

Reference: TRAI Paper CP_17122019

Comments by

- 1. Prabhash Singh Principal Advisor (ITI), Former Member (Technology) Telecom Commission**
- 2. Arvind Kumar Kansal, Telecom and Management Consultant**

Q1. Do you foresee any requirement of regulatory intervention at this stage in tariff fixation to protect the interest of telecom service providers as well as the consumers? Please support your comments with justification.

Answer: The pricing policy is normally having two criteria – market driven (demand and supply) and competition. The role of regulator is to ensure that monopolistic situation is not going to take place and competition is fair. Therefore, a watch is required on the tariffs. If someone is fixing tariff in such a way that monopolistic situation is going to occur in near future, then regulator plays a role. To avoid monopolistic situation, the detailed working on costs and revenue streams, future trends in global market etc are required by TRAI. Appendix 1 is hereby attached for this purpose for justification.

Q2. Do you foresee any need for change in TRAI policy of forbearance in tariffs? Please give reasons for your response.

Answer: In short term, till detailed working is done in time bound manner (say 2-3 months) as suggested in Q1, the relief may be considered for continuity of service.

Q3. If the answer to Q1 is in affirmative, is fixing a floor price, i.e. a standing prohibition on TSPs not to offer services below a predetermined price level, the answer? Please give detailed reasons for your response.

Answer: The answer to Q1 is not straight till detailed working is done. Let the market find new revenue streams rather than TRAI fixes floor price. Healthy competition is important in the interest of customers. By fixing floor price, innovations will reduce.

Q4. Do you perceive a need to fix floor price despite the fact that the TSPs have increased their tariff recently? Please support your response with detailed justification.

Answer: Not required as market will control. Only TRAI should ensure that TSPs don't create oligopoly also. TSPs should be encouraged for new revenue streams. Example: Google, Facebook, Whatsapp are not charging anything from customer. They have to think of innovations. Presently most of the TSPs are working with legacy approach and very little innovations.

Q5(a). What methodology should be used to fix floor price by the Authority and why? Please give detailed methodology with calculations and supporting justification.

Answer: Not required. Please go through the Appendix 1.

Q5(b). If a floor price is considered, what should be the mark up over the relevant costs for arriving at a floor price? Please give detailed calculations and justification for your response.

Answer: Not required.

Q6: Considering that cost of delivery of telecom services is likely to be different for different TSPs, what parameters should be considered to decide floor price and why? How can it be ensured that such a floor price fixation exercise does not result in windfall profits to few TSPs? Please give your response with detailed reasoning.

Answer: We are not attacking the basic issues. Please go through the Appendix. Costing and revenue with business case can be the reference document by TRAI to avoid monopoly situation as well as oligopoly situation. Ultimately customer care is to be taken into account. The main problem here is the quality service. We always talk of revenue with controlling the quality.

Q7. Is there a need to fix floor price for mobile data service? If yes, can such floor price be applied uniformly to different categories of subscribers such as retail consumer, corporate, tendered or otherwise contracts, segmented and any other including one on one? If it cannot be applied uniformly, will it not result in discrimination between various categories of subscribers? Please give your answer with detailed reasons and justification.

Answer: Please see the attached Appendix 1.

Q8. What should be the basis and methodology for floor tariff fixation for mobile data service? Give detailed justification and calculations for your response.

Q9. What should be the representative cost for fixing a floor price for mobile data service? Give detailed calculations and justification for your response.

Q10. Should fixation of floor price be considered for voice calls also? Please give your comments with detailed justification.

Q11. If the answer to Q10 is affirmative, given that different technologies are being used to provide voice services (2G, 3G and 4G), what should be the methodology used to arrive at a floor price for voice services? Please give detailed calculations and justification for your response.

Q12: Should there be any limit on TSPs to offer free offnet calls? Please explain your response with justification.

Q13. If your answer to Q12 is affirmative, how should unlimited voice calls be defined? Please give your comments with detailed justification.

Q14. If a floor price is considered, should there be any floor price prescribed for bundled offers, including those having unlimited voice calls and data? Please give your comments with methodology and detailed justification.

Q15. If a floor price is considered, should there be a price ceiling also to safeguard consumer interest? Please give your comments with detailed justification.

Q16. If your answer to Q16 is in affirmative, what should be the methodology used for fixing a price ceiling for mobile data service, voice services and bundled offers. Please give detailed calculations and justification for your response.

Q17. Should all the tariff plans (retail consumer, corporate, tendered or otherwise contracts, segmented and any other including one on one) offered by the TSPs be subject to floor price tariff orders? Please give detailed justifications for your answer.

Q18. How can it be ensured that all the tariff plans of TSPs (retail consumer, corporate, tendered or otherwise contracts, segmented and any other including one on one), comply with the floor tariff orders? Please give you response with detailed justification.

Q19. Any other relevant issue that you would like to highlight in relation to the above issues?

Answer: The issues are listed in Appendix 1. The detailed document has been prepared taking into account global trends and where we stand. We are far behind SDG targets of UN. Please see Appendix 2 for SDG status of India as published in TOI Delhi on 6/1/2020. We need to change the policy also and should be called ICT. Please see Appendix 3. ICT infrastructure should be common and quality has to be prime requirement to make it as per global standard. Please note ICT will play a great role in achieving SDG targets.

Appendix 1: Comprehensive TRAI Write up

Executive Summary: For tariff issues resolution for long term they should consider following aspects:

1. The cost and revenue of 4 end to end layers of ICT (physical infra, technology, content and application) by TSP with sustainability and meeting UN SDG targets.
2. Physical Quality ICT infrastructure should be created like road network -- with dig once concept and quality standards for ICT long term and avoid multiplication of infra like on same route number of operators laying cable, number of towers at one location, number of operators laying their own fiber till home in FTTX
3. Bye laws for building code to be amended and include ICT infra in addition to MEP (Mechanical, Electrical and Plumbing) which are part of building byelaws
4. On Technology part -- Active sharing should be permitted to optimise cost.
5. The development of content and application need to be promoted and revenue is to be counted.
6. Tariff slabs and on quality of service tariffs to be worked out – Iron, Silver, Gold, Platinum etc. Example: Iron-Bit Error Rate-BE(Best Effort) and latency-BE; Silver-BER(same as ITU voice ie 10^{-8}),latency-BE; Gold-BER-BE, latency<50 ms; Platinum-BER (same as ITU voice ie 10^{-8}),latency<10 ms.

Chronological Communication Links of Society: Indian society is one of the oldest societies with very high level of social structure. In History disruptions kept on happening as social fabric started innovations. Innovations have been the key of development in history. We have studied in history that the human social fabric started with Stone age, then people started agriculture with community living, then went for industrial revolution and then technological innovations has brought the society to information age. On click of button now people get information of any type of anywhere instantly. These are normally called as disruptive innovations which change the way society lives. The life of each disruptive innovation has been reducing as society is moving. Now the latest disruptive development which is going to change the way the society lives is ICT (Information Communication and Technology). This is the fifth

revolution we call in social fabric and the way society is going to live. We can call the next disruption in social fabric is 5G society (fifth revolution).

End to End ICT solution for tariff plans:

Physical Network layer – In earlier development of society in Infrastructure Governments considered Road, Water, Gas, Electricity, Sewer, Housing, Industry etc. as part of social responsibility. They are considered as national requirement. Now in new disruptive innovation of ICT, the physical infrastructure required for ICT needs to be included as Government ownership. This is transport media for ICT similar to Road, Electricity, Gas, Water etc. and this is part and partial now of day to day life of society. Therefore, it should be declared as National infrastructure for ICT. This is the first step and to be included in National policy. This policy should now be renamed as ICT policy of India. It is already late. However, it should be done on priority first. Already we have laid parallel infrastructure because of non declaration as national essential infrastructure for ICT. There is no central national GIS database of physical laid optical network across the country and towers/nodes for radio based communication which can be shared by all similar to road usage by society. The result is that we have laid parallel optical network resulting in wastage of national assets of Rupees thousands of Crores in CAPEX and OPEX. Not only this we create inconvenience to public, faults are around 50-100 times compared to developed world (figures can be verified) and services are impacted. This is the scene of national and city networks. When we go to house/dwelling unit level, there are no bye laws for building plan for ICT infrastructure and monopolistic situation is there mostly as on date. This needs to be addressed. As per license condition as well as for IP1 service providers it is mandatory to furnish details to Government about their network. However, so far no database is created and no seriousness is there on this front. The next is the quality of service. Though we talk of quality of service monitoring and control, have we ever thought where it should start? Any quality assurance starts at design level of the network. We have talked of 2G, 3G, and 4G and now we are talking of 5G. Have we ever thought what is required to deliver these services? As on date even in metro city of Delhi where all Governments and regulatory authorities are there we are not able to get signal in many pockets even for voice calling. When it comes to ICT level of services which we are claiming what we need is robust optical and tower/node network, where we stand? This needs to be ascertained before we talk of tariff. What percentage of towers/nodes is on fibre in city/nation? What is the backhaul capacity at tower/node level and what are we claiming on services to customers. Therefore, the design of network is first step before we talk of tariff for services. Quality physical network is first requirement and the decision is to

be taken on sharing of whatever network is available in the country by all to avoid wastage and declare it as national asset available for all. Also the Government should take initiative to develop this now onwards where gaps are there in geography to ensure ICT for all. Since this is capital intensive and ROI is very long, the various models can be worked out. TRAI has taken initiatives earlier, but no end result is seen so far on this front. If we don't take action at this stage, then we will miss the ICT era for society. It is not that Government has not taken initiative at all. The USO fund based networks are being laid to cover Gram Panchayats. But again the integrated planning and policies are hindrance in implementation. This needs to be addressed. Though fiber has reached near tower, but there is no assurance of service to operators as well as tariffs are not aligned properly, therefore still towers are backhauling on radio even though fiber is there. This needs streamlining. The most important is creating national GIS based details of all fiber laid and towers/nodes in the country like road database of the country.

The above needs to be covered for network first as without basic requirement, how can we fix tariff baseline.

The above layer in network is normally called Passive layer. The life of passive layer is normally taken as 25 years (though presently networks need replacement normally after 15 years as mostly the legacy methods are used in survey, design, planning quality assurance and maintenance of these networks. This is again a huge loss to nation in addition to bad services in the country).

Technology Layer: The next layer in ICT is of Technology and called Active layer. Since technology is changing very fast and disruptions are happening in this area the life is taken as maximum of 10 year (though normally 5 to 7 years). This area in India has not been addressed for sharing yet. The Active sharing will also save on costs. Affordability is most important in Indian scenario. If tariff goes up the usage gets affected. We are far behind on SDG front. Therefore we have to think of quality at affordable cost and how to optimise the cost. Presently this technology layer is independently taken care by license holders of the services.

Content Layer: The next layer is content layer. The content providers are working independently and there is no clear guideline on tariff of this. This needs to be streamlined and promoted for working out tariffs.

Application Layer: The last layer which is creating positive disruption in lifestyle of society is application layer which is going to impact the whole society in ICT era is evolving. There is no guideline on this on tariff.

When we talk of tariff we are talking of tariff for operators as in last 3-4 years because of Reliance Jio disruption the survival of others is impacted to great extent. We are just thinking of first two layers of ICT. We need to have comprehensive thinking now before we come to conclusion on tariffs. We need to avoid national wastage to make the tariffs affordable, ensure completion, avoid monopolistic situation and different levels of tariffs similar to fares in train/aeroplane/bus etc.

We need to take into account the action plan on ICT on priority and costing and revenue generation has to be worked out accordingly.

Priority Actions in ICT

First Priority Action: Establish ICT **Quality** Infrastructure -- Pursuing digital transformations for digital economy. ICT infrastructure is a key prerequisite for digital transformations. 5G is expected to become an important ICT infrastructure. Unlike telecom infrastructure in the past that assumed communications by people, 5G is infrastructure for things — namely, the IoT. Thus, 5G is critical from the point of generating many different types of value. The requirement on 5G infrastructure is that it be extended broadly and reliably nationwide, and not be limited to just residential areas. This requirement is expected to allow 5G to be utilized in many fields, such as living, industry, healthcare, and disaster responses and for 5G to solve challenges faced by local areas. Furthermore, 5G will let many entities utilize 5G for local areas and individual needs, including smart cities

Second Priority Action: Make Use of Data which is the source of value creation. The system is required to gather public and private big data and present it in a visual format. The big data include industrial structures, changes in population demographics, and the flow of people from rural to urban.

Third Priority Action: Cultivate new cooperation partners, instead of relying on existing relationships, by considering various individuals, companies, and organizations as prospective partners. This is necessary because one of the qualities of the digital economy is the rebuilding of relationships among various entities. Although data is the source of value, it generally holds true that the amount of data determines the value generated.

Appendix 2: Sustainable Development Goals (SDGs) of UN by year 2030 Vs India Status as in year 2019 (as per THE TIMES OF INDIA, NEW DELHI/NOIDA/GHAZIABAD, MONDAY, 6th JANUARY,2020)

S. No.	Item(%)	UN Target	India												
			Average	Top 1		Top 2		Top 3		Worst 1		Worst 2		Worst 3	
1	Poverty (population below poerty line)	11	21.9	Goa	5	Kerala	7	Himachal	8	Chhatisgarh	39.9	Jharkhand	36.9	Manipur	36.8
2	Under 5 Motality(deaths per 1000 live births)	25	50	Kerala	7	Goa	13	Manipur	26	UP	78	MP	65	Chhatisgarh	64
3	Education(adjusted net enrolment ratio for class 1 to X)	100	75.8	Tripura	94.7	Delhi	92.9	Himachal	92.8	Sikkim	45.5	Nagaland	56.2	J&K+Ladakh	57.2
4	Labour force(labour force participation rate)	100	49.8	Chhatisgarh	64.5	Meghalaya	63.2	Himachal	62.4	Bihar	38.2	Nagaland	41.8	Uttrakhand	43.9
5	Rural inequality(growth rate of expenditure per capita in bottom 40% of rural households) %	15.6	13.6	Karnataka	29.8	T.gana+Andhara	27.3	Bihar	26.3	Chandigarh	-20.6	Goa	-9.2	Arunachal	-8.6
6	Health Insurance(any sexual member covered)	100	28.7	Andhra Pradesh	74.6	Chhatisgarh	68.5	Telangana	66.4	Manipur	3.6	J&K+Ladakh	4.2	UP+Nagaland	6.1
7	Maternal Mortality(deaths per 100000 live births)	70	122	Kerala	42	Maharashtra	55	Tamil Nadu	63	Assam	229	UP	216	MP	183
8	Unemployment(unemployment rate)	0	6	Meghalaya	1.6	Chhatisgarh	3.3	Sikkim	3.5	Nagaland	21.4	Goa	13.9	Manipur	11.5
9	Urban inequality(growth rate of expenditure per capita in the bottom 40% of urban households) %	11.3	13.4	Himachal	34.4	Meghalaya	31.2	Rajasthan	24.8	Chandigarh	-19.9	Chhatisgarh	-14.9	Goa	-6.3
10	Hunger(strating in children under 5)	2.5	34.7	J&K+Ladakh	15.5	Goa	19.6	Tamil Nadu	19.7	Bihar	42	Meghalaya	40.4	MP	39.5
11	Crime against women(per 100000 female population)	0	57.9	Nagaland	6.9	Tamil nadu	15.5	Manipur	16.1	Assam	143.6	Delhi	133.3	Telangana	94.7
12	Women MLAs(seat won by women in state legislative assemblies)	50	8.3	Haryana+Chhatisgarh	14.4	West Bengal	13.9	Rajasthan	12	Mizoram+Nagaland	0	J&K+Ladakh	2.3	Karnataka	3.14
13	Mobile Connection(Number of mobile connections over 100 people in rural and urban areas)	100	88.4	Delhi	225.5	Himachal	144.17	Punjab	122.79	Sikkim	3.66	Mizoram	6.01	Arunachal	7.42
14	Internet Penetration(number of internet subscribers per 100 people)	100	48.5	Himachal	205.12	Haryana	140.2	Delhi	138.06	Rajasthan	8.8	Karnataka	10.3	Sikkim	12.7

Appendix 3: ICT POLICY Proposed Points

- (i) Establish conditions so India will survive and flourish in the international competition of the digital age, and
- (ii) Resolve India's challenges through digitalization of all aspects of society. The Growth Strategy Action Plan intends to move ahead with such efforts in the ICT field as establishing rules for digital markets, smart public services, and next-generation infrastructure.

The policy points:

a. Strategies to Achieve the SDGs through Digitalization -- With the SDGs' aim of a society in which no person on earth should be left behind, these strategies advance the complete digitalization of all aspects of society through coordination between the public and private sectors and promote solutions to social issues in India and the world.

b. Strategies of Data Flow -- These strategies stress to the international community the importance of the free flow of data and promote efforts to ensure data controllability by individuals.

c. AI / IoT Use and Application Strategies -- These strategies convey worldwide the "Future Vision of the AI Age", which envisions creating better lives for people by harnessing AI.

d. Cyber security Strategies -- These strategies foster in countries a common understanding of cyber security that will cope with social transformations brought about by rapid proliferation of IoT devices and services.

e. ICT Overseas Deployment Strategies -- These strategies promote overseas deployment of Indian ICT by making use of the trust India has built up as well as by participating in rule-making and assisting capacity building.

f. Open Innovation Strategies -- These strategies promote the advancement of key technologies that will lead the way to realize specific future visions of the 2030s. Promotion of Digitalization throughout Society -- **"who will do what by when"** for eight separate fields:

i) expansion of applications of multilingual voice-based translation systems;

ii) expanded functionality of digital signage;

iii) promotion of the use and application of open data;

iv) promotion of overseas deployment of Indian broadcast content;

v) promotion of free public Wi-Fi environments;

vi) realization of 5G mobile communication systems;

vii) promotion of 4K and 8K formats; and

viii) strengthening cyber security.

Platform Construction for Economic Structural Reforms toward the Realization of 5G Society (**Society with Indian concept of Vasudev Kutumbkam**).

The seven fundamental policy principles are:

- (i) perspectives on legal assessments of digital platform operators;
- (ii) promotion of the sound development of platform businesses;
- (iii) realizing transparency to ensure fairness for digital platform operators;
- (iv) realizing fair and free competition among digital platform operators;
- (v) considerations for rules on data flow and openness;
- (vi) establishment of balanced, flexible, and effective rules; and
- (vii) international application of laws and harmonization.

Promotion of IoT Use and Data Utilization—

a. Promoting IoT Use and Application -- Specifically, regional organizations — consisting of local governments, universities, user companies, and other organizations — to conduct experiments of cutting-edge IoT services in sectors closely related to everyday life, such as agriculture, forestry, fisheries, medical care, welfare, and the sharing economy. These projects create reference models that help solve community problems and clarify rules for the promotion of data use and application.

b. Arranging Conditions for Open Data Distribution -- promoting the standardization of open data, creating usage scenarios for the effective use of open data, and promoting the release of open data by local governments in cooperation with open data preachers and regional IT advisors. These efforts are to be conducted through experiments of open data use and applications in various fields, such as public transportation, foundations, and public facilities.

c. Promoting AI Networking