

I have gone thru the Bharat Net consultation paper as well as the NOFN report referenced in the consultation paper. I have the following submissions to make.

a. The idea that all of India - all 250,000 Gram Panchayats are to be connected by wired broadband is truly revolutionary. There probably is no parallel to this type of infrastructure creation anywhere in the world in such a short period of time.

b. The idea of setting up Data Centers in each of the districts to support local content is also a game changer.

c. The kind of skill development in the rural areas that will take place to support this infrastructure as well as leveraging this infrastructure will have far reaching impact in the years to come.

d. It is also critical to recognize that good quality wired broadband services are not available in most of Urban India and this issue also needs to be addressed as part of the Bharat Net. Projects like Smart City are heavily dependent on availability of wired broadband connectivity.

d. This entire infrastructure creation needs to be addressed with a business case and model which is viable and is maintained in the long run.

e. Globally, most of the broadband deployments have been limited to one or two players who set up and run the infrastructure for a period of time (BOOT model suggested in the consultation paper)

f. It is critical to note that average 3G mobility utilization is below 1GB at stagnant ARPUs and **3G service penetration among customers who have 3G handset is less than 50%**. One conclusion could be that customers are not able to afford the service - ie **affordability of the service also needs to be addressed along with access to the service**

g. The Edge Device beyond the government use is almost most likely to be a mobile device (Smart Phone, Tablet, Laptop). ie any deployment will have to address access for these devices thru a wireless means.

With this background, My Recommendations are as follows:-

1. Run an auction similar to the one wireless spectrum - **Period of 20 years for an entire state - Not just the rural deployment** to select two players per telecom circle. **The entire infrastructure (urban and rural) so created can then roll over to the new auction at the end of 20 years, which will essentially be for upgrading and running the service.**

2. ROW and all the associated permissions would be made available to the winning bidder (SP) from Day 1.

3. A clear cut SLAs on what is the end customer thru put that is expected at each GP, uptime should be part of the auction rules. There should be penalty clauses for not fulfilling the SLA as defined in the auction, specifically for the urban areas.

4. For both urban and rural areas, broadband infrastructure rollout will be given similar precedence as that of rollout of Electricity or water connectivity to each HH - ie local rules should require that each residential building provide rent free access to these SP to set up the connectivity.

5. For the rural areas, while the service obligations can be met with rollout/upgrade of the existing wireless infrastructure (WIFI/3G/4G) - it should be followed thru in a defined time frame by fiber connectivity. This way customer can start using the services while the wired infrastructure is being rolled out. SLAs for initial period of wireless deployments should be lower than that for wired connectivity.

6. Technology choice should be Open Standards based and scalable with the ability to link up to any other service provider at a future point in time. No of pairs of fiber to be deployed in the urban and rural areas to be determined by the regulator. Some of this is already part of the NOFN report.

7. First basic plan pricing should be fixed both for urban and rural areas. **For the rural areas this will be reimbursed to the customer thru the Aadhar based Direct Transfer mechanism. There could be a Minimum off-take guarantee that would be given to the SP to ensure that part of the capex and opex for servicing the rural area is recovered till the time that the fiber optic network is rolled out.**

8. For the urban area, there should be a revenue share for the local administrative body for all plans subscribed by the consumer.

9. The Viability Funding as envisioned in the consultation paper, may not be required as Urban and Rural areas are both auctioned jointly. The proceeds of the auction can also be shared with the states to compensate for ROW fees or for utilization in important projects like Smart Cities. **The states and the local bodies are the single largest enablers for this rollout and hence critical that they are as much a stakeholder in this rollout as the central government. Their interest and concerns need to be clearly addressed.**

10. SP to maintain and share the network utilization reports for both urban and rural areas. Health of the network, subject the same to relevant audits from the nominated auditor. Penalties for not adhering to the desired network KPIs to be defined.

11. The SP should be free to offer any service to the customer - wire line voice, data connectivity, video, surveillance to the end customer.