30090 National Broadband Strategy

Stakeholders' consultation

Subject :   **Comments on PTOs feedback**
Date :   26 July 2013
To :   BOCRA

Contents

1   Context

The draft National Broadband Strategy report was released for public consultation on the 1st of July 2013.

Comments were received from the following entities:

- Mascom – 19 July 2013
- Orange – 25 July 2013
- The Department of Telecommunications and Postal Services – 28 July 2013
- BoFiNet – 1st August 2013[1]

The purpose of this document is to provide some clarifications and remarks as regards feedback received from the above entities.

2   Comments on recommendation

---

[1] BoFiNet's contribution has been received after the deadline initially set. Therefore comments and remarks are not included in this document. Nevertheless, this contribution was taken into account for the amendment of the draft National Broadband Strategy report.

Recommendation 1 *Botswana should adopt a predominantly ecosystem-based approach to broadband.*
Targets (speed, QoS, etc.) should be defined at the implementation of each individual project.

An initial objective of having 10 Mbps download speed available for 90% of the population, 90% of the time, within 3 years after the adoption of the present Strategy appears to be reasonable.

The consultants understand that PTOs agree on the ecosystem-based approach.

Specific thresholds should only be related to specific projects and technologies. The 90% of the population target is in line with the scope and schedule set for the deployment of a wireless Next Generation Access (NGA) network.
Even though the majority of the population will have access with this NGA network, the objective presented here is general (i.e. not per technology but the sum of all technologies).

2.1 Demand-side policies

Recommendation 2 *Public investments and resources should be allocated to actions listed in Table 4.1 with a particular focus on:*

> *a) e-Government implementation*
>
> *b) Develop Web Hosting and Web agencies.*
>
> *c) Develop appropriate content and applications*

The comments made by Mascom and Orange confirm the statements made in section 4.1:

- "*a successful content provision is a complex ecosystem with many players.*"
- "*(the creation and provision of) attractive content, under natural market conditions. This, in general can be done without any top-down directive for content creation. This bottom-up approach should be supplemented by the development of national public programmes in education, health or other domains of general interest.*"

The table in the report related to the recommendation indicates whether projects require direct government funding or government's facilitative intervention only.

Recommendation 3 *The Government should communicate what services will be made available online and by what dates, and accelerate the implementation of the plan so as to create the need as well as the demand for e-Government Services*

Agreement from all PTO

> **Recommendation 4** *A structured mass Digital Literacy programme must be launched as an integral part of the implementation of this Strategy. The delivery of the programme should be through a public private sector model to be spearheaded by the Ministry of Education and Skills Development in consultation with the Ministry of Local Government and Rural Development and BOCRA*

The consultants are of the view that at primary school level, there is no need to specifically focus on digital literacy. There is a proposal to include Primary School Teachers in the "trainers for trainers" programme, and of provisioning computers and Internet connection in schools in order for pupils to become familiar with this tool. In any case making sure that all children that finish school have a sufficient general literacy level, that will inter alia enable them to deal with an IT environment, goes beyond the scope of the present report.

> **Recommendation 5** *Public access to broadband facilities should be intensified through:*
>
> i. *Provision of computers with internet access in Post Offices;*
>
> ii. *Funding for the provision of internet access in public libraries. Internet connectivity to public libraries should be subsidised through the Universal Service Fund.*
>
> iii. *Public Telecommunications Operators should provide internet connectivity to libraries at subsided tariffs.*

The USF should be used to subsidise the connectivity but not usage tariffs. Proposing discounted tariffs would show the direct involvement of operators in the National Broadband Strategy. In addition, they would find a commercial interest by increasing their visibility in these areas and by getting a large number of subscriptions by all libraries.

Furthermore, the Consultants believe that it is important to develop public places where people can access Internet, either on a computer provided on site or through WiFi for those with their own devices. Libraries and Post Offices already have facilities (tables and chairs) where people can sit to access the Internet and are a place where it has already proven successful to organise training sessions (e.g. through Sesigo Project).

Recommendation 6   *Improving customer information*
BOCRA should issue a regulatory directive mandating operators and ISPs to publish products, services and price information on their standard offers, on their websites or in other easily accessible means.

The Consultants observed that many service providers do not provide a global description of their offers in an easily accessible manner. Some provide promotional packages only with no description of offered services (capacities, etc.) and no tariffs for offered services.

Recommendation 7

  i.   *The proposed legislation on electronic commerce must contain best practice elements and must in particular comply with the key principles of the SADC Model Law on Electronic Transaction and Electronic Commerce.*

  ii. *The legislation should have an opt in provision that allows parties to decide to transact online and or person to person transaction as well as allow such parties to extend the legislative coverage to non-commercial transactions.*

  iii. *Transactions that require a ceremonial act for their validity must be exempted from the scope of the e- legislation.*

  iv. *Other transactions such as those dealing with alienation of immovable property should also be exempted from the coverage of e-commerce legislation*

Recommendation 8   *The promulgation of data protection law based on the SADC Model Law on Data Protection*

Recommendation 9   *The Cyber and Computer related Crimes Act should be reviewed to align it to best practice including the SADC Model Law on Computer Crime and Cybercrime.*

As written in the report (section 4.6.7), the consultants found that "*the SADC Model Laws on such areas as Electronic Transactions and Electronic Commerce, Data Protection and Cyber Crimes are based on international best practices.*" A first public consultation that included these recommendations has been carried out in April this year and relevant stakeholders supported the recommendations.

2.2 Supply-side policies

> **Recommendation 10** *All PTOs should publish their catalogues (standard offers) detailing their wholesale offers, containing the key technical and contractual terms and conditions to be committed to, between the PTO acting as a wholesaler and its PTO or ISP customers.*

The Consultants agree with Orange's remark, that there is no reason to restrict the obligation to publish such a catalogue to PTO's only. Any player on the market with wholesale offers should do so.
Nevertheless as per market situation today, this will be relevant for ISP only if they are interconnected to PTOs for voice telephony, as they would have to publish their call termination rates.

> **Recommendation 11** *Operators with direct access to the EASSY and WACS undersea cables should:*
> *(a) Negotiate much lower transit charges with their counterparts in Namibia and South Africa for access to the WACS and EASSY undersea cables, respectively.*
> *(b) Consider negotiating IRUs and/or capacity swaps with their counterparts in these countries in lieu of transit charges.*
> *(c) Sign short term contracts for connectivity to the undersea cable in order to benefit from the increased competition in market segment and thus avoid being stuck with prohibitively expensive contracts.*
> *(d) Issue open/public international tenders at the end of each contract for international connectivity to the undersea cables (instead of negotiating contract extensions) so as to benefit from increasing competition in this market segment.*

The capacity owned by the Government is on the undersea cables themselves. The Consultants found that some of the above recommendations are not put in practice yet and thus are not "business as usual" as suggested by Orange. As stated in the report, transit charges from Botswana's border's to the cable landing stations in neighbouring countries has been found to constitute from 43% to 68% of the total charge for bandwidth between Botswana and London. Currently the Government and BOCRA have no direct control on this segment. This situation has a direct impact on prices that end-users pay for international services.

Therefore, even though this recommendation is not mandatory for the operators, the Consultants believe that they should consider all the options stated in this recommendation.

Recommendation 12   *The Government should discuss transit charges imposed by operators in Namibia and South Africa with its counterparts in these countries, either at bilateral or at regional level, with a view to having such tariffs reviewed. The intention should be to have these tariffs regulated by the respective national regulators. Such regulation can be achieved, once agreed at Government level, by ensuring that the tariffs are cost oriented and are subject to review by the respective national regulators. The SADC regulator's forum could initiate a study to develop a cost model which should be put to public comment by all regional services providers, operators and other stakeholders before it is adopted and for implementation across the SADC Region.*

Agreement by all PTOs

Recommendation 13   *BOCRA should conduct an appropriate study in order to realign BTC's existing cost models developed in the recent past with a view to:*
- *understanding the effect of decrease in international bandwidth and access to submarine cables;*
- *making the said model more aligned to current transmission technologies and less sensitive to distance. The level and structure of wholesale tariffs for national bandwidth should be adapted in view of technological evolution.*

Agreement by all PTOs

Recommendation 14   *The access charge and the bandwidth charge should be both paid by the ISP to BTC (as it is done in other countries), in order for the end customer to deal with a single bill for Internet access and service.*

Agreement by all PTOs

Recommendation 15   *The access charge should be split between pure access and backhaul charge. Pure access should be based on BTC actual costs for the local loop and not dependent on bandwidth, backhaul should be related to bandwidth and quality of service.*

Agreement by all PTOs

Recommendation 16   *BOCRA should put in place replicability tests on retail services in order to avoid the possibility of squeeze effects for small players.*

Agreement by all PTOs

As mentioned in Mascom's comments, such replicability tests should be focus on players with significant market power. This clarification will be included in the revised recommendation.

Recommendation 17   *Infrastructure sharing*

  i. *The passive infrastructure sharing guidelines should be given legal effect by promulgating them as regulations under the Communications Regulatory Authority Act.*

  ii. *BOCRA should intervene in the event of disputes.*

  iii. *RAN sharing should be encouraged but not made compulsory on account of the complexities associated with its implementation.*

The actual application of infrastructure sharing has been mentioned by many stakeholders as an issue for the smooth deployment of networks.
Converting the guidelines to regulations will facilitate the regulatory intervention *ex-post* and enforcement by BOCRA.

Since there is no history of working together between operators, it does not appear wise to impose RAN sharing at that stage. Accordingly the consultants are of the view that operators should be encouraged rather than compelled to share RANs.

Recommendation 18   *Botswana and its neighbours should discuss and agree measures to accelerate the digital TV migration process so as to release the 800 MHz band which is most suitable for delivering mobile broadband services in rural areas. The emphasis should be on clearing border areas of TV transmitters in this band.*

Agreement by all PTOs

The consultants agree with the statement that this issue is of utmost importance to speed up the roll out in the country.

Recommendation 19   4G/LTE spectrum will only be granted subject to the following conditions:

   i.   *The operator shall provide services in Clusters 4 to 6 at their own cost.*

   ii. *The operator shall complete the rollout within a period to be specified in the spectrum licence.*

   iii. *The operator will be allowed to use either 3G or 4G/LTE spectrum in any village or town in Clusters 4 to 6 if they choose to.*

   iv. *The 4G/LTE spectrum for broadband infrastructure will be national and the operator may use it at any other location beyond those in Clusters 4, 5 and 6 at their discretion.*

The draft NBS does not prescribe any technology. It states clearly under recommendation 19 (iii) that "*the operator will be allowed to use either 3G or 4G/LTE spectrum in any village or town in Clusters 4 to 6 if they choose to*".

An operator may opt out of 4G spectrum if they do not want to abide by the conditions in Recommendation 19, then they will not be obligated to roll out broadband infrastructure in areas 4 to 6. They can still bid to provide broadband infrastructure in clusters 1 to 3 using whatever technology they deem most appropriate (e.g. 3G spectrum which all the three operators already have or any other technology). Their proposal will be compared with those of other bidders who will have access to a similar technology mix in addition to 4G spectrum.

The strategy's objective is to reach a satisfactory broadband coverage countrywide on the short/medium term. The report includes a review of all relevant technologies, however, it was not considered pertinent to list all future technologies such as 5G.

Furthermore the licences are technology neutral and operators can use the technology they consider the most appropriate. The provision of new frequency bands are intended to facilitate the deployment of the most relevant solutions but not to impose a specific technology.

Unlike the statement made by Orange, it is recognized in international best practices that the allocation of spectrum should be strongly tied with coverage commitments. The trend has actually been to include more obligations, from the first 2G licences back in the 1990's to 4G new frequency bands.

Recommendation 20   Coverage of rural areas (Clusters 1 to 3)
The country should be divided into three areas as shown in Figure 5.2 above for purposes of issuing a tender for reverse auction to provide mobile broadband infrastructure and services in villages in Clusters 1, 2 and 3 in each region and associated tourist camps and lodges.

The tender should deal strictly with the selection of operators for the coverage of rural areas in the country. The allocation of spectrum is a separate process. Therefore, this section will be modified to make clear that any stakeholder can bid with whatever spectrum they have.

In line with Recommendation 17, it is important that all conditions are met to facilitate infrastructure sharing. Therefore, the Consultants agree with Orange's comment that infrastructures should be dimensioned to accommodate other operators.

It has to be noted that none of the stakeholders brought any comment with regards to the various options for dividing the country as discussed in detail in the Appendix to the Report.

Recommendation 21   *Broadband Infrastructure for Farms*

    i. Farms which are already covered by existing networks should be included within the scope of coverage of clusters 1, 2, 3 as addressed by Recommendation 20

    ii. A specific needs analysis should be carried out for all farms or farming areas which are far from existing network coverage, taking into account the development status and agricultural production level of each farm as assessed by the Ministry of Agriculture. The outcome of this assessment should be used to prepare a tender for coverage of such farms and Tenderers should be allowed to propose the most suitable technical solution for each place.

Agreement by all PTOs

Recommendation 22   *Upgrading of xDSL Infrastructure*

    i. BTC should upgrade its xDSL infrastructure to incorporate SDSL so as to provide symmetrical broadband speed for professionals, businesses and Government institutions (symmetrical upload/download data).

    ii. In relation with the above, guaranteed capacities (no best effort) should be offered together with Guaranteed fault repair time

    iii. Since BTC has no competitor in this market segment, it (BTC) should cover all costs associated with upgrading the xDSL infrastructure with its own funds. However, as with the case for ADSL, wholesale conditions should make it possible for all ISPs to build competitive SDSL retail offers.

BTC owns the copper local loop and is therefore the only stakeholder that has the capacity of investing in this technology. Point (iii) of the recommendation insists on the accessibility to other ISPs. This includes all licensed operators,

(PTOs and VANs) and should be implemented in line with the replicability principle mentioned in recommendation 16.

Recommendation 23   *Development of FTTx in major cities*

    i. Bofinet should be designated as the operator responsible for the deployment of FTTx network.

    ii. Bofinet shall be obligated to allow other operators to access the FTTx on open access principles.

    iii. The rollout of FTTX should in the short to medium term give priority to connecting Commercial, Industrial, Civic and Community Areas in urban and major rural centre.

    iv. Deployment in residential areas shall also be considered subject to developing some criteria at implementation for selecting which residential should be included. The said criteria should take into account both the cost and expected demand for the FTTx infrastructure in the targeted residential areas.

Agreement by all PTOs

Recommendation 24   *Satellite broadband access should be supported through specific subsidies to be granted on a case by case basis, when no other solution providing the same level of service is (or foreseen to be) available.*

The mechanism to be implemented should provide support for the initial investment (service subscription, equipment and antenna installation).

Recommendation 25   *An audit should be carried out on Kitsong Centres provided under the Nteletsa II project, as well as other related projects such as Sesigo and the implementation of Kitsong centres by Botswana Post. The outcome of such a study should provide useful lessons that could be taken on board during the rollout of community access centres as part of the broadband infrastructure.*

Agreement by all PTOs

Recommendation 26   *Potential means of increasing the roll out of Local Internet Access Points (LIAPs) in rural areas*

   i. The cost of backhauling internet traffic from LIAPs to ISP's main centres should be made independent of distance.

   ii. A rollout schedule for internet LIAPs should be developed starting with urban areas and large villages and eventually smaller villages as the demand for broadband service develops.

   iii. The programme for the rollout of internet LIAPs and upgrade of Kitsong Centres should be synchronised with the rollout of e-Government services to ensure a quick adoption of broadband services.

Agreement by all PTOs

Recommendation 27   *BOCRA should authorise BPC to lease its excess dark fibre optic cables to the main operators (Bofinet, BTC, Mascom and Orange) to make use of this valuable national asset, increase the extent of the national backbone and provide redundancy for improved network security.*

Agreement by all PTOs

The implementation of this recommendation will introduce more competition on the market. Furthermore the revision of the costs models (rec.13) should reduce global costs. No direct intervention by BOCRA would be required to regulate *ex-ante* the pricing level.

The process to allow BPC to lease its fibres should be done in an open and transparent way, and should ensure that no operator gets the exclusivity.

Recommendation 28   *The government of Botswana should consider exempting smartphones, laptops and other similar ICT equipment from import/customs duties and Value Added Tax.*

Agreement by all PTOs

Recommendation 29   *The National Broadband Implementation Structure should be set-up as described above to ensure an efficient implementation of the strategy and a coordinated and aligned approach with respect to the provision of the services including power, equipment and e-government services.*

Both Mascom and Orange expressed concerns about:
- Potential for conflict of responsibilities between the proposed National Broadband Implementation Committee and other existing structures/institutions.
- Potential conflict of interest.
- The need to use existing structures instead of the proposed NBS Implementation Committee.

These concerns have been noted. However, other stakeholders, including the Ministry of Transports and Communications, have also emphasised the need for such a Committee to:

- Ensure coordination in the implementation of the Strategy across all sectors;
- Avoid disjointed, and in some cases, duplication of effort where different entities do essentially the same thing.
- Assist implementing entities as necessary.
- Provide mechanism for coordinated reviews of broadband projects/activities.

As regards excluding players in the ICT sector on account of potential conflict of interest, some stakeholders, including MTC have argued that doing so would lead to a situation where BOCCIM's representative would end up being someone that would bring little or no useful input for the benefit of the Committee and the country at large. Thus they argue that it is important that BOCCIM's representative should be someone from the ICT sector and that it would be up to the sector to ensure that the representative brings contributions that are based on agreed positions by all sector members. As regards the potential for conflict of interest, they argue that it will be up to the Committee, and to some extend BOCCIM, to ensure that this does not happen on a case-by-case basis.

The bench marking exercise carried out during Phase 1 (International Bench Marking on Broadband Strategy development) of the Project revealed that in general countries that were comparatively successful in the implementation of national broadband strategies had some form of coordinating entity or entities. The Consultants agree that the proposed structure should provide high level coordination and monitoring but leave detailed implementation to relevant entities who should provide regular progress to the proposed coordination committee. The report and will be revised take account of the above pros and cons.

> **Recommendation 30**   *The NBS should be subjected to review every five years by an independent third party appointed by the Ministry responsible for communications provided that the first of such a review should take place during the second quarter of 2018*

Agreement by all PTOs

It is true that the rapid evolution of the ICT sector may require that in some cases reviews be done at intervals shorter than 5 years to take account of new developments in technology or on the market. Therefore this 5 years period should be a maximum.

> **Recommendation 31**   *BOCRA should setup a broadband observatory that will monitor the evolution of key performance indicators showing the progress in the execution of the National Broadband Strategy*

The intention of this recommendation is not to create a new structure but rather to make present some of the KPIs that are relevant for BOCRA to monitor the progress of the NBS.

Recommendation 32   *Funding*

    i. *Government should set up the Universal Service Fund as per recommendations of the study on the "Development of a Universal Access and Service Policy for the Communications Sector in Botswana" (2006) with whatever modifications that the Government has made to the recommendations therein.*

    ii. *The universal access and service fund should be financed from a combination of sources including operator levy, direct Government contribution and from any lawful contribution from any approved third party contributor.*

The conditions and means for implementing the USF have been analysed in the specific study undertaken by BTA and the Government in 2006. Since then the Government has amended it to take account of the context evolution and internal constraints. Therefore the detailed implementation parameters are beyond the scope of the present strategy.

3 Notes on comments from the Department of Telecommunications and Postal Services

The Consultants have reviewed the submission from the Department of Telecommunications and Postal Services and finds it to be very useful. Most of the interventions and suggestions in the contribution, however, can be dealt with during implementation.