

2019 Asia-Pacific Regional Community Networks Summit
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Plenary 4: Community Networks and SDGs

(rough transcript - alternate version)

>> So for our final session, some of the speakers are already up front. So our speakers our speakers for this session are Ms. Atsuko Okuda, who is the chief of ICT and Disaster Risk Reduction division of UNESCAP. And we have Kondo Masanori, Deputy Secretary-General Asia-Pacific Telecommunity. And we have Jigme Tenzing, director of Department of IT and Telecom Ministry of Information and Communication in Bhutan. And we also have Mr. Osama Manzar, founder of the Digital Empowerment Foundation.

So this last session will synthesize the overall discussion, thematic discussions of the Summit and be a high-level discussion on the future of alternative and complimentary last mile access networks in Asia-Pacific and the role they can play in achieving broadband for all.

>> NAVEED HAQ: Welcome back, everyone. I know that some of you want to go out for shopping. Bangkok is a good destination for shopping. We are going to be short and crisp. And I'll state and go to my panelists. And I will ask to please tell us about how ESCAP looks in to the discussions, especially from the past three days and today when we are talking about these alternative last mile solutions, how all these discussions fit in to the broadband for all which is one of the key objectives the APIs.

>> ATSUKO OKUDA: Thank you. Thank you very much for all the participants actively engaged for the past four days.

If I can just summarize for those participants who just joined today on, Monday and Tuesday we had the Asia-Pacific information super highway steering committee meeting which is based on the Intergovernmental mandates and reviewed and updated each other on some of the activities that we took along the framework that we agreed. And I believe that that provided the basis on the framework for yesterday's discussion as well as today's discussions. So for me what is really important is to connect the dots that when, you know, in ESCAP, we not only work specifically with member countries, but I think the beauty of this meeting was that we had different stakeholders on board. And now I believe that we established this fantastic and wonderful connection among ourselves. So I believe that this

meeting was very valuable from the point not only from the substantive point of view but shared different views and connect to each other.

Now I believe that what is needed for us moving forward is really to discuss the way forward. Any suggestions and proposals and how we can transform and translate the ideas that we shared for the past four days in two concrete activities initiatives and follow-up.

And this is where I hope to hear from you any suggestions, ways forward, if there is any group of participants, countries and organizations want to come together and propose something now is the chance. So I look forward to listening to your active and constructive suggestions. Thank you.

>> NAVEED HAQ: Yes, I totally agree. I think this is the opportunity for the participants. And I like the suggestions in the first session that is open arms. He is open to collaborate. Perhaps this is the time. And I will get to the participants in the room as well on asking if they are interested to collaborate more on this particular issue with ESCAP under the API Assembly and also, of course, with the Internet Society. I will turn to Osama. He is one of those people in the room with perhaps the most experience in terms of community experts and how they have evolved over the years. If you can please shed some light on talking, we all started this work and where we are in ten years, what are the positive sides of it and what are some fears. And I saw that you also told us that perhaps country networks are finishing up. So can you tell us more about it? How do you see the future of these community led initiatives in Asia-Pacific?

>> OSAMA MANZAR: So Naveed wants me to quote ISOC. We started this story in 2009. That's a plug-in. I think ten years before when we had started experiments of community networks and many more years the most focus was access and infrastructure. But if we see what access has brought to us in the last three, four years, the discussion is mostly around data and content. And, of course, if we are just around the corner in the last one year, then social media and then toxicity around social media and how there is a -- there is more fear of misinformation and fake news and so on and so forth. So if we see this entire journey and if we see how community networks has progressed apart from the fact that people have highlighted in the morning various sessions, that attention of community networks has alternative networks, last mile connectivity network has caught the eyes of many kind of people and many people are taking it very, very seriously, that's a positive part of it.

So I drew a little diagram on my paper saying that what are the challenges. I think the big challenge is that and there is

an opportunity in those challenges also that it has not been considered last mile access. And when we say last mile access, it is also translated in to last mile access and remote in poor and underserved communities because last mile access is there in all houses, in places, but in urban areas it goes but in remote areas it doesn't go because it is expensive and there is no ROI. But earlier the ROI was most based on infrastructure but I believe now certainly the ROI is not converting in to data. So you are putting up infrastructure because you think the data generate your funds. Good news two Telcos might go there or private sector might go there. And there will be more access.

So that's the challenge part. And -- the other challenging part is that I don't think we have been able to convert community networks in to out of the box solution, you know. So it is still seen as a techie's job or the job driven by passionate people for some -- and mostly are examples. So even if we start drawing on the map we can still count that these are few community networks which are successful. These are community networks which has a great story, but they will be very little one which can be seen as that can be converted in to a replicable model and scaleable model. And no harm in realizing that if you put infrastructural cost most of them can be converted in to a sustainable model.

That's one that is a bigger investment when you start anything like that. The third part is that we have also not been able to create bottom-up forces of the -- of all the capacity building. Lots of people who can become technology oriented to take care of networks and run on their own. And the last challenge we have not been able to relate it very strongly in to services. If we say all the subjects of SDGs, each one of them is a service. Each one of them is a development and social developmental indexes. If we link it to that, then there is a new model in that. You convert in to content delivery for the revenue and therefore you can do it. For example, you know that all the networks that we did with ISOC in the last ten years, most of them are running after the initial investment. But if you calculate those ROI that is happening in terms of investment, in the initial time, it may not be sustainable now. But on a daily basis it may be sustainable. So it is very important to learn from there.

So, you know, the good news is that, you know, we need to make it more out of the box oriented. We have to relate it to services and content. We have to make it run by the community and because it is supposed to be for the community. And I also feel this may be my personal belief, is that the more and more you are going to be Internet connected, the more and more you are going to be subject to privacy issues, attack issues. If

you have your own network you can manage your own network to safeguard yourself like a gated community, something like that. So it can be a decentralized database oriented network also. So those are some of the suggestions that I am saying.

And the last thing is that, you know, I say that, you know, community network is -- the Internet is supposed to be the people's network. But now I don't think the Internet is now being seen as a people's network. So community networks can regain Internet for the people. So can we as community networks save the Internet and give it in the hands of the people.

>> NAVEED HAQ: Excellent point. I remember a story back from Pakistan when we were doing some community network. And so the people used to actually travel through three kilometers to go to a road and where they can get a 3G signal. They have to make a Skype call to the relatives who are in Dubai. And I remember when we were talking with this person who wanted to put our antenna and then once connectivity comes to you at least you don't have to travel three kilometers. And you can place those Skype calls with your uncle in Dubai. And there it was. So I think when it is -- it is beyond the connectivity. And there are a lot of empowerment and sustainable development or last mile solution.

I will turn to -- APT leads in terms of regulators and policymakers throughout the year. And I have seen over the past at least two years there have been attention given by APT realizing to connect the half of the rest of the world, we have to give more attention to The Last Mile Connectivity solution. So how do you see this can fit in to the discussions? And what do you see the perceptions from the regulatory or policy angle?

>> KONDO MASANORI: Thank you. And first of all, on behalf of APT I would like to appreciate once again for ISOC for inviting me and APT for this event. APT is an international organization. We are very much conducting many activities, not only like a project or last one mile connection, but also like many training courses as well.

So with regard to the last mile connection, we are very -- as APT I'm very happy to hear that the example of Nepal, which we supported in 2015 just after the earthquake of Nepal, so we -- when we heard about the news of Nepal, we immediately started our discussion how to -- how we can support as APT for member countries in this -- in this case Nepal. So at the time, of course, we contacted -- now Mr. Pun is very -- we knew that Mr. Pun is very famous in this field. So we decided to communicate with them through the Nepali Government because government is our focal point. Today I am very happy to hear how the project was successful in Nepal. Having said that yes, in the past 40 years we have conducted several projects. And as

I mentioned yesterday during the ITU session that some of the projects it went well. But others not necessarily we can say it was successful.

And having heard this today's discussion it is very intriguing for me and very informative because while I'm listening to the discussion, especially first -- this morning, and also the -- I am still in the process of digestion. I am thinking -- while I'm thinking like issues or challenges for APT how we can implement those last mile connection projects, I -- this is my idea, my idea to share with you, I think the -- we need -- I'm thinking that we need to check where the bottleneck is. The site the Government can start to implement like infrastructure because there is a demand already.

So once you have an infrastructure network, you can have a project successful. But if the bottleneck is the demand side, suppose -- I think this part is questioned by Mr. ISO. After we install those infrastructure with -- start to use it or not. So if the issue is about demand, bottleneck is the demand side what we can do. So those are the challenges we need to consider. So in that -- in those aspects it is very informative for us to listen to the discussion in this morning. So how to define or how to find the existence of bottleneck and where it is and if it is the supply side, how we can solve the issue. And if it is demand side, I think demand side is more difficult compared to the issue of supply side. Demand side, for instance, one of the examples we faced as a challenge was that it was e-Health project. In order to reach to remote area we are -- health care service is not sufficient. So there was a proposal that if we install the infrastructure, then they can enjoy the data health care services. So we did that. But actually those people in health care services on the ground they are busy. They need to do their own daily work to prepare old and so on. They don't have enough time to have training how to use ICT. And for them it is just a headache. We don't need it.

So here again internally APT we explicitly distinguish what is a need and what is a want. In this case they don't want it, is not their need. Sorry. It is not their need. If we install like e-Health care, then -- if we may ask whether you want they will say yes, I want. But it doesn't necessarily mean that they need it. Because as I said they are too busy to implement their own work. So those are challenges and those are experience we had.

And I would like to mention that this is our past experience. We are not implementing in such a way currently. So we are thinking, for instance, to still -- the idea base we may establish a kind of like Committee to involve all party stakeholders to discuss the way how we implement it. This

is -- if some of you attended yesterday's meeting, this is the way I mentioned the sense of participation, sense of stakeholders approach.

So this is very important in order to let them feel that you are the owner, the ownership of the project and so on. So these are lessons that we learned in the past and also the factors are still digesting from today's discussion.

>> NAVEED HAQ: Thank you. I think this is an important point, ownership, because I can recall various projects led by the Government in the past. The Telecenter is a classic example. There have been Governments put up a fax sheet, a computer, a printer inside of a rural place so people can use it. But if you see the project after six months, those are gone. They are no longer used. Some of them were actually sold because there was no ownership. And it was only a few experts going in to a field and giving those communities something that perhaps was not actually what they wanted. So ownership I think it is a critical plan. We have heard this as well. It has to be by the people for the people. Osama, can you shed some light on community folks because I think that's also a substance that is perhaps linked with what we are trying to discuss and how they have embraced community participation in India.

>> OSAMA MANZAR: We should talk to Nepal because they are one of the largest community radio network countries in terms of sustainable also. But what I would like to highlight is the community radio model has three components. One that it is usually run by not-for-profit organizations. And the second is that they know how to build content using community. And broadcasting which is there and mostly when you do community then it is related to the need of the people. So it actually highlights the most important part of the social starter and the social development of any country there. The Internet is missing or the network is missing, if you embed. And the third is from the regulatory perspective at least in India. All the community radios have towers given by the Government which actually takes care of one of the very basic infrastructure of investment and also taking care of regulatory requirement of not building more than five meters of tower without compliance. And there are a couple hundred community radios in India and hundreds of them in Nepal. Can use the infrastructure for content development and to build community network on that. And we have been doing this for the last three years with community network exchange that we started with a platform to propagate. But what basic most important here I would like to highlight is in every country not-for-profit organizations are hundreds of them who work in rural areas. If we push community network to build capacity of those not-for-profit organizations, then they

can deploy community networks in their own areas. And they are mostly rural areas. They can actually build up -- I mean help in building up scale.

So from that perspective it is very, very interesting that one NGO is halfway through having a community radio and other NGOs are halfway through in terms of working with communities. So you have to build, bring the network there.

>> NAVEED HAQ: Now I will ask a friend from Bhutan, Mr. Jigme Tenzing. Tell us about Bhutan. It is one of those countries where the geography which is like Nepal. And, you know, in that kind of geography it is not easy to deploy infrastructure. And I know there was an ISP named Nano and they actually made an experimental white space network in a rural identity of Bhutan. What are the objectives of the Government, especially from the regulatory and policy perspective? And I also heard there is a lot of investment happening on the fiber side. Is it to make your backhaul stronger or also thinking to extend it to the last mile?

>> JIGME TENZING: Thank you. My voice is a little off because I have been a little under the weather. But thank you for the question. So to TV white spaces the idea was essentially to look at alternative technologies to look at how we can actually expand last mile access. So I think TV white spaces we looked at, you know, alternative fiber, many options were considered. And I think it is still being considered to see what is the most cost effective way of extending connectivity to the last mile. I think in Bhutan we are also -- we are challenged with our geographical, you know, limitations. We have a lot of mountains. But we are quite lucky in the sense that we have -- we are a small country and I think the beauty of being a small country is we can collaborate, like one of the -- one such example is we collaborated with our power infrastructure providers, you know, to go deploy our fiber optic backbone infrastructure on their power transmission lines which dramatically reduced the cost of actually deploying fiber across the country. So we actually have fiber going down to every district, fiber going down to blocks of villages. And this is exactly the infrastructure that we leverage to take connectivity to our community networks.

Sustainability is one of the key, you know, challenges that we have in Bhutan. I mean our population density approximately is about 19 people per square kilometer and concentration in urban centers are a lot more. Rural centers are far more. The Government has invested in establishing community centers in almost every block of the village, blocks of villages. The usage in those centers are, you know -- it doesn't keep the power on. I mean we are talking about maybe ten people

accessing the community centers in a day. So the cost is extremely high, but I think we look at these networks as a platform for providing equitable access to services for citizens and that's why the Government is subsidizing it. And I think there is going to be a lot of debate on sustainability, you know, in its inherent sense or subsidized by Government. Ultimately we consider this infrastructure as a basic, you know, facility for citizens and we can leverage it to provide a lot of Government services.

Following the establishment of these community networks we have invested in essentially having all our Government services transformed in to online services. Platforms that we need to build on to make it much more accessible to citizens. But all in all we believe that this is a basic necessity for services to be delivered and that's why, you know, the subsidy is being looked at by the Government. Thanks.

>> NAVEED HAQ: Good to know that. I want to take your perspective on the ISP. I remember if it goes like 15, 20 years ago there was ISP and ISP. We were not in to 3G and 4G networks. There was a huge ISP market. And that actually perhaps has also impacted, you know, those small and medium investors who were limiting their services only to groups. Those last mile access providers in many markets in Asia-Pacific. How do you see this discussion that we had today trying to bring back that market situation where we have those small and medium enterprises or someone who cannot invest huge as big mobile operators but perhaps there is an opportunity for those people through this last mile complimentary solution. And also what is your opinion on one of the comments that I heard from our friends from PNG about opening up the public funding opportunities like USO to these people who perhaps are interested to provide connectivity to their communities?

>> KONDO MASANORI: Yes, that's a question as a Government and any Government is trying to answer in the past two or three decades in terms of competition and so-called fair competition. So on one hand just so-called laissez-faire, let the market do anything. Naturally if a business doesn't benefit from a certain area, you just don't go. It is up to them.

Then -- so as a government you always consider what is a fair competition, and the purpose of fair condition is, No. 1, try to expand the coverage. And No. 2, reduce the price for consumers. So on one hand the market is not perfect. Of course, there is a failure of market and also Government needs to consider the public welfare. So here comes the USO, Universal Service Fund through which Government can expand and sometimes service through the operators and sometimes just let local Government do -- Governments do those like infrastructure

establishment.

So having those understanding I think let's say a number of businesses or companies, I don't think we will go back to like ten years ago, the situation or challenges or issues for policymakers is how to stimulate the competition based on the current situation. So one way is by how we hear the question -- here is how we can utilize the USO in such a way that those companies can compete in the field of rural area. Here there is no one answer which fits all.

So every single country needs to consider what would be the solution for them.

>> NAVEED HAQ: Okay. Now I will now look to some questions, comments. I have two one. One please.

>> You were talking about -- Juan. About the geographic challenges of rolling out networks. But I just saw that Bhutan is like 100% electrified. And I'm assuming you have challenges of running cables. Of course, your generation sources can be distributed, right? Different lakes providing. I'd just like to know what -- how come if that can work why not -- we can roll out fiber and stuff like that? What are the different challenges?

>> JIGME TENZING: So in terms of rolling out fiber, I mean we are leveraging the power infrastructure as much as possible. I mean wherever we have the high voltage lines we use OPG. And even on distribution level we are using the ADSS fiber lines. I guess some of the challenges that we have with working with the power sector is specifically with regard to the concerns that they have with using fiber on their, you know, power lines, very concerned about interference and concerned about potential, you know, electric shocks, et cetera. So therefore we have to use a non(inaudible) fiber and we have issues with the reliability of those fibers.

Coverage is -- it is essentially 100%. I wouldn't say it is fully 100%. We have some nongrid, you know, places where we have some locally deployed, you know, solar and other alternative power sources. So those are unconnected from the grid and, you know, in those cases we still have to use satellite for connectivity.

>> NAVEED HAQ: Yes.

>> I still have to -- sorry. The same topic. Fiber through power lines. Wherever you have used fiber, I think it is an excellent way of distributing or taking fiber to every -- to the home even by -- they have electric lines and I think it is being tested and tried in many places. So I would, you know -- I am interested to know what has not worked that you are not very positive about it. I mean there are technologies nowadays. One is, of course, the ground conductor is embedded

with the fiber. The other technology it is wrapped around the ground conductor and others. Why has it not worked or you are not happy about it?

>> JIGME TENZING: I guess we are not happy because we don't have fiber to the home. It has worked in a sense that we do have -- backhaul is pretty much solid. But other than that, I think -- I mean, I'm sorry, maybe when I was talking, I gave the sense that we are unhappy with the, you know, code deployment. It is one of the successes. The fact that we are able to actually leverage, you know, the power infrastructure to reduce the cost of deployment of fiber. I mean personally I'm not happy because I don't have fiber to the house.

>> This is something that can be used in backhaul as well as last mile. This is an excellent way of going about it.

>> NAVEED HAQ: I rather there was a time when broadband in power lines and became so much interesting phenomenon. You have a question?

>> Thanks so much, Naveed. My question is related to the issue of infrastructure sharing. I come from Turkistan. For different terrain the climate is also a big issue. Our mountainous villages are half the year covered by snow. You only have a few months to lay your fiber optic. So I think Bhutan has a good experience of working together with the Minister of Energy of using electricity. A lot of investment going to road construction, hundreds of millions of dollars. But we haven't been able to convince the transport ministry why don't you put along the road a duct so that in the future telecom companies could put their fibers. Maybe our Delegate from Bhutan or Delegates can share how do you incentivize other agencies to share their infrastructure. When you administer them they will share, it doesn't always work. There has to be some kind of incentive for the energy and transport ministry to share with the telecom industry.

>> ATSUKO OKUDA: Thank you. It is an excellent question. This is one of the questions that we have been tackling at ESCAP because as you know we have a transport division as well as an energy division. So we believe that this is a perfect entry point for us to promote this idea. In fact, ESCAP has been implementing a project on code deployment with among the ICT road and energy to see where exactly the opportunities are and what are the challenges. And in fact, Turkistan is around the project countries. So at the moment we are conducting a subregional assessment and we are developing a national report so that we can pinpoint how we can facilitate this process of interministerial cooperation and collaboration to make it happen. In fact, we had a similar discussion with your ministry participants that the same concerns were shared. So I believe

that this is a very timely and important topic to extend the fiber optics along the infrastructure.

I just want to share one more thing. We have conducted extensive studies on, No. 1, challenges. We together with the National Information Society Agency of the Republic of Korea actual case study in Myanmar and found that that code deployment could reduce the cost by 53 or 57%, I don't remember because there were many numbers. But it was a significant cost savings if we go along with the road. And in fact, I also touched base on the case of code deployment along the power grid in Bhutan. What is really important for us to know, by the way we prepared a report on the case of Bhutan, using the power grid to code deploy. So anybody interested in this topic please visit our website and read the report. But what is very interesting about Bhutan's case is that the cable, if I'm not mistaken from the report, is owned by the power cooperation of Bhutan and the telecom operator leases from that. It is a very interesting governance and management infrastructure that works very well in the case of Bhutan and that allowed the country to provide the services in a very affordable way. So if you look at and compare the costs of access Bhutan is one of the lowest in the subregion. I hope I didn't misrepresent the excellent initiative and innovation in the case of Bhutan.

>> JIGME TENZING: So like I was saying one of the advantages of being a small country we don't have a lot of complexities to deal with, especially when working with other agencies. And with regard to the code deployment, we -- you are right, except that fiber is actually owned by the government. It is not owned by the power company. We actually realized that there was a lot of redundant infrastructure that was being invested by both the power company as well as the Telcos and so we nationalized it. We actually paid the power company as well as the Telco operators and we -- nationalized the fiber, but it is operated and managed by the power company itself because it actually rides on their infrastructure. And they are very paranoid about who gets access to their infrastructure.

The other thing I think with regard to convincing other agencies is I think dialogue. Ultimately you have to talk to them and the -- the benefits of ICT is when you look at it holistically, across sectors. I think we have to look at it as whole of government initiative, and you have to make the case to Government that it makes much more sense when you do it in that manner. And it is very difficult for the power company to argue against that if you actually have enough dialogue. By the way we haven't actually done code deployment on our roads. It is something that we would also like to maybe explore in the future. Yeah. Thanks.

>> JIGME TENZING: Thank you. Just I would like to add one point with regard to infrastructure sharing. This is -- this has been a long policy issues. And basically if you try to coordinate with the telecom operator and coordinate with the electricity companies and there is a transaction cost. So this transaction cost would be high and those like incumbent people always conservative in that sense. So to some extent they overestimate the transaction cost while -- underestimate the transaction cost, how much coordination cost we need in order to coordinate especially in the maintenance phases.

So it is always and I think will be a policy issue in the future as well especially when we deploy 5G and other new technologies.

>> NAVEED HAQ: Azerbaijan.

>> AZERBAIJAN: Just I want to share Azerbaijan's experience. It is very difficult to find consensus between the relevant stakeholders, Ministry of Transport and ICTs. But as a representative both -- we have such a practice. We adopted a strategic roadmap in Azerbaijan for our economy, development of ICT and transport. And within this program was -- we have a relevant state body which entrusted to implement. They have deadlines and to -- for laying fiber optic carbon within highways and railways. And for information since 2004, yes, we -- our transport infrastructure for 55 billion U.S. dollars. It includes railroad, highways and within this program, within this framework so far we have in total approximately 2,000 kilometers of highway with fiber optic lines and relevant work is under way. Our highway is roads, is approximately 80,000 kilometers. Of course, a lot of work should be done. Even I have some graphs. When it comes to railway, yes, here we started addressing relevant work. So total lens of our railway is 2,000 kilometers, but like 550 kilometers and now a problem of training Azerbaijan like we have a digital hub program. Azerbaijan railways which is not bound by our Ministry of Transport with our telecom, they continue to implement this project of laying fiber optic cables. Each country has its own practice, but within the Azerbaijan case, strategic roadmap which have relevant tasks for each, but mostly it is a -- financed by the state budget. Of course, within the participation of relevant financing organizations like ATP and others. Just for your information.

>> ATSUKO OKUDA: If I can also add to what Azerbaijan was saying, we also mapped out which countries have been implementing this railway as well as road -- as code deployment and because of that we have an Indian representative, Railtel. Just a quick edition. As you know Gram Phone has been successful in Bangladesh. And I don't want to misrepresent the

case of Bangladesh, but they were getting the services from our Railtel because it was code deploying the fiber along the railroad. It is not an issue that's disconnected from community networking. In fact, if this can be applied and replicated and scaled up that could open a lot of opportunities for community networking.

And also if I can also add one more point which was shared by the AIIB representative on Monday, if I am not mistaken he said this code deployment is really attractive for investment because it is cost efficient. So the reason why AIIB decided to come was because we have some initiatives which makes this infrastructure deployment -- development more cost efficient. So I hope that moving forward this is something that member countries would consider whatever is applicable and possible. Thank you.

>> NAVEED HAQ: Do we have any other questions? We have two more. Before that, Osama, quickly, so when the Internet comes to these unserved and rural places, through these last mile connectivity solutions, does it impact the urbanization as well? What's your perspective?

>> OSAMA MANZAR: Yes, it does. Of course, it is a cross-mixing because you access content from the outside. But it certainly also allows you to generate your own content. Unfortunately, you know, urbanization is also seen the same as development. So community network, that way is a very strong tool to take development to the people rather than bring people to the development. And I would say that yes, it is a very plus point for community networks or community oriented, any kind of connectivity infrastructure or link infrastructure to take it to the people because even if you look at it from a climate change perspective migration is one of the big challenges.

>> We were discussing about community networks. And we have seen practical examples of successful community network projects. And we have heard about many projects that could not receive what they were intended for. Is there a flaw in the visibility that is being done before the project is going to be implemented? When you select an area, what kind of feasibility study is done by those who are going to do it? Of course, it is a community driven project, but then again somebody has to fund it. But is there any learning, any best practice from which we can learn and develop a guide on how to achieve through the study before you are going to deploy a community network in a community, in an area? And how can you engage with the end users before actually going there and deploying this stuff? How -- what would kind of demand they have and what kind of area, factors should be taken in to account before going to this?

>> OSAMA MANZAR: I remember when we did the first community network we didn't do any feasibility study or feasibility baseline or whatever. We learned that a feasibility study is the most important part where you deploy it which is from the terrain, from physicality, from the backhaul connectivity to the infrastructure that you need. Many a times hilly regions are considered to be the most difficult terrain, but also sometimes becomes very cheap because the height, natural height gives you a line of sight between the valleys. So there are many such issues that come in between.

Unfortunately most of the time when you -- when we raise funds for community networks or anything, feasibility study, hardly falls in to the whole, you know, plan. And there is then experience beyond feasibility and deployment that you face only, I mean, for example, the video that you were seeing here which was in the salt desert of India, we had started the project there with various connectivity. It was a flat area. But it looks flat, but when you do feasibility it is all -- it is oval. So, you know, when you have long distance and obviously you are not going to get the line of sight. And where there was a backhaul, there was no tower. And then there was only tower that was available with the police station. And the police station said that yes, we are ready to give you but, you know, since as a border area you can't deploy it because how do we -- how do we keep an eye on you.

So we gave them the connectivity free of cost to use themselves and be part of it. So there are many things that come and then suddenly, you know, it got down because many a times when there is a security issue and all that they will say please stop it. But, you know, so the crux of the story one is that, of course, feasibility and the second is that, of course, natural experience while deployment which is again a case that you cannot, you know, preimagine or plan and all that goes in to infrastructure building which is unaccounted and that faces a lot of problems. Besides bureaucratic, of course.

>> I just wanted to say, I think there is a lot of talk about sustainability, but ultimately we are investing in community centers as a means to access public services. So what is the alternative? The other alternative is you actually build physical infrastructure. You deploy public, you know, service in the communities. So what is the comparable investment required? I think we need to look at how -- I mean when you look at community networks, community centers we have to also look at if you didn't have them, how would you provide services to your citizens in these remote areas. I think that's another perspective.

>> NAVEED HAQ: Yes.

>> My name is Gerish. I'm from India from an organization called Genstock. I would like to answer to my friend of Pakistan. Just asked about what are studies we can make before setting up or deploying the network or connectivity. We are trying to work on offline networks. So if we establish a WiFi mechanism under the small community, like around the one kilometer range or connecting a thousand people around, so we are trying to work with school children to set up a radio station only because today, tomorrow the Internet might definitely get connected. We are all the trying to.

So by the time rural India, rural people should not be as consumers. They are to be a -- there has to be like. So to prepare them, to prepare them how to make content, how to record and document their rituals, archive their cultural heritages. So these are the practices what we are trying in Genstock. 70 kilometers far away from Bangalore city. We are trying to understand what the other contents are still left over which are not available in the Internet. Otherwise just giving their -- the connectivity to them might also give an opportunity for them to explore the same thing, what we are -- we are already connected and we are trying to. In the same time we need to talk about the problems with the people who are committed already to the Internet. Problem with the youngsters already connected to the Internet and always on the Smartphones. And they are slightly anything left. We feed to parallelly try to educate them when the Internet comes, how and what are the things that -- at least basic information to them.

So that we will be very precise to know what they want in terms of personal security. Security is a very -- nobody has a personal -- privacy in the Internet is no more like. So in these factors we need to put a light with the rural community where we are connected. So this is what my opinion is. Yeah.

>> ATSUKO OKUDA: I want to add one more on what ESCAP has been doing. We are working with Google to understand the mechanics and impact of public WiFi. I don't want to put the spot on you, but I know that the Google station in India has been very successful. They established a public WiFi station using routers, connectivity. Over 600 stations and what we were interested in is what kind of impact such public WiFi which is free of charge have on people's lives. And some of the findings that we showed in May this year was really truly revealing, that people graduate from Universities. People conduct e-commerce at stations using public WiFi. So it really had life-changing opportunities right at the station. And the other initiative we showcased prior art that Thailand is expanding to remote and rural areas. Both initiatives were found extremely useful when we organize a side event at the margin of ESCAP commission

session. Would you like to add something on India's?

>> In fact, this free WiFi demand was there for a long time but we are a commercial organization, how we bear the cost of Internet bandwidth. The second issue is a security issue, if something goes wrong who will be answerable. The first issue was addressed when we partnered with Google and Google came forward and did local pairing and costing in our locations. So cost of Internet bandwidth came down for us because mostly the content we use was on Facebook or Google platforms. So that helped us to take this decision.

Secondly, the mandate came from the top of head of -- top of the government. You provide the WiFi. We are with you. So once we got that mandate, then we also said okay, it is not my responsibility to take care of the security issue. It is the responsibility of security agencies to take care of that. I have provided you the facility. And if something goes wrong then security is equally answerable more than we.

>> NAVEED HAQ: Very interesting. Okay. So we are on track -- it is 4:30 as my normal watch. Any last thoughts?

>> OSAMA MANZAR: I have two plugs-in. We have developed a course for anybody who would like to take it to national, international, regional, any level, can convert. It is available at lms.df.india.org. It is in English but we would like it to be converted in to many languages. It is audiovisual so that localization is easy. We would like with the support of ISOC and co-organizing partners and APC we do a universal meeting in the Asia-Pacific community networks where we bring many practitioners in India and take them to the field to have learning exchange and, you know, so that is something -- it is called cnx.epac.int -- dot org. So I would -- so this is like we are trying to take it to the field as much as possible. At the moment we run around 40 community networks in India. And then we want to take it to as much as possible. And then still in India as far India is concerned more the 70% people are not connected while 500 million Smartphones have already gone in to the hands of people. So paradoxical situations. A lot of challenges and opportunities both.

>> KONDO MASANORI: I don't have anything to add. I want to appreciate the opportunity to the participants and panelists to sharing their knowledge. This is very informative and I learned a lot. Thank you very much.

>> JIGME TENZING: I would like to take the opportunity to thank ESCAP and ISOC for this wonderfully organized event. Last year, I wanted to end off, although this whole debate about, you know, we have to -- we should not be concerned about what community networks are, you know, access for and entertainment and video essentially being the largest, you know, bandwidth

hogging, I mean use case at the moment. But I think at least personally I believe that we need to look at some productive, you know, use for the network, I mean for the community to upscale themselves and give better access to markets and more needs to be done how we get our communities to use these networks in that direction rather than actually, you know, leveraging these networks to access videos for entertainment, et cetera. Thanks.

>> NAVEED HAQ: So you want to say some last words?

>> ATSUKO OKUDA: Thank you. I just want to add that this was a great, great opportunity. And I want to thank all the participants for their active participation and engagement. And we really count on you because in a meeting cannot be just a presentation or discussion. Our success will be measured by your follow-up action and what happens after the meeting. We look forward to meeting all of you next August. But by that time something -- definitely will happen. And we look forward to working with you to address some of these pain points. And we will find a common solution together. Thank you very much.

(Applause)

>> NAVEED HAQ: Thank you very much to my panelists and thank you very much, participants. And I'd just add to what Atsuko Okuda said. We are going to produce an outcome document that's going to record all of the key discussions that we had. And we will share that through ESCAP. And we are looking forward to invite interested Member States and participants to join our Working Group that will discuss this moving further and your actions. We didn't want to be a discussion on this day but rather see how we can move ahead and step ahead to connect the unconnected. So once again thank you so very much. Happy shopping. Safe travels. And I'll pass it on to Isabel to conclude.

>> Yes. So on behalf of UNESCAP and Internet Society we'd like to thank everyone for participating in today's Summit. Everyone's input made it a very meaningful discussion. We hope to be in touch with everyone. And thank you all and enjoy the rest of your stay in Bangkok. So thank you again. And enjoy the rest of your stay in Bangkok.