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ASIA PACIFIC REGIONAL INTERNET GOVERNANCE FORUM  
EVOLUTION OF INTERNET GOVERNANCE:  
EMPOWERING SUSTAINABLE DEVELOPMENT

MACAO 2015

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ROOM 2

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DISASTER AND USE OF ICT: HOW TO SUPPORT NEPAL WIRELESS  
NETWORKING PROJECT BY ASIA PACIFIC INTERNET PEOPLE?

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Internet Society

>> BABU RAM ARYAL: This is Ram Aryal for the record.

>> Speak louder.

>> BABU RAM ARYAL: So that's it; right? So what we did,  
we realized that we need to provide certain -- we realize that  
we need to restore connectivity, basically. And basically  
telephone and Internet and communications, like to get in touch  
with people. So out of 230, the communication center, more than  
200 were ever done, all because of no supply to the tower. If  
the tower is not sending the signal, then you have your devices  
to connect.

Connecting people is very important. If you are in danger  
and if you connect people through any communication tools,  
saying they are safe, your family would be more relieved. If  
you communicate properly to the agency, then the agency can go  
to the exact place and certain rescue. That's why we try to  
restore communication centers.

For that, what we did, we did in two areas. We supply

power and solar panels to service providers and we supplied some solar panels to remote villages to connect or to charge their mobile devices, because in most of the places, it was out of power for two days. In that phase, what we did, we supplied solar panels and we started certain mobile stations and people, they come to that place and charge their mobile sets. We also support community with power generators to go to run their service.

We also start to create WiFi hotspot. Nepal established around 11 WiFi hotspots in five districts and that was used -- highly used by the rescue operators, general citizens, as well. This is some of the glimpses of how we started those WiFi hotspot and mobile.

>> IZUMI AIZU: I haven't met him until 30 minutes ago, so this is just an ad hoc sort of plan. Could you change to my slide? Originally I was planning to give my presentation, but actually, he is the guy to represent the people of Nepal, not me. However, I got involved with Nepal networking project with guys by the name of Mahabir Pun. He has given the award for Internet -- how many of them Internet hall fame? It's not that famous. Each year started some five or ten years ago, I don't remember. The guy contributed to the development of the Internet is chosen, one per year globally. And Mahabir was chosen last year, 2014, as the recipient. He was also given something called the award in 2007. It's -- well, let me go back. A little bit of the numbers is about 9,000 people.

(No audio)

>> BABY RAM ARYAL: So in India, which they stopped. So I'd like to see how we support Nepal the project on the 15th June, about three weeks ago. I stay there about four or five days. We started this networking project connected recently (?) hotspots don't supply any connectivity. Are there anybody from Nepal?

The people of Nepal, it is ranked as number two from the bottom of the ICT in ITU. The next is Bangladesh. But as a national average figures on the Internet usage, it is larger cities and many of the villages, it's more difficult to get connectivity services.

After he came back from the U.S., he have to go to get e-mail from his village in Nepal. And many villages like that that you have at that really walk to get to anything. He put some -- I say, guys, please help me connectivity in my village. Volunteers came using WiFi to 4G originally. They change. So I ask him how did you get the hotspot? I had to write some letters. How many letters did you write? Maybe 1,000 before he got approval.

It takes days to go to the next village. You have some

like goats or things like that you want to sell, but if you don't go, you have to walk for two days. Instead with the WiFi and connectivity and ask to help and throw small sheep on sale. If you come Saturday, that's a holiday, maybe they can't sell. So effectively it helps some of the burdens of the village people, the rural people, or lets the mountains where the doctor is using this for (?). He says I can stay in such with my colleagues, communication is better than just directly used for the surgery. So I include that.

Anyway, that's my report in 2009. One person develop their own power source, and some social connection inside I was trying to do some kind of research. These are the areas. It's very difficult to see the damages from afar. But inside what used to be the palace, the wall collapsed, so for the first time people can see inside. That looks like it's okay, but it's not at all. The next is like that. But in the center you don't see that many collapsed.

If you go inside the village, sometimes it may be dangerous. The next time happening in May, the people felt really bad. By the way, that's why I started some kind of ICU for the disaster, not during, and I had some horrible experiences, similar scenes, but not unlike you guys. After two or three days, most people sleep inside house. So it's many small little aftermath, aftershocks and usually a big one.

How many of you have had real bad disaster experience? Anyone? I hope you don't really experience. That's awful. So that's before and after. We open the aisles there. Also, the very center, almost like on the other side of the world. As we mentioned, these are the areas of the 14, perhaps. One (?) and I ran into the -- I will show you. So most of Nepal to center to the east, not the west. And it's there. It takes about two hours' drive. So it's on sort of the bridge or top of the mountain or hill.

>> It's on the west side of Nepal.

>> I'll go back.

>> It was in the western part of Nepal. This was in the east part.

>> BABU RAM ARYAL: I'm trying to get back to the map. I'm pushing the wrong button. So is almost east. The center is between (?).

It was -- it's a Saturday, which is a national holiday in Nepal, not Sunday. Most of the students were not there. So I was told that four students were killed out of more than 500 at the school. These are the school buildings. They have three. Also damage heavily. That is the office. They put the temporary school starting the classes. This is not from the plans to put the computers back after restoring this place.

This school was also connected by the wireless. It was damaged, so he is trying to put it back. So it's attempt to do some class study. These are the computers relocated, but not in use anymore. They try to check the same kind of transponder, but they had to send it back to reinspect, and you did some special lecture. I went back on the way.

The very people, you can't see it, but where many people here or there or here or there, that's normal, perhaps. It's quite imaginable for people in Japan. Maybe in Holland it's similar, but for most western people, they don't know geographically, so why connectivity is so important. This is a picture of those who were killed there. That's a very famous one.

We have emergency telephone communication cluster. Usually after the big earthquake, national disaster or conflict, war, they go in with the dish, satellite, and provide communications largely through the relief workers' agencies, but not with the community or the people there. And I discuss that, because for us it's more important to have the people to send information about them rather than receiving information or receive the help. The people should be the center.

I asked and they said they have something called CWC, Communication With Community, as a concept, but not yet largely implemented. It works like the Internet Society or Nepal Networking, trying to provide means for the people in the community to have a direct access to what they need, what they like to happen the next day, the next week, maybe some other things, but I don't have much time to discuss that.

So yes, the recovery is starting. It's about the 15th of June about more than one and a half months.

Do you know what the size of the national budget in Nepal in terms of money? Do you remember?

>> \$25 million.

>> I was thinking of national government budget.

>> (Off microphone)

>> IZUMI AIZU: Right, right, right. Just for the reference, that is about the size average Japan where we have 47. So we have 50 times more national budget or maybe more. We're just trying to explain how people need more aid from inside or outside. Of course, the level of different -- lifestyles is different. So it's easy. Depending where you are, they have some multi-stakeholder for people interviewed in the village and under the transitional government system for agreeing now. So she these people inside kind of a normal scene, which never happens in Japan anymore. These are the center.

The others are in the middle, the little ones. So I try to

say let's go to Nepal, and really understand and then start help more seriously in more sustainable ways. That's what I was trying to tell you.

So now I finish this and I'd like to ask everyone to contribute how we can help because Internet Society is for everyone to remember. How much we got from our silent partner support. Could you describe?

>> BABU RAM ARYAL: I think there were not much. (?) nine to ten emergency hotspot center and then also I think ITU provided a satellite phone to (?)

>> IZUMI AIZU: Did you get any support from ISOC?

>> BABU RAM ARYAL: Yes.

>> IZUMI AIZU: How much did they send?

>> BABU RAM ARYAL: After the disaster, around the third week, around 30,000 U.S. dollars. That was not -- that was a very big moral support during immediate impact. It was very important to get (?) one week this time. So the Internet Society have around 11 and we see many small support, but that is very strong. Myself (?) and I went -- I went (?)

In this area and the impact was from this place to this place. The impact: almost no impact in this area. Not in this area. (?) impact in this area. This is the capital. So (?) this is that was missed by the whole disaster. Why this happen (?) but it is very important to restore the area. Not only -- it also gives you a little confidence. If you are secure. (?) after four months, that we need to develop -- so --

>> IZUMI AIZU: What size of the money you really lacked with the connectivity in the community?

>> BABU RAM ARYAL: It --

>> If you have one month because the community.

(Off microphone)

>> BABU RAM ARYAL: I don't think so. See, yes. I have two issues in that area. One is -- one those that are not connected, it was a chance to develop those areas and the development to come. (?) right. (?)

(Off microphone)

>> BABU RAM ARYAL: Immediately after the earthquake, for two or three days, there were huge (?)

>> IZUMI AIZU: The captioner is not able to hear you-- if you could speak into the microphone.

>> So all this backbone stuff (?)

(Off microphone)

>> BABY RAM ARYAL: Because the country is very much a disaster-filled country, it appears (?) -- in one area all the communication systems were down and so there was -- so it was -- for a few hours there was no communication dealing with the national government. There was no communication. That was just

one area, but it was much bigger. It was really a problem. How to communicate within what happened and people were panicking. So since all the communications networks were down, the sat phones were the ones and I think the government should be -- when we have those sat phones -- no sat phones available, I think the government -- the batteries were dead. So they had to find other ways.

It was a good thing that there were other organizations, communication organizations, and they were using their own satellite systems for that. And I think we can learn a lot from the experience, let's say, of Japan, and Nepal especially, how we're preparing for that as well, because anytime we might need that as well. We haven't had an earthquake for quite some time, and we really want to learn from all of your experiences.

>> We're not disconnected. We were connected to the world. But now we realize we should be (?) our emergency backbone was exposed. At least we need to have enough backbone and at least the government agency (?) so (?) if it is mountainous, then to supply one sack of rice, we need to (?) and the cost of one sack of rice was 30,000 currency, that is 2,000 (?)

>> BABY RAM ARYAL: If I may, here is the report after the earthquake and tsunami happened in 2011. Unfortunately, to collect the data, it took one month and three months. And the need of the people changes very much, and also by location, if you are on the coastal side or inland, if you get the power plug or not, these elements affect a lot.

While the people came there, I try to do something similar in Nepal. I found that in the rural agencies they don't really have the data. Before, during, and after the disaster, how much the use of Internet in Nepal contribute to dealing. Even the simple data does very little. So they are in rural area have the connectivity like Chulalongkorn to ask the question and what is the benefit of having the connectivity in 50 people or a hundred people. Then if I try to go to places where there was no connectivity, two months later, what's going to happen while we compare there is no connectivity. So these are the kind of things I feel if even on a small scale, it tells you not only the story, but sort of collective ideas.

What you're trying to say, I don't think a government can prepare enough supply to connect the villages in the capacity in the disaster. It's much more international airport. For some it could be the Philippines, it could be China. At least where they have some 20 or perhaps more, but the cost of this agreement the machines are getting much cheaper. These are the areas that I would like to really work on. I'm trying to go on Monday, because as a community ICT and disaster workshop for the 6th year. It's sort of similar to ITU.

By the way, ITU is providing some funding of 160,000 Euros to Nepal wireless seven years and we are working to get more funding to Nepal, but the first batch would be around 200,000 U.S., which is not enough at all, but with the hope of getting more. Unless it's approved by what's the benefits of these connectivities by the people so that I can connect to my mom or continue education or eCommerce. It's very difficult to pursue the policymakers. That was my view.

Of course, you can challenge me from the Philippine experience. If we can put some emergency wireless communication because the power is down and somehow other friends of ours were in there, but mostly ad hoc. When something happens, we are asked to go, but no standard system at the rural level or IT level is there.

So that's why I really like you guys to --

>> AUDIENCE MEMBER: Another feedback is during the earthquake the connectivity was down. What the government did was to put that connectivity and I don't know to what extent they had.

>> The use of TTY space. I think the power open up the TTY space about a month ago or something. Before?

>> Yeah, yeah.

>> Before the earthquake. Okay. That's what you want to say? Speak up.

>> AUDIENCE MEMBER: So for the case Thailand, after tsunami, in 2004, so they try to be on the emergency network kind of ad hoc network and we send all the equipment so we so that they can exchange (?). From Nepal we also taking action technique 44 routers to be the network. (?) send back to Nepal on 30th of June. I think that Babu (?) in this type of disaster, very helpful.

(Off microphone)

>> AUDIENCE MEMBER: Communication at that time would be helpful. So four places basically (?)

(Off microphone)

>> Who was your counterpart in Nepal, which is quite important? Okay. Right.

(Off microphone)

>> IZUMI AIZU: What I was trying to see in Nepal was the coordination. ISOC and the others Internet Society, did they coordinate?

>> BABU RAM ARYAL: Actually, I was very close -- they had their own objectives. I think we have not gotten (?)

>> IZUMI AIZU: Right, because now I can ask you to go to the lessons or I ask him to bring for the discussion.

>> BABU RAM ARYAL: This is also very important to realize how we get and what we can do. (?) mobile phone or Internet or

any other radio communication sites, connect --

>> Sorry. It's okay.

>> BABU RAM ARYAL: This is (?) you try to connect and the importance (?) is there. There might be no power. Power could be there. (?)

That would become --

(Captioner is unable to understand audio)

>> BABU RAM ARYAL: Is part the community, and this is a tower of telecommunication, around 67, and a hundred. UTL 17, smart 17. If they are not there --

>> Out of how many? These are the ones destroyed. Is it thousands or millions or what?

>> BABU RAM ARYAL: If you talk about the possibilities, less than 10 percent. No.

>> IZUMI AIZU: Not all of them were 3G. Some of them were 2G.

>> BABU RAM ARYAL: In this particular district, where we are in communication, out of 316, more than 200 tower up to 5 days.

>> IZUMI AIZU: After the disaster.

(Off microphone)

>> BABU RAM ARYAL: This is the destruction. So this slide the Internet Governance during a disaster and Internet telecommunication, it can -- after these kind of disasters, the last slides, so (?) before disaster, immediately disaster, after the period and after four months, and then reconstruction and redevelopment phase. It may go up to two years. But immediate response, before disaster and after disaster, you have response. You have to prepare yourself for this.

For example, after a round of disaster, immediately disaster strikes, then you need to prepare for that. Disaster is there, then you (?) that is not respond properly after the disaster. So after this lesson, how we can respond to the disaster? What kind of tools can you use. Satellite phones, HAM radios, emergency hotspot and would be very useful. Then power supply to BTS towers. You are supporting commercial (?) you have supporting power operators in this disaster more than power operators. No one -- the important thing is to save the lives of people. It is that much important.

(No audio.)

>> BABU RAM ARYAL: Like one or two device communicate many people. We support -- Nepal supported different community operators, because power is not there and we provided power generators to run it. That was very useful, because remote area, those districts, people they only got listen to radio and mobile phone charging system. Power is there. But if power isn't working somehow remotely, and your devices are not



charged, then what happens? In that case, mobile phone charging stations, that is the solar panel supplies this, then it would be very useful to connect them. Long-life batteries. As he mentioned, in those mountain areas, you cannot carry solar panel on your back, but you can have long life batteries, like power bank, and we provide certain power banks to those people who were in the remote areas, going to rescue other persons, so very various roles of different. Data service, serve very good role during the disaster.

Facebook started and then you can communicate with your people, "I'm safe." Similar kind of service for Google and Skype and Viber; they open their telephone. Viber open their -- Skype opened in and out, any country out from Nepal from any country to the Nepal. So that was very useful. I got my parents from my brother, who lives in Canada. He called my family and he informed me on Skype. Though I was very near, I was not able to connect to my parents. That kind of role this time, the operators led during the disaster.

The role of the operator is very important. Like we just discussed about, there are certain currencies that can be used. That can be opened by the operators and also can play the role is coordination among the operators. In some area one operator might be working perfectly and -- so operator still can play very important role and can play very good role.

Civil Society can play differently. One is directly involved in the process like servicing hotspot, servicing and supplying different kind of tools. That is direct support. Indirectly they can facilitate. They can facilitate like facilitate with Minister of Supply to supply to provide very useful. This kind of role of coordination counseling and facility and hotspots could be useful in Civil Society.

What we did, I already mentioned during my initial intervention. And that was the video I played.

Thank you very much.

>> IZUMI AIZU: Thank you very much.

(Applause)

>> BABU RAM ARYAL: We assure you, we can very keen to connect with all the stakeholders, and we're also in very good communication within the country as well.

>> IZUMI AIZU: Are you planning to document what you spoke or? I wish you would, because it's very difficult to share this to the other next month where we don't know what happened, from what happened in Thailand or in Indonesia. They prepare 18 people engineers after about 18 years, Volcano interruptions, ISP, it was not ready in Japan. We are now trying to create some kind of responding teams and how to fill the gap.

If your telecom operators are doing the job and regulators,

fine, but we have some gaps that they couldn't really fulfill. If the scale of the disaster is far more than the capability, then somebody has to fill that. So how do we manage that is an interesting challenge?

>> BABU RAM ARYAL: Just to mention that, we have reconnecting. This is dedicated worksite for after the disaster activities. Most of the other activities are posted on that and put in the community. Because we have some -- how many people use our mobile charging stations? That is also we have make some matrix and we can see those.

>> IZUMI AIZU: So any suggestion, comments, questions, that we have not spoken of before? You have the priority. I want to have everyone to say thank you before you leave. (?)

(Off microphone)

>> IZUMI AIZU: Okay. Somehow Nepal has many solar panels that average because of the supply of the national grid or difficulty with all the geographical and the different buildings. You have a lot of microtowers in solar panels. That could be more than usable in the disaster space.

>> BABU RAM ARYAL: After this earthquake, in many privatized fields (?) they can use solar. Once they install, they can use it for three to six or seven years after, depending on the case.

So more than that, our government is now subsidizing solar.  
(Off microphone)

>> BABU RAM ARYAL: In the capital. If you are living in the capitol also, you apply for that, you get subsidy. So now solar is more priority in the national grid.

(Off microphone)

>> AUDIENCE MEMBER: So also the experience in Nepal is very synchronized in the communication. The communication for disaster for each country can be applied, can be adjusting, and then applied amongst the situation. Because I have (?) that is in the flat area of the Bangkok Thailand, and in Bangkok, that tends to be the center, and then we also cut off communication at that point and then I think that there is some similarity of the system that can apply to any kinds of disaster for communication.

>> IZUMI AIZU: In the Nepal case, did you try to get some of the lessons from the previous disasters in Asia-Pacific? Or you just stick on your own?

>> BABU RAM ARYAL: After disaster, we are not connected with family, and it was hard. So immediately after the disaster, whatever we saw possible citizen, then we went without discussing anybody what we realized is important, and we try to remember that. Later on after -- so we try to figure out, for example, mobile software in mind after two weeks. Because when

we explore, but until then that was already gone. So it could be a lesson for next disaster. (?) they got certain mechanism, certain critical backbone, even some kind of disaster (?)

(Off microphone)

>> IZUMI AIZU: Somehow the audio was not getting into the transcriber, but what he meant was the preparedness is very important. Of course after the disaster, we can do a lot, but it depends on how much you have already prepared. Don't worry, there shouldn't be too many experts in this field. It doesn't really matter.

>> You said there are not many experts. I agree with you, but I think that there should be more experts in this field because (?) we are not prepared for that. And I was thinking for some of the -- perhaps in the universities, it can be disaster management and how important communication is when it comes to disaster.

I would like to comment on disaster preparedness. Of course we are always preparing. Most countries are preparing for disaster, even though (?) of course with sat phones we can, because we have satellites. No matter how you prepare, sometimes there are -- sometimes you do not know what's going to happen. For instance, we thought we were prepared, but it turned out we were not. There were a lot of (?) we always learn from those disasters. We always learn from our experience with disasters and it's always useful that we share that information and the technologies that we have.

>> IZUMI AIZU: I was told to finish by exactly 3:30, but with your indulgence, I think we can extend a little bit.

How many of you know about this humanitarian network? I just found it a few weeks ago. I've been working in this field for four years and never heard of that. The world is much larger than we know. But seemingly, it's more or less U.S., European guys, if you see the dots and stuff. But I think there is some merit if we can try to connect with them or we can create our own first. We don't have to be under them, but we can work with them, perhaps. So right after it was very much to use the lessons, which happened in Japan even this year, but three years after, five years after, six years after, people's motivation gets much lower. It's a fact of life. We can't do much. But then a big disaster happens. Then that sends it back. This is the importance of sharing cross-border.

At least we have the Internet that's crossing border much easier than before, and plus I really appreciate -- I didn't know who was here, so I couldn't reach you. The guy from Bangladesh was saying he was coming, but I haven't seen him. He wanted to share what happened.

So if anybody else wants to say anything before you leave?

(Off microphone)

>> IZUMI AIZU: Very bad. Depends on where you are. Very few houses are built in the tsunami areas. So many people are little living in temporary house. 100,000 people. More than 200,000 people in Fukushima are not living in their own home yet. The local government is trying to put them back up, but they say cleaning up work is done. Many people feel it's not. And power company is cutting off the money by the end of the year.

Media lost interest, or the people lost interest so that the media -- even media covers the rate is down, given domestically, as well as nationally. However, most of the -- of course you can deal with certain areas, but other areas may take many years, especially your poor industry or poor livelihood is broken, because it's built up by many years. So it's not too easy to do.

Even though Japan has seemingly more economic capabilities than Nepal doesn't mean many people don't care about those. That happened to the earthquake ten years ago as well. Then there was fracking, not ICT, but the whole thing. There should be a need just to revisit what's going on, are real people or government? I don't want to bring up government at all, but capability is limited. So thank you for the question.

Any other comments?

(Off microphone)

>> BABU RAM ARYAL: When disaster happens, this is the very important role of outsiders to play. For example, I was not able to think what is better; right? So national people (?) I remember my wife and I remember my children, but I can't (?) that is how the (?) it was very serious in Nepal.

>> IZUMI AIZU: Did you want to say something?

(Off microphone)

>> IZUMI AIZU: Yes and no. The best thing to share is what went wrong. Seriously, I don't want to bad mouth and blame the guys in charge, but I have. Usually it's better publically for me that the city service was down. The regional government was down for three months. That's the real story I was told directly by these guys. And I trust the information. But if I write it down, (?) I can't fix problem, but if I say that as they take it as a direct insult.

There are many, many stories in Japan which were not really told about the nuclear power plants. We cover anything. So the good stories, yes, largely shared. But it's very difficult to be objective and neutral. You but (?) that's my personal opinion. I was outside the (?) very badly, all the things, something, too much, it's not true. It's very difficult. By the same token, I really appreciate you coming. I learned more

than (?). Anyway, I think we need to wrap up. He wants to say something.

(Off microphone)

(Adjourned)

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