National Consultation

On

"EMPOWERING COMMUNITIES THROUGH OPEN MEDIA ACCESS"

1 December, 2012

New Delhi

About the National Consultation Workshop

The national consultative workshop was a first kind effort to bring all stakeholders, stakeholders to deliberate, discuss, share, experience and emerge with a concrete set of recommendations as how unlicensed spectrum in India can be used to serving the last mile connectivity. The consultation saw stakeholders from the government departments, agencies, industry, civil society, academia, network implementers, policy advocators, wireless practitioners, and others to air views, opinions, inputs, concerns and suggestions on a wide area of topics. One unique approach was to present and share good practices and challenges in wireless network deployment and operations in India and other developing countries.

Workshop Objectives

Key objectives of the national consultation workshop identified were:

- Arrive at better understanding of unlicensed band, free spectrum and its importance to serve last mile connectivity
- To share good practices and challenges faced during the wireless network deployment and operations in India and other developing countries
- Deliberate on the need availability & challenges of appropriate wireless technologies to bridge access and connectivity divides
- To bring implications related to wireless, mobile & broadband technologies which help transcend traditional infrastructural bottlenecks in rural areas of India
- To emerge with working framework with necessary inputs, suggestions, comments, recommendations on ways to connect the government and business services that can reach the masses through the wireless and mobile networks in local languages and in oral medium

Workshop Broad Areas

In light of the above, the consultation discussed the following broad areas:

1. Discuss the importance of free spectrum for public good and advocacy towards utilizing it for social development
2. To understand the scope and opportunities of unlicensed spectrum in India and other developing countries
3. The magnitude and extent of unlicensed wireless band/free spectrum can be used to connect isolated areas and communities of the country.
4. Explore and understand the rights and ethics challenges and issues around unlicensed spectrum

Workshop Themes

The consultative workshop deliberated on the following themes:
1. Access, rights & ethics
2. Economic and social advancement of using wireless network

3. Developing uniform policy framework for unlicensed spectrum

Outcome

The national consultation workshop looked at the following key outcomes

1. Consolidate factors and inputs to uniform policy framework for unlicensed wireless spectrum;
2. Consolidate solutions towards issues related to media, access and rights, ownership of unlicensed spectrum, ownership of accessibility and exploring opportunities in terms of accessibility;
3. Building a roadmap towards a working framework on adopting cost-effective technologies to propagate the wireless network networks far and wide across the country for ensuring equality of access, digital equity and media access.
4. Consolidating scope of policy areas and suggest workable action steps;

Consultation Proceedings

The consultation was formed in discussion-oriented format sharing good practices, case studies and challenges in wireless network deployment and operations in India and other developing countries. The focus of the consultation is empower communities through open media access. The consultation also focused on understanding the importance of unlicensed band (free spectrum) to serve the last mile connectivity. The consultation was chaired by Executive Director of the Association for Progressive Communications (APC) and moderated by Subho Ray, President of Internet and Mobile Association of India (IAMAI). The consultation also focused on understanding the importance of unlicensed band (free spectrum) to serve the last mile connectivity.

Speakers

Guest of Honor & Chairperson

Ms. Anriette Esterhuysen, Executive Director, Association for Progressive Communications (APC), South Africa

Moderator

Mr. Subho Ray, President, Internet and Mobile Association of India (IAMAI)

Power Panel Speakers

1. Mr. Anoop Singh, Special Secretary, IT & Communication, Govt. of Andhra Pradesh
2. Dr. Ravina Aggarwal, Program Officer for Media Rights and Access, Ford Foundation
3. Mr. Rajnesh Singh, Regional Bureau Director for Asia, ISOC
4. Mr. Amitabh Singhal, Former CEO, NIXI
5. Mr. Mahabir Pun, Founder, Nepal Wireless
6. Mr. Michael Ginguld, Chief Executive Officer, AirJaldi
7. Mr. Mahesh Venkateswaran, CEO, KGVK Social Enterprises Limited

The Proceedings

The Consultation delegates and guests were welcomed by Mr. Subho Ray, President of Internet and Mobile Association of India (IAMAI). He outlined the reason and background to initiate the session dialogue through the consultation – scope and opportunities of unutilized spectrum to provide internet connectivity in rural areas. Sharing his ground experience, he quested to demonstrate the need for and importance of unlicensed spectrum as a medium for inexpensive connectivity in rural/remote areas and source of innovation by serving as a barrier-free and cost-effective platform for testing and implementing of new technologies.

Keynote address by Ms. Anriette Esterhuysen, Executive Director of APC

Executive Director of APC, Anriette Esterhuysen initiated the national consultation Summit asking key panelists to share their views on how the free spectrum (unlicensed spectrum) can be understood and utilized for benefitting the society. Raising the issue of approaching spectrum in two perspectives – policy and regulatory, she requested panelists to shed some light on how to approach spectrum, not only in terms of policy and regulatory issues, but also in terms of implementation and application.

Amitabh Singhal, Former CEO, NIXI

Mr. Amitabh Singhal initiated the discussion by sharing his industry experience, being a President at Internet Service Providers Association of India (ISPAI) enforced the government to follow global standards and exempt few frequencies from licensing process. In 2006, the Government of India exempted frequency 2.4 GHz band license-free. Referring to the draft of the National Telecom Policy-2011, he highlighted the government is trying to connect all the villages and households in the country through its various projects such as the National Optic Fibre Network (NOFN), which aims to provide broadband connectivity to Panchayats (village councils) and State Wide Area Network (SWAN), envisaged to create such a connectivity in each State / UT. He pointed out however; last mile connectivity is the real challenge in India because of geographical challenges, tropical challenges and accessibility issues in terms of physical infrastructure. Here free spectrum plays important role to resolve these challenges. According to ISPAI, most of internet service providers (ISPs) are using 2.4 GHz which is these days widely used spectrum to provide last mile connectivity. The government is also gearing up to launch range of new technologies such as WiMAX. Private companies are also coming up with new solutions and technologies to reach remotest regions of the country. Giving wider perspective, Mr. Singhal pointed that India is currently at various stages of using licensed & unlicensed band to create last mile connectivity and to reach end user.

Mr. Anoop Singh, Special Secretary - IT & Communication, Govt. of Andhra Pradesh

Mr. Anoop Singh initiated the discussion stating that revolution in the telecom industry is happening since 2001 with small revolutions happening in the country. Referring to Mr. Singhal's point, he stated that NOFN is one of the dreams that has come true in terms of connecting remotest regions of the country, however, the project has two challenges – firstly is the last mile connectivity,

secondly is rendering of content on the free spectrum. Though, number of enormous and brilliant efforts is being undertaken by enterprises throughout the country, even in the remotest regions of the country, however, overall impact is yet not visible. At last, he concluded his points in a hope that soon the country will be able to witness the impact and revolutions that will boost the economic and social growth by leaps and bounds.

Dr. Ravina Aggarwal, Program Officer - Media Rights and Access, Ford Foundation

Dr. Ravina initiated her views by cautioning on using the word, 'revolution' as the word itself has innumerable optimism associated to it, however, there are two major issues related to the word in the context of mobile services. In accordance with the fact that the mobile services have enormous potential in India, she mentioned however, these services also face challenge of enormous inequity. According to Ms. Ravina though availability of content is important to deliver services, however, she recommended not to take service delivery provision models for granted. She also urged that there is need to invest in equitable solutions. According to Ms. Ravina more than 80 percent population does not have access to internet or means to access information. In the nutshell, she mentioned that though there is constant movement towards better technologies but the promise of scaling of the services has not been delivered yet in rural regions.

Raising the issue of accessing information, she also recommended that there is need of committed players such as non-profit organizations, small enterprises and individual players in the market to provide equitable solutions to rural citizens and those who are yet deprived of accessing information as big telcos might not be interested to cover in their big business models. In her conclusion, she recommended to have good partnerships between government and private stakeholders, small enterprises and big telcos and NGOs (non-profit organizations) and independent businesses which will help in serving end users. Thus, at last she welcomed opportunities for new ideas, policy advocators who would encourage small and medium enterprises to work altogether for the benefit society.

Mr. Michael Ginguld, Chief Executive Officer - AirJaldi

Mr. Michael initiated the discussion explaining 2.4 GHz and 5.8 GHz bandwidth are available as free (unlicensed) spectrum. Explaining about the science behind unlicensed spectrum, Mr. Ginguld further stated that radio waves or the spectrum is limited resource according to physics. Further explaining about spectrum utilization, he stated if all available bandwidth will be utilized, it will not solve the problem of delivering content. Thus, the problem could only be solved by using available spectrum efficiently.

Bestowing on the success of the Wi-Fi technology in the 5.8GHz, Mr. Ginguld added that success was partly due to cheap cost of equipment and partly due absence of license fee. Even if, lowering down the license fee for 700 or 900 MHz, there is no equipment which is even close to the price range of 2.4GHz or 5.8 GHz range. At last, he concluded his points urging to use available spectrum effectively and efficiently.

Mr. Mahesh Venkateswaran, CEO - KGVK Social Enterprises Limited

Giving the background of the organization, Mr. Mahesh initiated the discussion that he has been working in Jharkhand from the last four years along with AirJaldi and struggling to expand the network in rural regions of the state. Being from the demand side, he further urged that there is need to use available spectrum wisely and effectively. Questioning on government's agenda thought-process for making digital-inclusive society through mobile phones or internet, he explained that stakeholders should not start their services from ultra-rural areas but they should start their services from semi-urban region because these regions are connected, however, the quality of connectivity is not up to the mark. These are the places with fluctuating connectivity and where existing operators could do a good job. In order to strengthen connectivity in these areas, there is a need to adopt cluster-based approach and the benefits could then be spread out to the grass root level.

Giving example of his organization, Mr. Mahesh stated that cost-factor that plays crucial role in spectrum India. He concluded his points that there is need to generate strong demand in terms of employability, educational and healthcare services within communities and later on there is possibility of creating rural broadband subsidies specifically designed for villagers. In result, it will help in spectrum utilization in a structured manner as well as further allocation of spectrum.

Mr. Mahabir Pun, Founder, Nepal Wireless

In the context of unlicensed spectrum utilization in Nepal, Mr. Mahabir stated that his organization, Nepal Wireless is working in the remote villages of Himalayas and trying them to connect with internet. Referring to the fact that over 80% population in Nepal is living in villages and they cannot afford internet, he commented no matter if telecom operators are introducing 3G or 4G technology in the country, if it will be highly priced, most of people cannot afford such technologies. Thus, open (free) spectrum is utmost important to provide connectivity in Nepal. He agreed that telecom companies are certainly unable to provide their services for free as they have to pay huge licensing fees, thus, there is requisite to understand the importance of open (free) spectrum. Like India, the Government of Nepal is also making its efforts to connect 75 district headquarters of the country with optic fibre network; he questioned what about the last mile connectivity in the country. According to Mr. Pun, connecting district headquarters or centres is not enough for last mile connectivity, there is not only need to connect to each and every villages but also make connectivity affordable to them. Giving an example of Nepal, he stated the government of Nepal has encouraged rural ISP to pay licensing fee of INR 100 in year. Further discussing about regulations, Mr. Pun recommended that regulations related to open spectrum is not important in developing countries like India or Nepal, but it is also important to motivate and encourage rural small enterprises to become ISP provider within their region through which rural ISPs can also earn some additional income. Thus it is not only about opening up of spectrum but also creating resolutions for the better utilization of the spectrum.

Mr. Rajnesh Singh, Regional Bureau Director for Asia - ISOC
In the context of open spectrum, Mr. Rajnesh initiated the discussion with the utilization of white space in other countries. Giving examples of developed countries such as USA and Singapore where government has started approaching to use analog TV spectrum for their purpose, he proposed that there is need of utilization such spectrums in India as well. In a question of what kind of spectrums can be utilized, Mr. Singh stated there are number of organizations who have not really utilized that bandwidth allotted to them and in fact can be used. The underlying point, however is that how many of these frequencies are feasible and can be used at an affordable price. He further added though telcos buys spectrum in exorbitant rate, however, end of the day, cost needs to be paid by end users.

In a context to affordable resources available in the market, Mr. Rajnesh stated there are chipsets are available that can be used to effectively used the bandwidth of 700 or 900 MHz, while the 2.4 GHz chips can now fitted to almost any device. Thus, research and development (R&D) in this field has an important role to play so that mass production of chipsets for other frequencies can be done and at a very cheap price. He also prophesized the need of a balance in the government polices.

In the backdrop of cost-effective spectrum utilization, Mr. Rajnesh recommended to provide some kind of network access to the ones who certainly cannot afford the service of paid spectrum.

Recommendations

1. As the demand for bandwidth and connectivity is bound to grow in future. In a question of optimal utilization of available open spectrum, there is need of continuous experiment with the existing spectrum and looking for robust bandwidth solutions to provide the last mile connectivity.
2. In terms of the using new technologies, Wi-Fi is one of the most usable technologies as it doesn't have issue of the connectivity and stability.
3. In an effort to provide equitable access and increase internet penetration, there is need to explore all kind of spectrums, including open, white space and the existing spectrum.
4. One recommendation is to provide quality content in a channelized manner and develop sustainable business models to sustain small ISPs in India.
5. Regulations like using premium bandwidths on shared basis for both paid as well as non-paid spectrum can be initiated in India to solve the issues related to substandard quality of ISP service. Though there are issues like security, interference and even non-working of the business model, however, there is need to rework on sharing model of spectrum.
6. In an effort to provide last mile connectivity and come up with sharing spectrum model, there is need to open up free spectrum, so that end users living villages of the country can also be connected.
7. Another major recommendation is to develop sustainable social enterprises and to generate strong demand at the lowest price that could work for the poor. There is also need to understand the price-factor which has to be reduces before it reaches at grassroots level.

8. It must be mandatory to understand whether rural communities are able to harness the benefits of the existing bandwidth.
9. The necessity of more spectrums is required these days because if many people are using the same bandwidth which causes a problem, congestion. In result, it would lead to more severe problem of the congestion such as loss of speed, security, breaches, etc.
10. In terms of bringing digital literacy in real terms and to improve lives of the marginalized communities, it is important to use open spectrum and also provide devices which can harness the open spectrum. The rural population needs to be taught how to use computer, but not through text books but using computers in real life.
11. The word 'empowerment' should be clearly defined. It clearly describes how citizens can receive all kind of services using technology. Wireless communications and computers are means of empowerment and there is need to devise policy and methodology that will lead to actual empowerment. For the same, there is need to take immediate steps in redeveloping and redefining processes government policies and services.
12. The word, 'communities' also needs to be clearly identified and defined. For communities like NGOs, Panchayats and clusters; there is need to develop specific models which should be simple and realistic solution for such communities. Like DEF & PIR (Public Interest Registry) has addressed the needs of NGO communities and enabled them to use web and internet for community development. In a similar way, DEF & AirJaldi are working together to provide access to the internet to these NGOs. These kind of solutions need to be developed after identifying specific communities.
13. In terms of accessibility to the last mile users, there is a need to develop proper business opportunities. On the supply side of the spectrum, call needs to be taken for lowering down the spectrum. Presently in India, the cost of internet access is still highly-priced, thus there is need to work on ways which is logic.
14. Referring to the issue of physical infrastructure, government and BSNL have immense physical infrastructure in place which needs to be utilized in channelized manner.
15. In terms of new policies, policy makers and government needs to come forward and provide any kind of subsidy to internet users rather than internet service provider.
16. Being most of rural broadband is state controlled mostly (through BSNL) and this needs to change by opening up infrastructure for shared usage and subsidy depending on location of installation. On understanding the requirements of rural broadband networks, there is need to analyze ways and models which can fill in gap with provision some level of subsidy or tax exemption for ISPs.
17. Assessing the potential of open spectrum or rural broadband networks, first steps of bringing out sustainable models in semi-urban cities and towns, so that rural communities can also get inspired and look upon these models. In result, it will create an ecosystem and help rural regions to be connected with the mainstream.