

### **5.1 What should be done to increase broadband demand?**

**(Reference Para 2.23)**

- (a) As was done in Korea, mandate certain activities of public utility like vehicle licenses, passports, electricity/water bills, traffic\c challans, building plan approvals, registration under Shop Act, Sales Tax, etc. etc. COMPULSORILY on NET.**
- (b) Enforce multi lingual User Interface (UI) and content positioning on all e-governance applications web sites.**
- (c) Initiate rapid outsourcing of Civic applications with governments only taking the ownership of relevance of essential data conforming to the policies.**
- (d) Encourage free Internet Learning Programme in vernacular through Public Internet Kiosks/CSCs. This must be organized by the Min of IT even now wherever Broadband access is available.**
- (e) Encourage tele health care services of diagnostics, consultation and prescriptions.**
- (f) Encourage shared PC concept-cybercafés/CSCs.**

### **5.2 What, according to you, will improve the perceived utility of broadband among the masses? (Reference Para 2.23)**

- (a) Applications that can help in selling produce of crop, vegetables, milk etc directly to the whole sellers/retailers without the agents.**
- (b) All stakeholders popularize access to eGovernance/RTI to empower masses and encourage them to log in their complaints against money extortion by corrupt officials.**

### **5.3 What measures should be taken to enhance the availability of useful applications for broadband? (Reference Para 2.23)**

- (a) Rapidly outsource all the applications under e-governance encourage online election voting, Triage-prescriptions with legal mandate/protection.**
- (b) No state control except to enunciate policy just like most embassies have outsourced visas except at the last and final stage.**
- (c) Incentive to eCommerce/ eGovernance/ eMedicine/eEducation aggregators/providers.**

### **5.4 How can broadband be made more consumer friendly especially to those having limited knowledge of English and computer?**

**(Reference Para 2.23)**

- (a) “Assistance Mode”-Encourage Public Internet Kiosks owners/managers/NGOs to assist masses to use eGovernance/tele medicine applications.**
- (b) Call Centre modes to access applications**

**5.5 Do you agree with projected broadband growth pattern and futuristic bandwidth requirements? (Reference Para 2.35)**

- (a) Futuristic BW requirements must be minimum 4 mbps to cater for tele – education and tele – health care.**
- (b) The BW requirements would reach 100 mbps in metros and top 40 cities by 2015, 70 % geography by 2025 and 100 % geography by 2030.**

**5.6 Do you agree that existing telecom infrastructure is inadequate to support broadband demand? If so what actions has to be taken to create an infrastructure capable to support futuristic broadband? (Reference Para 2.35)**

- (a) Yes existing telecom infrastructure has been created keeping voice in view and also the hunger of customer to have telephone connection fast.**
- (b) Follow the policy of separation of access network infrastructure from core network infrastructure. Core Network Infrastructure providers to be given Infrastructure status and incentivized through USO fund for rural India. Sharing to be made mandatory for them. Competition helps in education as well as developing tailor made proposals for masses.**
- (c) Treat Broadband as an essential utility like power, water, sewerage and gas. Thus, encourage RWAs, Panchayats, real estate companies, all IP1 service providers, discoms etc to build, own and operate open access FTTP network which allows interconnection and access seeking UASPs, CMSPs and DTH service providers to have the POIs on non discriminatory mode and on revenue share basis.**
- (d) There is no monopoly of any service provider unlike CATV where one is stuck with only one LCO as he uses his muscles not to allow others.**

### **CHAPTER 3: National Broadband Network**

**5.7 What network topology do you perceive to support high speed broadband using evolving wireless technologies? (Reference Para 3.22)**

- (a) We support optical fibre backbone. It should be realized that world over for broadband much reliance has been given for OFC backbone.**
- (b) Wireless also to be encouraged on technology neutrality basis. All stakeholders should be included in the scheme including fixed line operators, ISP, mobile providers, cable operators and any new innovative telecom operators that may come up in near future.**
- (c) After about three years, femto cells can relieve any spectrum crunch also.**

**5.8 What actions are required to ensure optimal utilization of existing copper network used to provide wireline telephone connections? (Reference Para 3.22)**

- (a) It must be remembered that existing copper network mostly belongs to BSNL/MTNL. The private operators have hardly built any copper network. Hence any policy in this behalf means only for PSU telecom operators and that becomes one sided.
- (b) Existing copper of BSNL is not capable of carrying High Speed Internet (HSI) traffic except around 30 % or so.
- (c) We should leave copper utilization to PSU and give emphasis on OFC network available with both private and public operators.
- (d) BSNL and MTNL must be privatized only then the copper can be fruitfully utilized by them only. Franchise arrangements would never work unless privatized.

**5.9 Do you see prominent role for fibre based technologies in access network in providing high speed broadband in next 5 years? What should be done to encourage such optical fibre to facilitate high speed broadband penetration? (Reference Para 3.22)**

- (a) Yes fibre based technologies will play major role. The world over this has been realized and India must also recognize the same.
- (b) Open access FTTP network must be allowed to be built by RWAs, Panchayats, real estate companies, IP 1 service providers, discoms etc as part of IP 1 license.
- (c) ROW comes as defacto to them. No ROW charges are deposited with any one. These open access FTTP network owners re-instate the dug outs against a BG.

**5.10 What changes do you perceive in existing licensing and regulatory framework to encourage Cable TV operators to upgrade their networks to provide broadband? (Reference Para 3.22)**

- (a) There is need to realize that existing licensing policy for telecom operators based on the entire State or Circle has not realized broadband or even rural penetration. Hence need to promote niche operators as earlier recommended by TRAI. Also if there is an entrepreneur interested to provide broadband in a smaller area/village, then the licensing should permit the same.
- (b) Cable TV operators need to be encouraged and provided with all incentives and facilities as has been provided to telecom operators.
- (c) The telcos to be encouraged to sign them up as franchisees.

**5.11 Is non-availability of optical fibre from districts/cities to villages one of the bottlenecks for effective backhaul connectivity and impacts roll out of broadband services in rural areas? (Reference Para 3.39)**

**Yes it is there. As of now everybody whether operator of Infrastructure provider is laying OFC based on his business model and his perception of viability. Even PSU**

**operator has to behave based on commercial decisions. So who is responsible for covering the so called nonviable areas?**

**It is high time that the assistance is provided to direct utility departments (like Health, rural, water, sanitation, panchayats etc.) who are willing to come and invest for infrastructure. Assistance must also be extended to telecom equipment manufacturers, new technology providers/developers. This then can be used by any operator to extend broadband.**

**Project approach won't help-it has to be all inclusive and therefore Infra Providers and last mile facilitators play an important role. Rest would follow.**

**5.12 If so, is there a need to create national optical fibre network extending upto villages? (Reference Para 3.39)**

- (a) There is an urgent need to create National Broadband Corporation of India (NBCI) on similar lines of DMRC. NBCI should be a public private partnership autonomous corporation**
- (b) NBCI should take help of Infra Providers and be the single point agency to help them to roll out telecom infrastructure.**

**5.13 In order to create National optical fibre core network extending upto villages, do you think a specialized agency can leverage on various government schemes as discussed in para B? (Reference Para 3.39)**

- (a) There is no point in politicizing the most important ICT infrastructure body like proposed NBCI which should work under the Minister directly and coordinates with Planning Commission and has all the powers of ROW as defacto.**
- (b) Other government initiatives like NREGS etc have different aims and objectives which must not be mixed with a serious commitment of NBCI undertaking a time bound highest priority job to provide 100 mbps Ultra Fast Broadband (UFB) to 100 % citizens by 2020.**

**5.14 Among the various options discussed in Para 3.35 to 3.37, what framework do you suggest for National Fibre Agency for creating optical fibre network extending upto village level and why? (Reference Para 3.39)**

- (a) NBCI is like DMRC or NBN Co of Australia as both India and Australia are big in geography and should have similar roll out strategies.**
- (b) No private body alone can do this as the task is gigantic, investments are huge, ROI is slow, requires BW to be made available to service providers on non discriminatory basis.**
- (c) This is a serious national level commitment as it touches upon every sector of the economy. For NBCI to have the mandate, this must function under the office of the Minister directly.**

**5.15 What precautions should be taken while planning and executing such optical fibre network extending upto villages so that such networks can be used as national resource in future? What is suitable time frame to rollout such project? (Reference Para 3.39)**

- (a) Revolutionary changes must be made in this approach and ROW and Infra providers must be given ROW in an automatic mode following GIS maps and the process should be outsourced just like all good countries have done for visa clearance. It takes not more than 72 hours to get visa to US and similar process must be in place for ROW.**
- (b) Open access FTTP should also be provided through multiple RWAs, Panchayats, real estate companies and IP 1 licensees in similar time plan.**

#### **CHAPTER 4: Regulatory Challenges and Future Approach**

**5.16 Is there a need to define fixed and mobile broadband separately? If yes, what should be important considerations for finalizing new definitions? (Reference Para 4.18)**

The aim of Government should be to define the speed for broadband. It is immaterial whether the broadband is provided by fixed, wireless or mobile or cable. If any particular technology envisages no guarantee on speed due to any factor whatsoever, then let that technology be excluded from assistance. It is clear that any and all technologies are competent to guarantee certain speed and that is what matters. Prescribing any speed for mobile or any other technology is of no use, if it cannot be guaranteed. We must save customer from "Upto...Mbps/KBps" syndrome.

**5.17 Is present broadband definition too conservative to support bandwidth intensive applications? If so, what should be the minimum speed of broadband connection? (Reference Para 4.18)**

These are not cast in stone and can be reviewed from time to time when usage starts increasing.

**5.18 What specific steps do you feel will ease grant of speedy ROW permission and ensure availability of ROW at affordable cost? (Reference Para 4.30)**

- (a) There is no question of any cost associated with ROW as the beneficiary does the fool proof re-instatement against a BG. The re-instatement is certified by non-governmental bodies like IITs, NITs, institution of engineers, IETE etc.**
- (b) ROW must be only on GIS maps, automated like the visa clearance process available in 72 hours from the time application is made on the web.**
- (c) ROW is the most dreadful impediment. NBCI and all Infra providers get ROW automatically even if a legislation needs to be passed then so be it.**

- (d) TRAI would do justice to the spread of true Broadband services just like what is happening in the case of 40 developed countries if and only if they can sort out the ROW procedure on similar lines of visa clearance.**

**5.19 Does the broadband sector lack competition? If so, how can competition be enhanced in broadband sector? (Reference Para 4.42)**

- (a) Make open access FTTP networks where interconnection and access is provided to all UASPs, CMSPs and DTH, ISPs, IPs, Cables and all other operators on non discriminatory basis.**
- (b) This helps subscribers to pick and choose their service providers rather than get stuck with only one after paying through their nose the hefty sum for CPEs for which the subs stay at ransom throughout the subscription period.**

**5.20 Do you think high broadband usage charge is hindrance in growth of broadband? If yes, what steps do you suggest to make it more affordable? (Reference Para 4.42)**

- (a) Yes it is true that as on date while the voice tariff is considerably affordable, the broadband/data tariffs are far more and cannot be said to be affordable.**
- (b) There is also need to have 2/3 clear tariff plans instead of several plans and that too confusing on most of the times.**
- (c) The moment open access is made and the subscriber is free to pick and choose the service provider may be for a minimum period of a quarter, the charges would all get stabilized.**
- (d) This is our experience with mobile. If a sub does not like the service provider, he/she quickly changes it. Similar open access for true Broadband must be available then not very stringent regulations are required for QoS, tariffs etc.**

**5.21 Do you think simple and flat monthly broadband tariff plans will enhance broadband acceptability and usage? (Reference Para 4.42)**

**This is not too simple as it appears. However it is always preferable to have one simple plan of XXX Rupees per month for basic internet use with maximum use of...Mbps.**

**However with current trend of smart phones, YouTube, videos, large data transfer, movies, it is not practical for operator to provide unrestricted access on some fixed plan. Even USA is now moving to download based plans.**

**Or let this be decided by the buyers when they are able to pick and choose the service providers due to open access networks.**

**5.22 Should broadband tariff be regulated in view of low competition in this sector as present? (Reference Para 4.42)**

**Yes the broadband band tariff need to be regulated. The experience has shown that unless market is matured, the customer is taken for a ride by prescribing multiple options with various conditions.**

**5.23 What should be the basis for calculation of tariff for broadband, if it is to be regulated? (Reference Para 4.42)**

**On the basis of certain maximum MB download per month guaranteeing given speed. This download can be increased by providers, if he so wishes.**

**Lets do what is needed to be done ie allow equal access to all service providers which gives freedom to sub to dump the bad service provider and replace with a good one.**

**5.24 How can utilization of International Internet bandwidth be made more efficient in present situation? (Reference Para 4.42)**

**Just get abundance of international internet BW by NBCI joining a consortium and investing money to get rights to ultra high capacity under sea cables.**

**5.25 How can use of domestic and international internet bandwidth be segregated? Will it have direct impact on broadband affordability? If so, quantify the likely impact. (Reference Para 4.42)**

**Encourage NIXI concept**

**5.26 What steps should be taken to bring down the cost of international internet bandwidth in India? (Reference Para 4.48)**

**Make it available in abundance by investing in under sea cables.**

**5.27 How can competition be enhanced in the International bandwidth sector? (Reference Para 4.48)**

**Make the international internet BW providers also on open access by facilitating the service providers to pick and choose them.**

**5.28 QoS of broadband, availability of bandwidth, adherence to given contention ratio, affordability, availability and spread are some intricately linked parameters. In your opinion what should be done to ensure good quality broadband to subscribers? (Reference Para 4.59)**

**First of all lets put in place the NBCI and open access providers as IP 1 licensees, every thing would follow automatically with minimum regulations.**

**5.29 Do you think that bad quality of broadband connection is impacting the performance of bandwidth hungry applications and hence crippling the broadband growth? If so, please suggest remedial actions. (Reference Para 4.59)**

**Yes subscriber thinks he is using 1-5 Mbps broadband whereas in actual he may be getting hardly 256 Kbps or even lower and it casts aspiration on service and provider. There must be COMPULSORILY mandate to prescribe minimum speed guaranteed.**

**As subscriber is not in a position to change his service provider thus all problems start. The moment we have open access, these would be solved as the subscriber is free to change the service provider after about a quarter.**

**5.30 Is there a need to define new/redefine existing quality of service parameters considering future bandwidth hungry applications, time sensitivity of applications and user expectation? What should be such parameters including their suggestive value and should such parameters be mandated? (Reference Para 4.59)**

**The moment a subscriber has the ability to pick and choose the service provider, all service providers would improve.**

**5.31 What measures do you propose to make Customer Premises Equipment affordable for common masses? Elaborate your reply giving various options. (Reference Para 4.64)**

**Encourage local manufacturing for CPEs.**

**If we can put in place a system wherein the subscriber is in a position to change the service provider, even the CPEs are also taken care of.**

**5.32 What measures are required to encourage development of content in Indian vernacular languages? (Reference Para 4.68)**

**Make multiple apps stores for e-governance applications by rapid outsourcing to multiple apps providers.**

**5.33 Do you perceive need for any regulatory or licensing change to boost broadband penetration? (Reference Para 4.71)**

**An entrepreneur should be permitted to provide broadband service in a small village/area/city if he is willing to invest without necessarily asking him to take license for the entire State.**

**Make IP 1 open access license, no license fee and no ROW charges except re-instatement against a BG with a fool proof and speedy validation procedure through professional bodies and not municipalities.**

**5.34 Are there any specific competition and market related issues that are hindering growth of broadband? (Reference Para 4.71)**

**Monopoly of access networks only with UASPs or CMSPs must be broken. IP 1 licensees for open access operators must be liberally encouraged then India would see a similar rapid but organized mushrooming of FTTP open access networks just like CATV has multiplied to 130 million homes in about 20 years.**

**5.35 What other fiscal/non-fiscal measures should be considered to boost broadband penetration? (Reference Para 4.71)**

**Make Right To Broadband (RTB) as a fundamental right to be embodied in the constitution so that Govt, NBCI and open access providers can continue unhindered.**