gotten anything until now.
>> IZUMI AIZU: Actually, many crimes have been found after or during the crisis period. She has some say? Yes, thank you.
>> AUDIENCE: I would like to add something similar that happened in Fiji. We had people on social media. Panic happened because of social media. People were given the wrong information. People were going to wrong decentralized place is. One thing that I wanted to mention was that in relation to what you said, I guess -- I lost my thought!
(Laughter.)
>> AUDIENCE: You know, what I was saying for social media, there were a lot of --
(Bad static.)
>> AUDIENCE: That wasn't me! That wasn't my voice!
A lot of people are using social media to sort of get funds. So people outside of the country were already doing a lot of charity sort of events. That didn't help. So that is what I wanted to mention.
>> IZUMI AIZU: Thank you. I thought two more minutes for this session. Yes?
>> (Speaker away from microphone.)
>> AUDIENCE: That is what I'm trying to say.
(Conversation away from the microphone.)
>> IZUMI AIZU: There are three things, the disaster and the real crimes, or crimes and cyber crimes. They are all interrelated but we are wondering what exactly, right? Anybody has an answer or hint? Shall we move to the next question?
>> NUWAN WAIDYANATHA: I think what everybody is trying to get to, cybercrime is affecting our ability to respond to disasters using ICTs.
>> IZUMI AIZU: Thank you, Nuwan. The last question perhaps is back to the community empowerment. For striving economies of Nepal with multiple obstacles of geography and literacy in rural

areas, what strategies could be adopted to adopt ICT as part of their regular livelihood? Any precedence? Any best practices? How can we integrate the rural areas and obstacles by putting ICT as a tool?
>> (Speaker away from microphone.)
>> IZUMI AIZU: Microphone, please. I have some hearing problem. Sorry.
Go to the microphone, please. Please, please. Move the mic.
>> AUDIENCE: I mean, looking at Fiji, Fiji has got a high ICT penetration rate; more mobile phones than people. I think probably those sort of technologies can be used in terms of mesh networking for communication. I don't have any background. I was wondering if this could be a way.
>> IZUMI AIZU: Twenty seconds?
>> Just one clarification. This is a question on disaster or in general? If the point is that we cannot just come up with new initiatives at the time of disaster, I totally agree. But it has to be done earlier.
>> IZUMI AIZU: With the question, can you say anything? Yes? He will be speaking in the extended session anyway.
>> AUDIENCE: My point was for both in case of disaster or otherwise, but especially because in a country like Nepal where the roads have not reached to many places and wireless network is very important for them. But because of literacy when we take ICT there, the start-up is so difficult. It is hard to make them understand what ICT is. Especially when we say about teaching ICT or understanding ICT is not enough, it is beneficial when they know how to use it in the regular lifestyles.
When they use it on a daily basis, it is very important during the disaster. They can automatically have an idea to use ICT devices or measures. That was my question.
>> IZUMI AIZU: Thank you.
>> AUDIENCE: In emergency communication we say use ICTs that are integrated into your daily lives. So don't try to introduce it during the disaster. Use what is already integrated into your daily lives. If it is not, don't use it.
>> IZUMI AIZU: Unfortunately, that is the reality. Now we are going into the simulation exercise. We will give you a second opportunity now to actually express.
>> NUWAN WAIDYANATHA: We have four -- yes, please. We have four posters here. One is other, international coordination, local infrastructure, and community empowerment.
Our friends Pio and others will distribute sticky notes. If you have an issue that you want to address that is in international coordination, for example, use the red sticky note to write down your issue, what we call the root cause of this issue. Then you

use the green sticky note to write what might be the possible solution or the end solution. That goes in the leaf of the tree. You see a tree. And the root, you write the issue on the sticky note, put it on the root. Then the solution, potential solution or the strategy you write it on the green sticky note and put it on the leaf.

So please, get two sticky notes and then write it down. And then at each of the posters, quickly designate somebody as a rapporteur and let them kind of summarize your answer for you. So we have about ten minutes to do that.

You understand? Take the red sticky note first. Write down what is the issue you want to address in terms of not having access to ICTs during a disaster? Why is it? Is it because we don't have good friends across the borders and we can't ask them to bring equipment? That is an example.

So what is your issue that you want to address? Write that down on the red sticky note and place it on the root of the tree. And the green one is what you think might be a potential solution or a strategy for solving that issue and put it up on as a leaf.

>> IZUMI AIZU: After you write the red ones you write the green ones?

>> NUWAN WAIDYANATHA: Simultaneous.

>> IZUMI AIZU: You can put the red ones on the tree and then put the green ones, whatever you like.

Some questions you don't have the answer, but somebody should. Or some answers. Yeah, and there are four posters with each theme: Community, international, local, and others.

Okay. Think fast! We don't have time sometimes in disaster. What is the problem you are facing now? Think you are in the capital ministry or the ISP or you are the data centre guy or in the community?

>> (Speaker away from microphone.)

>> IZUMI AIZU: You have to write the challenges first. Questions or challenges, problems you face at the disaster, or your own experience. It could be technical, social, legal, it could be human, policy.

I want to collect your smart ideas. I hope you can collectively share.

>> (Speaker away from microphone.)

>> IZUMI AIZU: Yes, starting. Good, good.

>> NUWAN WAIDYANATHA: Go up to the poster. Ready?

>> IZUMI AIZU: If not, you can still use time. Nuwan, don't push too much. We still have good time.

We will end this exercise after five minutes before 1:00 o'clock.

So you have a few more minutes to write down, go to the poster.
You didn't prepare any special gift for the winner?
Yes, that's good.
(Pause.)
>> IZUMI AIZU: Even though you have not written, you are free
to read. Stand up, walk around. It is another physical
exercise. You can walk.
And please stay near the poster you posted. If you put
multiple, choose one.
>> NUWAN WAIDYANATHA: Stay by the poster, you guys.
>> IZUMI AIZU: Guys, please stay by the poster, if you like.
>> NUWAN WAIDYANATHA: Okay. You guys want to stand by the
poster? Because you need to summarize, explain.
>> IZUMI AIZU: Someone bring the mic to the first? Atsuko?
Maybe someone is writing still?
We need someone there for others to give the summary. Someone
volunteer?
>> NUWAN WAIDYANATHA: If you have everything on the board, now
choose a group member and try to provide an ... (Speaker away
from microphone.)
>> IZUMI AIZU: Okay. I think we are ready. Are you guys
ready? To summarize three stickers into one?
>> AUDIENCE: If I can start, my point is that normally the
disaster risks are not understood well. So how can you prepare
if you don't know what is the risk in your community?
And is there another point, problem?
>> AUDIENCE: Basically I wanted to join her. She is alone.
Talking about proprietary licenses that hinder apps, natural
disaster apps that could be promoted within a community. The
lack of those, basically the proprietary license system prevents
the development of ICT and community infrastructure.
And similarly when you look at mobile phone network areas, they
could open up their network or their signal towers to localized
communication in times of disaster. This doesn't happen for
some reason. I don't know why.
>> AUDIENCE: In terms of the solution, this could be something
that we can all work on. There are successful pilots. It needs
to be upscaled or replicated or studied more carefully so that
other countries can adopt. This is something we need to look at
more carefully.
>> IZUMI AIZU: Thank you very much. Should we move on to the
local infrastructure?
>> AUDIENCE: The problem we face in local infrastructure is
related to connectivity because local connectivity is quite
down. Just before the earthquake, the connectivity goes down.
Also it is about the cost of the connectivity. And mostly,
especially rural areas the information that is provided is not

localized. So everybody is more focused on capital place or
everybody is sharing the same news. That is the main issue in
local infrastructure that we found.
And the strategic solution is obviously about raising awareness
among the officials as well as the victims, and all the
stakeholders involved. We also need a well functioning disaster
management information system and not within the centralized
government or centralized system, but localized system in local
areas. And all information needed there could be collected
there. Somewhat like DUMBONET can be used to help out. We can
also share it with our neighbors because they might not be able
to afford, or it's easier if somebody affords it. Thank you.
>> IZUMI AIZU: Thank you. The next group? You ready?
>> AUDIENCE: So in that situation, although there is
coordination, especially regarding the ICT recovery and
improvement, that coordination is not stable, not consistent
among the communities. There should be permanent coordination
bodies to maintain the coordination, to have stable and
continuous coordination among the local and international
stakeholders.
>> AUDIENCE: Another area we have is like in the financial
disaster, usually it happens from like a big company or a big
high-tech giants, like organisations. Usually they use
technology itself to commit crimes. And maybe there may be some
fraud across borders. The solution may be some financial
tracking, transaction tracking among international banks. Or
the government has some sort of guidelines or policies in terms
of how to cope with these financial frauds.
>> NUWAN WAIDYANATHA: About international coordination, I don't
know, Atsuko, do you want to mention something about the UN's
role?
There is no coordination, who is coordinating what.
>> ATSUKO OKUDA: We actually have an organisation that is
coordinating when something happens. If you go to the website,
we have a dedicated space for the coordination, with the
government as well as among the partners. I did not want to
talk about this because for time limitation, about you if you
are interested I'm more than happy to provide additional
information and the details on how that works.
>> IZUMI AIZU: My argument is, why isn't the government taking
this and why are we expecting the UN to do everything for us?
>> KANCHANA KANCHANASUT: Okay. In terms of issues, other
issues? Ignorance, lack of awareness on disaster issues. So I
give an example. When the Fiji, tsunami drill happened people
went to the sea wall to find out how the tsunami looks. It's
ignorant but also stupidity. There needs to be a lot of

awareness and capacity building again, making sure that they understand what a tsunami is going to do.

Social media idiots who are creating a lot of panic. This is one of the main issues. There needs to be some sort of coordination by the national governments and by the communities to sort of tackle these issues.

I don't know who mentioned this in terms of strategies, but how to balance privacy and openness, especially posting disturbing images on social media. I think this is a great point. I'm not sure who mentioned that. Maybe someone can talk about that.

And make straight process to the concerns centre. If people in disaster put hashtags such as "cry for help" to their own social media. Okay. I should have repeated, said in a different way. But yes, use hashtags to create that awareness.

>> AUDIENCE: I am from Nepal. There is an official in the Himalayan part and the people, they have low economy and they don't use smartphones. So what we can do or what is to happen is that there should be, people have to have knowledge about it, about pre- and post-disaster and during that time. So people are unaware about that. So we have to make them aware by using ICT.

>> NUWAN WAIDYANATHA: That's a good point. When you talk about ICT we talk not will only about mobile phones. Radios and televisions also come into this picture.

Anybody want to comment? Where is our moderator. All the groups have talked. If you want to give the audience a chance to comment. Any burning question or urgent comment?

>> IZUMI AIZU: You are completely satisfied? Is it a blur? Yes? Microphone for this? The transcriber can't hear you without the microphone.

>> AUDIENCE: In terms of using emergency management, is there a good resource you would recommend for best practice guidelines or in general? Is it still in process to be developed? Using ICT for natural disasters?

>> IZUMI AIZU: There are scattered resources, right?

>> NAVEED UL HAQ: I think this is a good question. We have seen social media playing a very important role and there are examples as well. To your point, I don't recall exactly such a document which is already available with some best practices, but I think I'll take it further internally and we'll see if the Internet Society can come up with something which can be a document showing how social media has worked in different parts of Asia-Pacific for disaster mitigation and recovery.

>> IZUMI AIZU: I think Google and any other search engines, you get scattered papers, reports like that.

She has one more say. Could you go to the microphone, please? Sorry.

>> AUDIENCE: We are not trying to take the mic all of the time but I want to say we used a best practice in our organisation. We created a social media policy. If a disaster happens, don't tweet, don't Facebook. You have to go through the media protocols. You have to go through the communication protocols. We have that already in place.
Something we can share with you, if you like.
>> IZUMI AIZU: Thank you. Okay, with all the other pressing need to speak up, I think I have to keep the time. Anything? So wrap up, Kanchana, a few seconds.
>> KANCHANA KANCHANASUT: Well, I am on the technical side. I think in order for us to recover the infrastructure very quickly, we need the people to be familiar with our technology. So what I am doing now is putting all this DUMBONET in remote villages, you know, disaster prone area. So that people know how to manage the network and be able to help themselves when things happen.
>> IZUMI AIZU: I have one question to the early question about the coordination didn't work because people said wait, wait, wait. What do you suggest for the next round?
>> KANCHANA KANCHANASUT: I found the first round when things happened in Myanmar, it was easy to talk to APNIC, talk to everyone and get things to work. But somehow with the Nepal situation I could not get anyone to help. Everybody said oh, we will wait for one guy, I can't remember whom. We wait for news from him first before we move.
I said okay, you wait. I will not wait. I think ideally there is kind of an organisation that coordinates.
>> IZUMI AIZU: A standing body?
>> KANCHANA KANCHANASUT: Yes, that would be nice.
>> NAVEED UL HAQ: Just taking what Kanchana said, this is another problem we face especially in Developing Countries. We are not proactive. We always act once things have happened. We act for six or seven months and then we wait for the disaster to come. Honestly, this is what. This is an approach we have to change. On coordination, as I said in my talk as well, it has to be central coordination. Because what happens is that community panics and then the stakeholder panics as well. There are multiple stakeholders probably doing the same thing, but not talking to each other. That is also, could be my concluding remarks as well.
>> IZUMI AIZU: Atsuko, do you have anything to say?
>> ATSUKO OKUDA: Just very quickly. Involving government early on, that is very important. If there is anything we can support, we are happy to do so.

>> IZUMI AIZU: Thank you very much for joining us and for your input. For me this is interesting for me, trying to understand the local needs and trying to design systems.

To give you an example, Kanchana says, if there is a will there is a wifi. She came about using the Internet in Thailand by creating a social enterprise. There is no such thing as we cannot do it. We can do it, but we need to find the right way.

>> IZUMI AIZU: Before closing, one announcement. The first ICT Disaster Response Conference in Cebu, Jeffrey is organising this year, September this year. If you want to join the conference, please do so.

As I said in the beginning, once we finish this in 30 seconds we will have an extended session about Nepal with interesting videos. If you can extend 20, 30 more minutes here, you are most welcome.

For all, I think as Kanchana said, there is a lack of coordination mechanisms. It is your turn to speak up and work with us to try to prepare something. Asia-Pacific as you know, all these different kinds of disasters, volcanoes, earthquakes, water hazard, tsunamis, you name it. We have to be prepared and especially with the mobile phones and networks playing critical roles, giving the burdens for those engaged with ICT.

With that note, I would like to close this session and thank you to all the participants. Thank you very much again.

(Applause.)

(The session concluded at 1:00 p.m.)

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