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# **Contributions to the ITU** CWG-Internet: Online Open Consultation (February 2021) On

# **“The Role of the Internet and International Internet-related public policy in mitigating the impact of COVID-19 and possible future pandemics”**

# The following is contribution from Digital Empowerment Foundation (DEF), New Delhi, India. DEF organised a panel discussion with the following leading experts in India.

1. **Mr. Anupam Agarwal,** Chairman, India Internet Foundation & Internet Society, Kolkata Chapter;
2. **Ms. Rama Vedashree**, CEO, Data Security Council of India (DSCI);
3. **Mr. Vikram Tiwathia,** Deputy Director General, Cellular Operators Association of India (COAI);
4. **Ms. Amrita Choudhury,** CEO, Cyber Café Association of India (CCAOI) & ISOC Delhi Chapter;
5. **Mr. Rajat Mukarji,** Director General, Broadband India Forum
6. Mr. Amitabh Singhal, Director, Telxess Consulting & Immediate Past Board Director, Public Interest Registry (PIR)
7. **Mr. Rohin Garg,** Policy Counsel - Regulation & Social Welfare, Internet Freedom Foundation, New Delhi, India.
8. **Mr. Osama Manzar,** Founder & Director, Digital Empowerment Foundation, New Delhi, India
9. **Dr. Syed Sultan Kazi,** Advisor, Digital Empowerment Foundation (DEF) & Director, Council for Social and Digital Development (CSDD).

## **TOPICS FOR CONTRIBUTION**

## **The DEF Stakeholders discussion was being held focusing on the following questions:**

## How access and connectivity issues have restricted responses and recovery efforts during Covid-19 to reach out and deliver to millions at the bottom of the pyramid?

## How and whether new internet applications in Internet of Things (IoT) and other platforms can be accelerated to overcome impact of Covid-19 in appropriate Response, Recovery and Resilience (RRR)?

## Dealing with issues and implications of Internet Shutdowns, outages and black outs during pandemic emergencies?

## Use and misuse of Internet as against internet appropriate social and behavioural issues as emerged during Covid-19, lock down and social and physical movement restrictions?

## Whether internet has evolved as critical public need during Covid and beyond and requires public interest oversight in policy frameworks and programmes?

## Is measuring the critical impact of Internet performance during Covid a necessity as an international collaborative effort?

## Covid and issues around digital and internet dependencies, overwhelming traffic, challenges and issues for internet exchanges and gateways, international protocols, national interests?

**SUMMARY**

Due to Covid-19, the traffic of internet exchanges have increased manifold. But in actuality, the average internet and download speed has gone down by at least 12 percent. The average delay between packets when data is going from one server to other has gone up three to four times, similarly the packet loss increased by two to three times. There has been centralization of overall DNS traffic and most of this is happening through one source such as Google which makes it tough for future in Indian context. The good news for internet is that it is working well but the bad news still is the access, adoption and affordability. Access is really bad just 100 kilometers out of metropolitan cities. The internet is basically for cities. Most of services are online and have digital payment but it is not possible in rural areas with the current speed.

Access to real computing is a challenge. With Covid-19, access and affordability emerged as key challenge as beyond messaging, or little browsing many were devoid of the power of internet for learning. The biggest challenge post pandemic is the fear of pandemic exploited by the cyber criminals in terms of fraud, inauthentic information regarding the oxygen cylinders, vaccination, etc. Problems of personal data being not safe has increased tremendously. In the pandemic one of the major challenges when shutdowns or lockdown were announced was since the networks are inherently designed according to consumption, mostly for central business district, this did not really cater to the kind of traffic that moved to residential from central business district. Spectrum management has emerged as an issue. When the consumption increased, there was need for more spectrum and spectrum was lying idle yet the government could not provide the resources. For the last mile challenge, role of Municipal Corporations and Urban Local Bodies (ULBs) is important. Other sector like health and education should ask for spectrum as well since it is for their benefit as well to reach out to service seekers and takers.

The new users have been pushed to internet are not aware of internet appropriate social behavior. One of the issues that has seen increased in rise is misinformation that maybe related to Covid. The misinformation that led to exodus of migrants. There has been hate speech against minority and children are being attacked in cybercrime. There has been rise in surveillance where rights of people are under threat even though social good is involved in it. There are internet shutdowns even though internet is lifeline. There is an increase in gender digital divide especially in education. There is lot of gender related harassment online which is making women apprehensive of using the internet. One of the important things is how to build capacity of the people so that can navigate the internet. For example, senior citizens have no knowledge of how to use Covid-19 service platforms online like COWIN in India. The challenges that have emerged out is one of not getting access to use internet resources and other is not finding compatible devices. Documenting these areas are so critical to prepare for now and future.

There has been increase in traffic and this has been demanding for network providers. The challenge in country like India has been how to handle the increasing internet. There is strong need to set up internet exchange points outside main cities. These are critical because they make the traffic move efficient. Similarly the data centers are also around the main cities. There should be better distribution of data center needed which will create win win situation for everyone.

One part of access people don’t seem to realize is shutdowns. India is by far one of the countries with the most shutdowns, even the national capital had shutdown. There are various reasons cited for this. It has impacted economy, education and health. One of the simplest measure is to just send a text that will inform people that internet will be shut from this time to that. A simple measure like can go long way. The people just need transparency and accountability with due processes being followed in these things. Nobody is asking for government to not have shutdown powers.

Regionalising Internet Service Providers (ISPs) are the way forward to go. One of the important things is interoperability of IoTs devices if one wants to use IoTs for post pandemic recovery. In the post pandemic world there is a possibility to use AI for people’s benefits. Here, one suggestion is to work on standardization of IoTs. A global standard will work out for anyone. If countries are looking for large scale AI deployment then AI explainability is where one need to focus. Technical standard is one of the main things along with IoT interoperability standards which will minimize the divide that has been created.

Pandemic forced people too indoors while much of the network is designed for mobility, to be outdoor. The in-building coverage has been a challenge for telecoms for a long time. The problem is even there is fiber in every room, the coverage is not there. Same thing can be applied to school or hospitals. This cannot be solved unless all state regulators allow this. It is not different from getting water or electricity. It is an essential service.

The learning of pandemic is that digital connectivity is an essential service and a fundamental right. In the near future the important part for India is to facilitate fixed wireless access. And there is need to have ‘fiber in the air’ and not digging up the central business districts. So there needs efficient policy and regulatory requirements to facilitate this. 5G has the ability to enhance India’s use of its resources which often goes to waste because of a faulty system. A country like India will be heavily dependent on wireless networks unless the country is ready to heavily invest in optical fiber.

The most important thing to remember about localizing the data is that everything is moving to the cloud. In the post pandemic world, cloud will be the way to deliver the services. There is no need to link data residency with governance and best practices of data privacy. What is needed is data regulation laws and capability building at the level of organization that are managing these assets. Gender digital divide is increasing and it is more apparent in case of women with disabilities during Covid. Gender disinformation is growing. This creates a trust deficit for women and they do not feel safe online and hesitate before posting something personal.

Data is foundational to our interaction on the internet. In last couple of years, data has been developed and controlled by few large corporations in the world. There has to be oversight and this does not imply regulations only. It is about how public and citizens data is not being misused or in any way being used against their interests. There has to be public oversight on them. Digital service providers need to be involved. It has to be self-regulation. Public data has to be kept private and safe.

Covid withstanding or not, internet governance issues both are national and international level are common, priority may differ. The issue is to keep internet open and free. Internet shutdown is an issue. The biggest issue is multi-lingual internet. Globally 30 to 40 percent people cannot access internet because of language. There are issues on Child Sexual Abuse Material. India’s cyber security framework has not worked well when it was needed. It is need to be looked at in terms of regulation and investment that these breaches are dealt in time. Ensuring compliance is an issue. More and more Indians in urban sector looking at privacy as a desired thing. This should be for everyone.

1. **Access and connectivity issues red flagged during Covid-19 to reach out and deliver especially at the bottom of the pyramid (both rural and urban landscapes)?**

* The traffic of internet exchanges have increased manifold up to increase of 100 percent. It feels from the top that internet has done really well in these times. But in actuality, the average internet and download speed has gone down by at least 12 percent. This might not impact the normal user who is used to 100 mbps speed but the impact on someone who gets to use 1 mbps speed normally.
* The average delay between packets when data is going from one server to other has gone up three to four times, similarly the packet loss increased by two to three times.
* Internet has done well but there are areas to look further into for major players. The traffic mostly has increased in video conferencing and in social media.
* There has been centralization of overall DNS traffic and most of this is happening through one source such as Google which makes it tough for future in Indian context. The untapped potential of DNS traffic by increasing the speed to say 100 mbps can serve better traffic need. Country DNS traffic before centralized in the country is diverted to cities like Luxemburg which shows the value of international collaboration.
* The good news for internet is that it is working well but the bad news still is the access, adoption and affordability. Access is really bad just 100 kilometers out of metropolitan cities in global South. The internet is basically for cities. Students who are forced to do online classes are not even getting 1 mbps of speed. Most of services are online and have digital payment but it is not possible in rural areas with the current speed.
* The challenges of access are still high even though network is working well and it has created a larger divide because things have fast forwarded 3-4 years. It is the right time to take up the challenges faced with internet and try to solve them.

1. **Pandemics related data, authenticity, storage, security, transfer, breach and trust (data governance related issues to deal with Covid and pandemics)?**

* Access to real computing is a challenge. With Covid-19, access and affordability emerged as key challenge as beyond messaging, or little browsing many were devoid of the power of internet for learning.
* The biggest challenge post pandemic is the fear of pandemic exploited by the cyber criminals in terms of fraud, inauthentic information regarding the oxygen cylinders, vaccination, etc. Problems of personal data being not safe has increased tremendously.

1. **Mobile internet challenges, last mile, content and services access and delivery during pandemics?**

* In the pandemic one thing that held together is the internet. One of the major challenges when shutdowns or lockdown were announced, since the networks are inherently designed according to consumption, designed mostly for central business district, this did not really cater to the kind of traffic that moved to residential from central business district. When the migrant population and workers moved, the network demand also moved. The companies tried to reorient the networks without field presence.
* The learnings of this pandemic should be well documented to prepare for the crisis in future. The good is India is number one data consuming nation at 30 GB per person. The flip side is it is mostly in mobile broadband connection which is in hands of half the population of the total number of internet users in reality.
* Country like India has just one dominant network unlike other countries which have multiple networks. Most of the data was being used in HD. Video platforms like Netflix were urged to bring it down to SD time to time which took off a lot of pressure from networks.
* Spectrum management has emerged as an issue. When the consumption increased, there was need for more spectrum and spectrum was lying idle yet the government could not provide the resources. Spectrum management is important for developing and underdeveloped countries specifically.
* For the last mile challenge, role of Municipal Corporations and Urban Local Bodies (ULBs) is important. The transport and the use of fiber from microwave is needed. Throughout the pandemic no municipal corporations in India got ready to facilitate the installation of towers etc. These are collective learning and should be used for next scenario. Other sector like health and education require spectrums and they should ask for spectrum as well since it is for their benefit as well to reach out to service seekers and takers.

1. **Use and misuse of Internet as against internet appropriate social and behavioral issues during Covid-19?**

* Use of internet has increased, people have been pushed to use it. The new users have been pushed to internet are not aware of internet appropriate social behavior. One of the issues that has seen increased in rise is misinformation that maybe related to Covid. The misinformation that led to exodus of migrants. There was UN special repertoire on minority to address hate speech against minority. Children are being more attacked in cybercrime.
* There has been rise in surveillance where rights of people are under threat even though social good is involved in it. There are internet shutdowns even though internet is lifeline. There is an increase in gender digital divide especially in education. There is lot of gender related harassment online which is making women apprehensive of using the internet.
* One of the important things is how to build capacity of the people so that can navigate the internet. For example, senior citizens have no knowledge of how to use Covid-19 service platforms online like COWIN in India. Documenting these areas are so critical to prepare for now and future.

1. **Access and connectivity issues red flagged during Covid-19 to reach out and deliver especially at the bottom of the pyramid (both rural and urban landscapes)?**

* In a diverse country like India, there is need for many options to get access and connectivity. A country like India may be having 800 million mobile or broadband connections but out of those unique broadband or mobile connections must be in the range of reaching out to 500 million and that in a country of population of 1.3 billion is still not desirable.
* The challenges that have emerged out is one of not getting access to use internet resources and other is not finding compatible devices. While students want education offline mode but do not have devices. These are kind of challenges thrown open in front of students and younger ones. In 2018 only 4 percent of the household in India had a computer at home in rural areas, while only 14 percent urban household had a computer. A country like India is nowhere to close the connectivity in rural areas. Further, only 13 percent of the people above the age of five know how to use the internet while it is 37 percent in the urban region. These numbers do not paint a good picture. Urgent measures are required to deal with access inequality.

1. **Pandemic, internet traffic, strengthening internet backbone, gateways, exchanges?**

* There has been increase in traffic and this has been demanding for network providers. The challenge in country like India has been how to handle the increasing internet. Though, it can be said, this has been handled without much challenge. The traffic for OTT grew more than 1000 percent in pandemic year. The country has been biggest user of internet even before the pandemic with about 11 GB per person which is now about 30 GB. There are about 6000 cellphone towers. There is hundreds of thousands of miles of fiber including last mile. But there is still a long way to go.
* India has also this ‘Bharatnet’ programme which claims that they have connected about 160000 villages. There are different service provides and tier three service providers are basically the last mile providers. There is strong need to set up internet exchange points outside main cities. These are critical because they make the traffic move efficient so that is important to look at this. Similarly the data centers are also around the main cities. There is better distribution of data center needed which will create win win situation for everyone. Also the internet speeds have to really improve in the country.

1. **Dealing with issues and implications of Internet Shutdowns, outages and black outs during pandemic emergencies?**

* One part of access people don’t seem to realize is shutdowns. India is by far one of the countries with the most shutdowns, even the national capital had shutdown. Between the years 2012 to 2021, the country has witnessed shutdown of internet 535 times. There are various reasons cited for this like stopping students from cheating to more sensitive situation such as to prevent terrorists’ activities. And sometimes it is seen as means to stop political opponents and people at protests. It has impacted economy, education and health.
* There has been economic impact worth of 2.8 billion dollars in India because of shutdown. Due to shutdowns key services have been disconnected without thinking of implications. Most of these shutdowns are based on Indian Telegraph Act 1885 and that is a concerning factor that a colonial law is governing the telecom law.
* One of the simplest measure is to just send a text that will inform people that internet will be shut from this time to that. A simple measure like can go long way. The crux is that government can have basic procedure to help. The people just need transparency and accountability with due processes being followed in these things. Nobody is asking for government to not have shutdown powers.

1. **Areas to deal with pandemic divides accelerated by internet divides? Augmenting Internet based innovations in IoT, AI and other platforms for pandemic response, recovery and resilience?**

* Post pandemic world be divided into the two communities that is covidians and non covidians. People who got Covid once and who did not. The graduate who passed last year in colleges are already being discriminated against in interviews since they sat out a whole year. The fallout of this pandemic is going to affect people in many ways.
* Regionalising Internet Service Providers (ISPs) are the way forward to go. One of the important things is interoperability of IoTs devices if one wants to use IoTs for post pandemic recovery. In the post pandemic world there is a possibility to use AI for people’s benefits.
* What one will see is AI being used for public distribution system and healthcare but the key question that will remain is the explainability of AI decision. Here, one suggestion is to work on standardization of IoTs. A global standard will work out for anyone. That was the precise reason behind the success of internet as it was used in similar manner across the world.
* If countries are looking for large scale AI deployment then AI explainability is where one need to focus. Technical standard is one of the main things along with IoT interoperability standards which will minimize the divide that has been created.

1. **Mobile internet infrastructure, policy and regulatory acceleration required to prepare and deliver in pandemics?**

* Pandemic forced people too indoors while much of the network is designed for mobility, to be outdoor. The in-building coverage has been a challenge for telecoms for a long time. There is opposition from Resident Welfare Associations (RWAs). The problem is even there is fiber in every room, the coverage is not there. Same thing can be applied to school or hospitals. This cannot be solved unless all state regulators allow this. It is not different from getting water or electricity. It is an essential service.
* The learning of pandemic is that digital connectivity is an essential service and a fundamental right. In the near future the important part for India is to facilitate fixed wireless access. And there is need to have ‘fiber in the air’ not digging up the central business districts. So there is policy and regulatory requirements to facilitate this. 5G has the ability to enhance India’s use of its resources which often goes to waste because of a faulty system. A country like India will be heavily dependent on wireless networks unless the country is ready to heavily invest in optical fiber.

1. **Localising, and localisation of data structure, governance to deal with pandemics locally?**

* The most important thing to remember about localizing the data is that everything is moving to the cloud. In the post pandemic world, cloud will be the way to deliver the services.
* There is no need to link data residency with governance and best practices of data privacy. There is a thought that localization will help in data security but it will not.
* What is needed is data regulation laws and capability building at the level of organization that are managing these assets.

1. **Gender aspect of internet in a pandemic and issues to deal with at policy and implementation levels?**

* Gender digital divide is increasing and it is more apparent in case of women with disabilities during Covid. Gender disinformation is growing with increasing trolls women are facing including women politicians face. It is sexists and personal in nature. The hate speech against women is growing. This creates a trust deficit for women and they do not feel safe online and hesitate before posting something personal.
* When policies are made, the gender should not be lip service. It should be rather in built when policies are being discussed. There is a need for gendered toolkit or checklist for policies.
* There is other talk of encryption being broken. While there are legitimate concerns from authorities, encryption gives a sense of safety.
* It is important to make internet safe space and also giving capabilities to women on how to safeguard their interests on internet. Having gender in consideration while making policies is important.

1. **Measuring the critical impact of Internet performance during Covid a necessity as an international collaborative effort?**

* Data is foundational to our interaction on the internet. In last couple of years, data has been developed and controlled by few large corporations in the world. It is unimaginable of the size of the data that is being accumulated. It is happening without any public interest oversight.
* There has to be oversight and this does not imply regulations only. It is about how public and citizens data is not being misused or in any way being used against their interests. There has to be systematic approach to this.
* Internet governance is the need for the public. Many even do not even know what cloud is. One has to realize that how different today’s environment is from earlier telecom regulatory environment. Telecom was one to one connection but digital is all over place. The Googles and Microsofts of the world control all data and have no public oversight on them. Digital service providers need to be involved. It has to be self-regulation. Public data has to be kept private and safe.

1. **Key Internet governance issues at national and international levels critical to address now in Covid circumstances?**

* Covid withstanding or not, internet governance issues both are national and international level are common, priority may differ. The first issue is to keep internet open and free. This is always in danger so it is important.
* Second is strengthening the multi-stakeholder system. Making it transparent and inclusive is topic of discussion at international level.
* The third thing especially in Indian context is that it has to be inclusive. It is not inclusive in India. Gender access is an open issue. There are cultural and gender barriers that has to be tackled on social level.
* Finally, internet shutdown is an issue. It is bigger issue with India since the country has the highest shutdown. The issue of freedom of expression and misinformation, which has to be discussed at policy level.
* Cyber security is another internet governance issue. For India it is about quality of service as well.
* The biggest issue is multi-lingual internet. Globally 30 to 40 percent people cannot access internet because of language.

1. **Key issues on Cybercrimes, frauds, gender and children cyber violence in pandemics?**

* The first issues Child Sexual Abuse Material. When a government decides to put a pop up when someone accesses this but this inherently is tracking of user. What would have been better to deal with the issue at the root.
* On the issue of cyber security this is bit of bad time for India as data being used for big basket to Air India is leaking and everyone is being affected. The IBM said that average cost of data breach to an organization is about 14 crore rupees. The average time to detect breach went from 21 minutes to 30 minutes.
* India’s cyber security framework has not worked well when it was needed. It is need to be looked at in terms of regulation and investment that these breaches are dealt in time. Ensuring compliance is an issue. More and more Indians in urban sector looking at privacy as a desired thing. This should be for everyone. That has to be focused on with emergency.