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| **SOUTH ASIAN TELECOMMUNICATIONS REGULATOR’S COUNCIL** **(SATRC)** |  |
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**SATRC REPORT ON**

 **REGULATORY FRAMEWORK FOR MOBILE VIRTUAL NETWORK OPERATORS (MVNO**)

**Prepared by**

**SATRC Working Group on Policy, Regulation and Services**

Adopted by

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# 1 Background

South Asian Telecommunication Regulator’s Council (SATRC) is consisted of nine South Asian countries. The countries are Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan and Sri Lanka. The SATRC is responsible for discussion and coordination of all the issues relating to regulations in telecommunication and ICT which are of common interest to the telecommunication regulators in South Asian countries.

In the 17th SATRC Meeting, held in Dhaka, Bangladesh from 4-6 October 2016, SATRC Action Plan Phase VI was adopted for the duration of year 2017-2018. Under the Action Plan Phase VI, Working Group on Policy, Regulation and Services (WG PRS) selected five work items:

1. Policy and regulatory aspects of infrastructure sharing

2. ICT regulatory framework for M2M communications and IoT for the SATRC countries

3. Enhanced consumer protection in digital economy (taking into account the issues of Cybersecurity, Big Data and Data sovereignty)

4. Regulatory approaches to enhance broadband experiences

5. Regulatory framework for Mobile Virtual Network Operators (MVNO)

At its first meeting in Dhaka, Bangladesh from 18-19 April 2017, the WG PRS finalized the detailed work plan of the work items assigned to the WG PRS by the 17th SATRC Meeting. Pakistan Telecommunication Authority (PTA) was assigned Work Item No. 5 “Regulatory framework for Mobile Virtual Network Operators (MVNO)”.

# 2 Objective and the Purpose of the Study

A Mobile Virtual Network Operator (MVNO) is an operator that offers mobile services but does not own its own radio frequency. Usually, this operator has its own network code and in many cases issues its own SIM card. The mobile VNO can be a mobile service provider or a value-added service provider. It is to be noted that there are differing views on how to define an MVNO.

Moreover, most countries in Asia have yet to adopt a formal position with respect to mobile VNOs. Mobile operators with spectrum licenses are often reluctant to share spectrum with other service providers. Regulators need to look at the issue of whether (and to what extent) intervention is necessary. If regulators intervene, they may have to set conditions for access, while taking into account the effect on spectrum availability, entry into licensing framework, and license fees.

Scope of this work item includes the following:-

1. Prospective of the MVNO market in the SATRC member countries

2. Examine the current regulatory framework for MVNO in SATRC member countries.

3. Examine and identify regulatory challenges towards MVNO operations.

4. Recommend best regulatory practices for SATRC member countries.

# 3 MVNOs Models and Global Footprint

MVNOs are those who resell data and voice services with more flexible plans and lower prices. MVNOs do not have their own core infrastructure and spectrum. MNOs choose MVNOs to offload the additional capacity in bulk for wholesale prices, which would instead remain unused.

MVNO models are broadly categorized in four categories i.e. Resellers, Service Provider, Enhanced Service Provider and Full/Thick MVNO:

Reseller MVNO

The basic MVNO type specializing merely on sales and marketing of MNO’s services under its own brand.

Service Provider MVNO

Besides sales and marketing provides customer service and billing.

Enhanced Service Provider MVNO

Offers added value services, produces its own SIM-cards and tariff plans.

Full MVNO

An MVNO with a maximum infrastructure. On top of everything else, it operates the network with its own switching center, makes national and international roaming and inter-carrier agreements.

According to GMSA, as of the end of 2015, the world’s mobile network operators (MNOs) host 1,038 mobile virtual network operators (MVNOs) and 277 MNO sub-brands. This represents a total of more than 1,300 mobile service providers worldwide hosted by MNOs, in addition to their own core brands. Sub-brands differ from MVNOs in that they are wholly-owned and operated by their MNO parent, despite being marketed independently of that MNO

Globally, MVNOs are active in various segments. ‘Discount’ and ‘telecom’ (i.e. an MVNO that forms part of a range of telecom services such as fixed phone and broadband) are the most prominent types of operation, accounting for 47% of the global MVNO market.

Source: GSMA Intelligence, 2016

Globally, MVNOs together account for around 10% of the total mobile users. In Europe, virtual operators have over a hundred million subscribers. One-quarter of MVNOs in Europe work as discounters offering low-cost services. According to the forecasts of Pyramid Research for 2015-2020, data-MVNOs and M2M MVNOs will be the most promising segments for MVNOs in Europe. The emergence of M2M, cloud, and mobile money, coupled with increased data usage rates, are expected to increase the demand for MVNOs.

MVNO Challenges

Over the past 15 years, MVNOs have helped stimulate competition in the mobile market mainly in Europe and America, launching innovative tariffs and services and attracting niche consumer segments at a lower cost than MNOs. However, the landscape has changed;

– MVNOs’ margins are thin and in most cases stuck in negative territory.

– GSMA Intelligence research shows that half of all MVNOs worldwide are likely to be challenged by changing industry dynamics.

– MVNOs’ survival in saturated developed markets now depends on their ability to adapt to industry trends, leverage innovation (in technology, billing solutions and tariffs) and target niche or underserved consumer segments.

# 4 Current Scenario / Practices in the SATRC Region

In order to ascertain the current practices / regulatory approach of the SATRC members towards MVNOs in their countries, a questionnaire was developed covering various aspects of the MVNO framework. The questionnaire provided at Annexure – I was shared among the experts of the WG PRS for their responses. As per responses received (Annexure – II), most of the SATRC members have not introduced regulatory framework for MVNOs except India, Iran and Pakistan. Afghanistan, Bhutan, Sri Lanka, Maldives and Nepal have no specific framework for MVNOs, however, Sri Lanka has started consultation on MVNOs and Nepal Telecom Authority has reported that it has also started to formulate regulatory framework for MVNO in Nepal.

The following sub-sections provide a brief overview of current scenario /practice on MVNOs framework in the SATRC region.

## 4.1 Bangladesh

There is no licensing framework for MVNOs in Bangladesh. BTRC is of the view that considering the present market dynamics, present Bangladesh telecom market is not favorable for introducing MVNO to expedite more competition in telecom space. As MNOs are already offering services at very low cost, they are struggling with present spectrum holdings to provide better QoS ( MNOs do not have extra capacity to spare for MVNOs) which suggests there is no room for MVNOs to enter in the market to provide services at lower price compare to MNOs.

BTRC considers MVNO as the next scope to inject competition in the market. We think with the evolution of digital services, MVNO will be able to play vital role in terms of providing internet, digital content services etc. in the next generation technology like 4G in Bangladesh to increase competition in the market. At present MNOs are struggling with their spectrum to maintain better QoS, however, with recent spectrum auction and 4G being deployed we can reassess the market readiness to step forward MVNO introduction.

Considering present low price of voice, data and other services; high level of competition, lower ARPU, reach of MNOs, lack of new group focused business scope etc. in Bangladesh; present market conditions is sustainable for MVNO. BTRC is of the view that MVNO can be considered as a market tool to preserve competition for the markets where consolidation has resulted in reduction of number of operating MNOs. But the market conditions should meet pre-requisites for introduction of MVNO and factors required for successful MVNO regime to expedite competition.

As per Bangladesh Telecommunication Regulatory Act 2001, MVNOs will be licensed under telecommunication category, but they will not be permitted to develop their own transmission network as there are separate licensee to do that. As per Bangladesh Telecommunication Regulatory Act 2001, MVNOs will be licensed under telecommunication category. As per National Numbering Plan 2017, BTRC is expected to allocate number blocks for MVNO operators.

## 4.2 Bhutan

Bhutan do not have any framework developed for MVNO. However, in principle, the regulator considers MVNOs as substitute for fostering and preserving completion in the market. Since Bhutan’s telecom market is too small (around 700,000), the regulator has not explored the possibilities of introducing MVNOs.

As per Bhutan Information, Communications and Media Act 2006, MVNO will be licensed under ICT service category and this category will not be permitted to develop its own core network as well as core transmission network. They are required to share such infrastructure with the ICT facility or ICT service ( unified license). As per response on the MVNO Questionnaire, MVNO may be eligible to apply for spectrum similar to MNO. In Bhutan, spectrum is allocated based on the requirement of individual operators on first come first basis and also ensure that adequate frequency is reserved for other players in near future. It is expected that the requirement of signing an agreement with MNO before submitting license application for MVNO might be required and agreement with the MNO will be used for determining the eligibility of license for MVNO.

The regulator believes that if the introduction of MVNOs is planned, then it might make it mandatory obligation for MNOs to entertain the request for MVNOs, otherwise it might be difficult to introduce MVNOs.

## 4.3 India

The consultation process for the introduction of MVNO in India started in May 2008. The Consultation Paper discussed the concept of MVNO, definition, need and timing of entry of MVNO, MVNO models, benefits and examined the technical, licensing and regulatory issues that had to be addressed for introduction of MVNO in India. MVNOs remained under discussion between the Department of Telecom (DoT) and Telecom Regulatory Authority of India (TRAI). In 2014, Consultation initiated again on “Delinking of the license for networks from delivery of services by way of Virtual Network Operators (VNOs)”. In May 2016, DoT released its guidelines for MVNO License ‘’Guidelines for Grant of Unified License (VNOs)”

Process flow for the grant of VNOs license is depicted below:

Key features of MVNOs framework in the guidelines are:

– MVNO to be introduced as a distinct service provider with its own licensing and regulatory framework.

– MVNO free to choose its business model (Full or Intermediate or Thin)

– Arrangement/ agreement between MNO and MVNO to be driven by market forces.

– MVNO to be issued a license under Indian Telegraph Act.

– The license service area of MVNO to be same as that of parent MNO.

– Any Indian Company with net worth -10% of that of MNO for the service area and paid up capital - 10% of prescribed net worth and fulfilling other licence conditions is eligible for MVNO licence.

– Agreement with MNO to be submitted before issue of license to MVNO

– No limit on number of MVNOs attached to a MNO.

– MNO to pay the spectrum charges for utilisation of spectrum by MVNO.

– Allocation of Numbers, Number portability, Interconnection with other service providers and roaming to be provided by parent MNO.

– Subscribers to be protected on failure of agreement between MNO and MVNO or MVNO quitting service.

– No Roll out Obligations for MVNO.

– Bank Guarantee: FBG – equivalent to two quarters license fees; PBG – 5% of MNO.

– The entry fee costs anywhere between Rs 0.5 million to Rs 75 million (USD 7,500 - USD 1.1 m) depending on the area that a company is looking to cover—pan-India, per circle, and per district. Rs. 10 million to Rs 100 million as minimum net worth requirement.

– Annual licence fees same as that of MNO of the service area.

– Restrictions on Mergers and acquisition on similar lines as MNOs.

– VNOs shall be permitted to set up their own network equipment (BTS; BSC; MSC) but shall not be allowed to own/install equipment of core infrastructure and not allowed to own/install equipment which are required for interconnection with other operator.

– No restrictions on the number of entrants in a service area and number of VNO parented by an MNO.

The guidelines covers all the general provisions, financial conditions, terms of License and security conditions for a VNO. In October 2016 applications for MVNO were invited, later DoT issued a list of operators whom it had issued letter of interest for MVNO.

In 2016, DoT approved 62 companies among which 57 were to provide MVNO services in the country. The entry fee costs anywhere between Rs 5 lakhs to Rs 7.5 crore depending on the area that a company is looking to cover—pan-India, per circle, and per district. For example, players looking to offer ‘all services’ including internet, and voice on a pan-India basis will have to shell out Rs 7.5 crore as entry fee, and Rs 10 crore as minimum net worth. On the lower end, players looking to offer data and voice services on a per-circle basis will have to shell out Rs 5 lakh as an entry for each circle along with Rs 1 crore as minimum net worth. VNOs shall be permitted to set up their own network equipment but shall not be allowed to own/install equipment of core infrastructure and no spectrum shall be assigned to VNOs.

Virtual operators have also formed an association named as Virtual network operators association of India (VNOAI ). The issue highlighted by VNOAI is the potential double taxation through charging of License fee (AGR) and spectrum usage charges on both NSO and VNO which is being taken up for discussion with TRAI and DoT.

The primary business aspect for VNOs in India will come from rural areas. The mobile space in India is now witnessing commerce (transaction) driven growth. According to analysts, future growth in India can be anticipated largely from rural areas, the enterprise segment and Internet of Things (IoT). So the basic business aspect for MVNOs comes from these segments.

Aerovoyce is the first MVNO which has launched its services in India in 2017. State-run Bharat Sanchar Nigam Limited (BSNL) is expecting to garner reasonable increase in its revenues from the MVNO business and has partnered with mobile payment provider AdPay to launch India’s first virtual telecom firm Aerovoyce. It has launched its services in Tamil Nadu, covering cities like Salem, Coimbatore, Thanjavur, Cuddalore and Kanyakumari. MVNOs essentially buy different services (data, voice, messaging etc.) in bulk from different telecom operators, and sell them under their own brand. Aerovoyce, which claims to have invested more than Rs 300 crore into its MVNO business, will bundle its mobile wallet and payments services with every SIM card.

## 4.4 Iran

Iran has two types of MVNOs. Full MVNO: The operator should set up some parts of the mobile infrastructure network such as switching centers, except radio access network. It has owned service platform, billing and customer care. Light MVNO: The operator cannot set up own switching centers.

MVNOs can provide following services: Internet access services; access to the national network of information and services based on it; Services of exclusive networks; Voice; Media; Content; Value Added Services. Salient features of the MVNO framework in Iran are:

• The host operator is required to conclude a wholesale contract at least with two MVNOs by respecting the principle of fairness and non-discrimination.

• Contract based on Mutual agreement.

• Each party must comply with the regulations communicated to them by the Regulatory Commission.

• Roaming and interconnection between all fixed or mobile telecommunication networks licensed with virtual operator subscribers is required by the host operator in the same conditions and tariffs with its network.

• Host operator must provide the possibility of providing emergency, police and security centre services, if needed.

Iran’s Communications Regulatory Authority (CRA) issued a call for registration in 2015-16, following which the applications of 51 firms were processed and they had to submit the required documents by the Aug, 2016 deadline. Upon processing of applications, CRA granted 24 permits for offering Mobile Virtual Network Operating services. These firms are required to sign agreements with one of the three major mobile phone operators in Iran.

There are 8 MVNOs in Iran: 5 Full MVNOs and 3 light MVNOs. As reported by Iran during the SATRC workshop on Policy, Regulation and Services held on 3-5 July, 2018 in Nepal, MVNOs are facing challenges in their arrangements with the MNOs in the areas of numbering, roaming, interconnection and tariff negotiations.

## 4.5 Pakistan

Pakistan Telecommunication PTA (PTA) allows MVNO services in Pakistan in the light of clause 9.11.1 of Telecommunications Policy 2015. Pakistan was the first in South Asia to introduce framework for MVNOs, and also brought MVNO Regulations in 2012.

Process flow for the grant of MVNO License in Pakistan is depicted below:

The following terms and conditions apply to MVNO service operations in Pakistan:

License Issuance and Commercial Agreements:

An MNO shall be allowed to make commercial agreements with multiple MVNOs. Similarly an MVNO shall also be allowed to operate/ make commercial agreements with more than one MNO. The agreement between MNO and MVNO will define scope of operations of MVNO.

The MNO that makes commercial agreement with a company for MVNO operation in Pakistan shall submit the same to PTA for approval prior to giving effect to this agreement. After approval of the agreement, the company (interested in becoming an MVNO) shall apply to PTA for MVNO license.

MVNOs are not allowed to install their own network elements (i.e. Radio access, transmission, switching and network equipments). Further, the agreement once approved by PTA shall not be changed by any party without prior approval of PTA.

Number allocation:

Number allocation to MVNOs would be in accordance with the procedure specified for this purpose.

Quality of Service and National Security

Quality of Service shall be the sole responsibility of MVNO. Since MVNO shall hold at least its own brand name, consumer ownership and market its own SIMs, it must ensure that its users receive good quality of service as per benchmarks set by PTA. MVNO while entering into an agreement with MNO(s) shall look into this aspect and individual responsibilities in this regard should clearly be pronounced in the document.

MVNO shall be responsible for the national security issues. Appropriate clauses will be included in the agreement to ensure efficient resolution of issues related to security.

Customer care and Service Provisioning

Once an MVNO commences its services, the MNO shall provide service to MVNO without interruption. Also, the parent MNOs shall not suspend/terminate services to MVNOs under the commercial agreement without prior approval of PTA. Similarly, MVNO shall not stop provision of services to its customers without at least a three (3) months’ notice and prior approval from PTA.

As MVNO will hold the ownership of its customers, it will be responsible for making necessary arrangements to facilitate them.

MVNO shall be responsible for the resolution of billing or other disputes with its customers.

The MVNO shall submit its Code of Commercial Practice and Standard Contract of Service to PTA approval and shall follow the same in true letter and spirit.

Fee:

Initial license fee for an MVNO is USD 5 million. MVNO shall pay all regulatory fees and contributions in the same manner as applicable on an MNO.

Roaming agreements:

MVNO shall be allowed to enter into roaming agreements with other operators on mutually agreed terms.

License term and Cancellation:

The MVNO license shall be issued for an initial period of 10 years. This license may be extendable for another term/ terms of 10 years subject to provision of mutual agreement between the parties.

## 4.6 Sri Lanka

Telecommunication Regulatory Commission of Sri Lanka issued a consultation paper on the introduction of MVNOs in 2015 and invited industry comments. The regulator consider that the introduction of MVNO as a natural progression towards enhancing free market principles and contributing to the efficient use of existing telecommunication infrastructures. The regulator had consultation on the following:

A license is required for a MVNO in Sri Lanka, for this reason license applicant need to submit an application in the stipulated format and pay the regulator a stipulated license fee.

MVNOs do not have any separate assignment of spectrum by the regulator.

The MVNO may be required to provide separate numbers to subscribers. The issue is whether the number blocks should be directly allotted to the MVNO or whether the MVNO should get same from the MNO.

MVNO could use its own brand. MVNOs to be enabled to sell SIM cards with their own brands with codes allocated for MNOs

MVNO will have an agreement with a MNO for operations. It is possible that a dispute may arise between the two at a later date. There is a need to protect subscribers who are served by the MVNO. The inclusion of a suitable clause in the agreement is necessary to safeguard subscribers.

MVNOs have to extend its service to areas not covered by the MNO.

MVNO would have an agreement with the MNO for all the calls carried which are originated by and terminated at its subscribers. MVNO shall not be allowed to make any interconnection or roaming agreements with other operators, but it shall use the interconnection or roaming agreement of the MNO.

MVNOs should comply with applicable tariff related requirement imposed by the regulator.

MVNO should comply with the customer acquisition and requirements of subscriber verifications. The MVNO may have to establish its own customer care center to cater for its own subscriber customer complaints.

MVNOs have to ensure that the equipment they use comply with prescribed standards set by the regulator.

MVNO is responsible for the quality of service provided to its customers and should adhere to the criteria set by the regulator, which are also applicable for MNOs.

The MVNO should comply with all requirements of national security.

MVNOs shall be responsible for its consumers billing systems and storing billing information. Billing format should be approved prior to commencements of services. Billing complaints should also be resolved.

After commencement of MVNO services, the MNO shall continuously offer services to MVNO. MNOs may not suspend/ terminate MVNO services based on the commercial agreements unless approved by the regulator.

# 5 Best Practices

Historically, MVNOs have been originated from Europe and North America. With the launch of first MVNO “Virgin Mobile UK” in Europe in 1999, there has been significant growth in the number of MVNOs in Europe. Currently, over 600 MVNOs are in operation in Europe, serving a diverse set of customers and offering a range of voice and data services. Similarly, MVNO market in the U.S. also grew reasonably over time, and currently has over 113 MVNOs operating in US.

Europe has been providing conducive environment for the MVNO business through pro-competitive measures and potentially mandating wholesale access. Initially, most regulators maintained a “watchdog” position; that is, they carefully monitor the interactions between MNOs and MVNOs. Later on, regulatory interventions have been practiced, where required. Some of these practices are detailed below.

EU Member States/NRAs have included wholesale access obligations in radio spectrum assignment proceedings, notably in Germany (historically only airtime resale), and Ireland (where the 2100 MHz spectrum assignment proceeding included offering a license which required MVNO access).

Recent French 4G spectrum assignment proceedings were a hybrid beauty contest/auction, in which candidates could win points by committing to providing Full MVNO access. In the 2011 2.6 GHz proceeding, 3 out of 4 winning bidders committed explicitly to providing Full MVNO access. In the 2011 800 MHz proceedings, 3 out of 3 winning bidders committed explicitly to providing Full MVNO access, not only on the 800 MHz spectrum won in the proceeding, but also on their other previously licensed spectrum.

Details on the Full MVNO nature of the licence conditions are contained in Section 5 of the spectrum licenses. Strong focus is placed in the MNO licence conditions on the ability for Full MVNOs to be able to: (i) switch between Host MNO networks, (ii) rely on multiple host MNOs in parallel, (iii) have full commercial autonomy on all retail markets and distribution networks, and (iv) own their customer base, and not be subject to restrictions on changes in their shareholding structure, or selling the wholesale access rights they contractually acquired. In addition, the MNO licence conditions provide for: (v) technical non-discrimination in favour of MVNOs on quality of service, compared to the Host MNO’s own services, (vi) an explicit right for the Full MVNO to own and operate its own core network and its own interconnections with third party operators, and (vii) reasonable economic conditions, compatible with effective and loyal competition on wholesale and retail markets.

(Full) MVNO access was also mandated by National Regulatory Authorities in other EU/EEA Member States, by way of findings of single and joint Significant Market Power (SMP).

In addition, Full MVNO access was mandated as part of antitrust proceedings of EC DG Competition, in Austria, Ireland, Spain and Belgium in the 2012-2016 timeframe.

The German Telefonica/E-Plus merger approval by EC DG Competition is subject to various ongoing legal proceedings, including on the exact nature of the wholesale access requirements, notably as regards Full MVNOs.

How can regulators assess whether MVNO-related regulation in their country is economically justified. In order to answer this question, one must examine indicators of the level of competition, potential competition, and entry conditions in the country’s wireless market. Specifically, the regulator must examine the market for signs of market failure with respect to MVNO entry. Market failure prevents competitive forces from working properly. Therefore, if the economic analysis reveals sufficiently competitive market conditions to alleviate concerns of market failure in the face of entry by MVNOs, then regulation becomes at best superfluous and at worst counterproductive. If not, then regulation might be required.

The effects of regulator-mandated MVNO entry can have far reaching consequences if such regulation is not warranted. Primarily, such intervention can impact on consumers, the industry, competition and hence the general economy. Therefore, unless there is market failure, imposing regulation does not guarantee an increase in competition and hence social welfare. Specific to the MVNO question, unless there are clear signs of market failure, imposing regulator-mandated MVNOs may well be detrimental to competition and innovation in the wireless market, as it might also lead to inefficient entry.

Those in favour of regulation argue that mandatory access through regulatory intervention is necessary because MNOs do not allow access on commercial terms and merely try to sustain supernormal oligopoly profits, reduce consumer choice to keep their customers, and hinder consumers to access competing mobile portals. Also, mobile network operators are less likely to provide MVNO access unless it is a regulatory requirement. Proponents of regulatory intervention stress that an increase in competition between networks will lead to improvements in service quality.

Those against regulatory intervention base their arguments on the fact that the benefits of MVNOs are as yet unproven, and that there is inadequate evidence that market failure has occurred. The mobile market is competitive by nature and therefore does not require regulation.

In various European countries, MVNOs’ fortunes have been greatly affected by the decisions and actions of national regulators and the European Union. In a handful of countries, most notably the United Kingdom, operators opened their networks to MVNOs entirely voluntarily, with no regulatory intervention sought or required. However, in other countries, the national regulator has taken steps to force the MNOs to sell capacity to MVNOs, citing competition issues. This has been the case in countries such as Denmark where the legislation passed in mid-2000 obliged SMP providers to conclude MVNO agreements.

# 6 Recommendations / Suggestions

Perspective of MVNOs to be redefined

In the SATRC region, MNOs are already having low profit margins and offering one of the lowest tariffs in the world. There is abundance of tariff packages, bundles, plans and other BTL (Below the line) offers. In such market conditions, we may not see an automatic entry of MVNOs in the market unless some niche markets are developed for these new entrants through carful regulatory interventions where required.

While considering the current trends in the mobile cellular market, MVNOs have opportunities in the niche segments mainly in the data driven services such as e-commerce transactions / mobile banking, the enterprise segment, Internet of Things (IoT) / M2M and rural markets. During the recent licensing of VNOs in India, it has been noticed that the first operators that could have an MVNO agreement with MNO was a mobile payment provider AdPay, which partnered with State-run BSNL to launch VNO “Aerovoyce”. Aerovoyce will bundle its mobile wallet and payments services with every SIM card.

Ease entry of MVNO

Full MVNO should be allowed with the option to create its own brand, flexibility of having interconnect and roaming agreements with other operators, and own network equipment.

License price should be at the minimum. Currently Pakistan has initial license fee of USD 5 million, which is one of the biggest barrier to entry of MVNOs. A substantial reduction in license fee is required. Instead of high initial license fee, MVNOs may be required to pay annual regulatory fees and fulfil minimum paid-up capital requirements.

Wholesale access obligations in radio spectrum assignment proceedings may be included. Applicants who commit to provide full MVNO access may be given additional points in the auction.

Regulators needs to be more pro-active

Carefully elected regulatory interventions are required on MNOs to provide access to MVNOs. If Significant Market Power (SMP) operators regime is in place, then SMP operators may be mandated to give access to MVNO. Merger approvals may include conditions for the merged entity to provide access to MVNOs. Europe, which is home to 2/3 of MVNOs is already applying such conditions.

Consolidation in the telecom markets in the SATRC region is already in place. In Pakistan, merger between the largest operator (Mobilink) and Warid (smallest operator) in 2016 has reduced MNOs in Pakistan to four only. There is need to assess viability of new MVNOs to deter the potential anti-competitive effects of the merger. Competition Commission of Pakistan in its NOC for Mobilink-Warid merger concluded that “an MVNO entry, even it were to occur, would not be sufficient to negate the adverse effects of merger, unless there is a mandatory and robust regulatory regime.” It may be noted that a key responsibility of regulators is to facilitate innovative service providers.

Regulators to engage stakeholders for consultation on MVNO framework

It may be noted that out of 9 SATRC countries, only 3 have MVNO framework. Why SATRC countries are reluctant in attracting MVNOs in their markets. The regulators should invite applications / expression of interest for MVNOs in their markets and may initiate a process of issuance of Information Memorandum. If required, necessary amendments in their regulations may be made to facilitate the entry of MVNOs.

Regulators should engage with MNOs and other relevant stakeholders i.e. e-commerce players, Fintechs, IT players etc. on the issues related to operations of MVNOs. In the fast developing digital economy, regulatory provisions are required to enable other businesses to partner with telcos for new opportunities. In Pakistan, opening of licenses for Third Party Service Providers (TPSPs) / Payment System Operators (PSOs) / Payment Service Providers (PSPs) with the joint collaboration of the Central Bank “financial regulator” and telecom regulator have opened up niche market for the provision of technical services for digital financial services / mobile banking, payment system and interoperability.

A careful market analysis before introducing mandatory conditions for MVNO entry

The effects of regulator-mandated MVNO entry can have far reaching consequences if such regulation is not warranted. A regulator needs to assess the level of competition, potential competition, and entry conditions in the country’s wireless market with respect to MVNO entry and accordingly introduce mandatory conditions.

# Annexure- I

# Questionnaire

SATRC WG Item: “Regulatory Framework for Mobile Virtual Network Operators (MVNOs)”

Q1. How many Mobile Network operators (MNOs) are operating in your country?

Q2. How many MVNOs are operating in your country?

Q3. How do you see market conditions in your cellular mobile market for the need of MVNOs? For example, level of competition, level of prices, availability of alternative / additional choices, quality of customer service, innovation in tariff packages, etc.

a. Should there be a limit on the number of MVNOs in your telecom market?

b. Should there be any restriction on the number of MVNOs attached to MNO?

Q4. Is there any framework in place for MVNO?

a. Please mention salient features of the existing framework for MVNO.

Q5. What types of MVNO models are recognized or included in the framework?

a. What are the financial obligations on each type of MVNO model?

b. What are the license fees for each MVNO model?

Q6. Is Infrastructure-based MVNO allowed in your country? – Can MVNO provide its own core network and manage its own core transmission network to carry traffic.

Q7. Can existing Mobile Network Operator (MNO) become MVNO of its own network or any other MNOs?

Q8. What kind of license is issued to the MVNO?

Q9. What roles are assigned to the MNO with regard to going into MVNO operation with an MVNO?

Q10. What are the Quality of Service parameters for MVNO?

a. On the use of MNO network, is quality of service obligation responsibility of MNO or MVNO?

Q11. In what type of MVNO model, spectrum is shared?

a. If any spectrum is shared, then how are the spectrum fees governed?

Q12. How is numbering resource utilized for MVNO? Whether the main MNO is responsible to get numbering and sublet to MVNO or the MVNO is required to get his resource.

Q13. How are customer grievances addressed in case of MVNO?

Q14. Is there a requirement of signing an agreement with MNO before submitting license application for MVNO?

Q15. As cellular mobile markets are observing consolidation, do you consider MVNOs as option to preserve competition in the market?

Q16. Under regulatory framework for MNOs and MVNOs, are MNOs under mandatory obligation to entertain the requests of MVNO(s) to enter into an agreement?

Q17. Can MVNOs make independent interconnect and roaming with other MNOs?

Q18. What is the latest position of your organization on MVNO?

Do you consider that MVNOs have potential to enrich competition through provision of additional choices, improved customer service and innovative services and packages?

Q19. What are regulatory challenges currently being faced with regard to MVNO operations.

# Annexure- II

# Responses to the Questionnaire from SATRC Countries

Afghanistan

Q1. How many Mobile Network operators (MNOs) are operating in your country?

6 Mobile Network Operators are operating

Q2. How many MVNOs are operating in your country?

Still there is no MVNO operator

Q3. How do you see market conditions in your cellular mobile market for the need of MVNOs? For example, level of competition, level of prices, availability of alternative / additional choices, quality of customer service, innovation in tariff packages, etc.

In regulatory framework except for frequency for access, there are no legal constraints for MVNO to obtain license.

a. Should there be a limit on the number of MVNOs in your telecom market?

No limits

b. Should there be any restriction on the number of MVNOs attached to MNO?

 MVNO first need to agree with, MNO about what sort for operation will be carried on their business plan plus an application need to be submitted to ATRA for getting a license. So, number of licenses will be subject to market demand and capacity.

Q4. Is there any framework in place for MVNO?

a. Please mention salient features of the existing framework for MVNO.

 Not yet

Q5. What types of MVNO models are recognized or included in the framework?

a. What are the financial obligations on each type of MVNO model?

b. What are the license fees for each MVNO model?

Still not specified

Q6. Is Infrastructure-based MVNO allowed in your country? – Can MVNO provide its own core network and manage its own core transmission network to carry traffic.

 Still not specified

Q7. Can existing Mobile Network Operator (MNO) become MVNO of its own network or any other MNOs?

Not Applicable

Q8. What kind of license is issued to the MVNO?

Still not specified

Q9. What roles are assigned to the MNO with regard to going into MVNO operation with an MVNO?

 Not Applicable

Q10. What are the Quality of Service parameters for MVNO?

Not Applicable

Q11. In what type of MVNO model, spectrum is shared?

a. If any spectrum is shared, then how are the spectrum fees governed?

 Not Applicable

Q12. How is numbering resource utilized for MVNO? Whether the main MNO is responsible to get numbering and sublet to MVNO or the MVNO is required to get his resource.

Not Applicable

Q13. How are customer grievances addressed in case of MVNO?

 Not Applicable

Q14. Is there a requirement of signing an agreement with MNO before submitting license application for MVNO?

Yes

Q15. As cellular mobile markets are observing consolidation, do you consider MVNOs as option to preserve competition in the market?

Still not specified

Q16. Under regulatory framework for MNOs and MVNOs, are MNOs under mandatory obligation to entertain the requests of MVNO(s) to enter into an agreement?

Yes

Q17. Can MVNOs make independent interconnect and roaming with other MNOs?

Not specified

Q18. What is the latest position of your organization on MVNO?

Do you consider that MVNOs have potential to enrich competition through provision of additional choices, improved customer service and innovative services and packages?

ATRA would like first to develop a framework for MVNO and specially scope of operation and obligation.

Q19. What are regulatory challenges currently being faced with regard to MVNO operations.

 Not Applicable

Bangladesh

Q1. How many Mobile Network operators (MNOs) are operating in your country?

Answer: 05 licensed but operational 04 nos.

Q2. How many MVNOs are operating in your country?

Answer: 0 (Zero)

Q3. How do you see market conditions in your cellular mobile market for the need of MVNOs? For example, level of competition, level of prices, availability of alternative / additional choices, quality of customer service, innovation in tariff packages, etc.

Answer: Considering present low price of voice, data and other services; high level of competition, lower ARPU, reach of MNOs, lack of new group focused business scope etc. in Bangladesh; present market conditions is sustainable for MVNO.

a. Should there be a limit on the number of MVNOs in your telecom market?

Answer: It depends on market condition while the MVNO license will be issued.

b. Should there be any restriction on the number of MVNOs attached to MNO?

Answer: same as above ans (a).

Q4. Is there any framework in place for MVNO?

a. Please mention salient features of the existing framework for MVNO.

Answer: At present there is no framework developed for MVNOs.

Q5. What types of MVNO models are recognized or included in the framework?

a. What are the financial obligations on each type of MVNO model?

b. What are the license fees for each MVNO model?

Answer: Not applicable now.

Q6. Is Infrastructure-based MVNO allowed in your country? – Can MVNO provide its own core network and manage its own core transmission network to carry traffic.

Answer: As per Bangladesh Telecommunication Regulatory Act 2001, MVNOs will be licensed under telecommunication category, but they will not be permitted to develop their own transmission network as there are separate licensee to do that. They may not have permitted to develop their own core network but still it will depend on what types of MVNO licensed issued by the govt.

Q7. Can existing Mobile Network Operator (MNO) become MVNO of its own network or any other MNOs?

Answer: This may not be allowed by the government.

Q8. What kind of license is issued to the MVNO?

Answer: : As per Bangladesh Telecommunication Regulatory Act 2001, MVNOs will be licensed under telecommunication category

Q9. What roles are assigned to the MNO with regard to going into MVNO operation with an MVNO?

Answer: Not applicable

Q10. What are the Quality of Service parameters for MVNO?

a. On the use of MNO network, is quality of service obligation responsibility of MNO or MVNO?

Answer: As there is no MVNO operator operating so there is no QoS parameter defined or set by the government. Once we issued the license then we will develop one.

Q11. In what type of MVNO model, spectrum is shared?

a. If any spectrum is shared, then how are the spectrum fees governed?

 Answer: Not applicable

Q12. How is numbering resource utilized for MVNO? Whether the main MNO is responsible to get numbering and sublet to MVNO or the MVNO is required to get his resource.

Answer: As per National Numbering Plan 2017 we will allocate number blocks for MVNO operators.

Q13. How are customer grievances addressed in case of MVNO?

Answer: May be same as MNOs.

Q14. Is there a requirement of signing an agreement with MNO before submitting license application for MVNO?

Answer: It might be required. But as there is not framework developed so there is not clear instruction.

Q15. As cellular mobile markets are observing consolidation, do you consider MVNOs as option to preserve competition in the market?

Answer:

Yes, we do. MVNO can be considered as a market tool to preserve competition for the markets where consolidation has resulted in reduction of number of operating MNOs. But the market conditions should meet pre-requisites for introduction of MVNO and factors required for successful MVNO regime to expedite competition.

Q16. Under regulatory framework for MNOs and MVNOs, are MNOs under mandatory obligation to entertain the requests of MVNO(s) to enter into an agreement?

Answer: Once we develop a framework for MVNO, we will incorporate these things that MNO’s must have entertain the MVNO or else it will be difficult to introduce MVNO’s in the market.

Q17. Can MVNOs make independent interconnect and roaming with other MNOs?

Answer: It will be good operational advantage for MVNO’s but it’s industry driven.

Q18. What is the latest position of your organization on MVNO?

Do you consider that MVNOs have potential to enrich competition through provision of additional choices, improved customer service and innovative services and packages?

Answer: Considering the present market dynamics we think present Bangladesh telecom market is not favorable for introducing MVNO to expedite more competition in telecom space. Because present MNOs are already offering services at very low cost, MNOs are struggling with present spectrum holdings to provide better QoS ( MNOs don’t have extra capacity to spare for MVNOs) which suggests there is no room for MVNOs to enter in the market to provide services at lower price compare to MNOs.

We consider MVNO as the next scope to inject competition in the market. We think with the evolution of digital services, MVNO will be able to play vital role in terms of providing internet, digital content services etc. in the next generation technology like 4G in Bangladesh to increase competition in the market. At present MNOs are struggling with their spectrum to maintain better QoS. Next auction likely to be held in Feb’18. We hope after the auction and 4G being deployed we can reassess the market readiness to step forward MNVO introduction.

Q19. What are regulatory challenges currently being faced with regard to MVNO operations.

Answer: Not applicable as there is no licensing framework right now.

Bhutan

Q1. How many Mobile Network operators (MNOs) are operating in your country?

Answer: None

Q2. How many MVNOs are operating in your country?’

Answer: None

Q3. How do you see market conditions in your cellular mobile market for the need of MVNOs? For example, level of competition, level of prices, availability of alternative / additional choices, quality of customer service, innovation in tariff packages, etc.

Answer: Since the telecom market in Bhutan is quite small, we do not foresee the need for licensing MVNOs.

a. Should there be a limit on the number of MVNOs in your telecom market?

Answer: At present, we are not looking into the introduction of MVNO in our telecom market.

b. Should there be any restriction on the number of MVNOs attached to MNO?

Answer: Same as mentioned in (a) above.

Q4. Is there any framework in place for MVNO?

Answer: We do not have any framework developed for MVNO. We would like to use the out-come of this study for developing framework.

a. Please mention salient features of the existing framework for MVNO.

Q5. What types of MVNO models are recognized or included in the framework?

Answer: We have not looked into this issue.

a. What are the financial obligations on each type of MVNO model?

b. What are the license fees for each MVNO model?

Q6. Is Infrastructure-based MVNO allowed in your country? – Can MVNO provide its own core network and manage its own core transmission network to carry traffic.

Answer: As far as our Act ( Bhutan Information, Communications and Media Act 2006) is concern, MVNO will be licenced under ICT service category and this category will not be permitted to develop its own core network as well as core transmission network. They are required to share such infrastructure with the ICT facility or ICT service ( unified licence)

Q7. Can existing Mobile Network Operator (MNO) become MVNO of its own network or any other MNOs?

Answer: This may not be possible. New entrant might be allowed to be the MVNO of any existing Mobile Network Operator.

Q8. What kind of license is issued to the MVNO?

Answer: As per our Act, the MVNO will fall under ICT Service Licence.

Q9. What roles are assigned to the MNO with regard to going into MVNO operation with an MVNO?

Answer: Not applicable

Q10. What are the Quality of Service parameters for MVNO?

a. On the use of MNO network, is quality of service obligation responsibility of MNO or MVNO?

Answer: We have not come out with QoS Parameters for MVNO. However, if we have to licence MVNO, then they will have to follow the same QoS Parameters issued to MNO.

Q11. In what type of MVNO model, spectrum is shared?

a. If any spectrum is shared, then how are the spectrum fees governed?

Answer: MVNO will be eligible to apply for spectrum similar to MNO. In Bhutan, we allocated spectrum based on the requirement of individual operators on first come first basis and also ensure that adequate frequency is reserved for other players in near future.

Q12. How is numbering resource utilized for MVNO? Whether the main MNO is responsible to get numbering and sublet to MVNO or the MVNO is required to get his resource.

Answer: We might allocate different blocks of numbers to the MVNO operators.

Q13. How are customer grievances addressed in case of MVNO?

Answer: We might apply the same customer grievance system applicable to MNOs to MVNOs.

Q14. Is there a requirement of signing an agreement with MNO before submitting license application for MVNO?

Answer: This might be required. The Agreement with the MNO will be used for determining the eligibility of licence for MVNO

Q15. As cellular mobile markets are observing consolidation, do you consider MVNOs as option to preserve competition in the market?

Answer: In principle, yes we consider MVNOs as substitute for fostering and preserving completion in the market. Since our telecom market is too small ( around 700,000), we have not explored the possibilities of introducing MVNOs.

Q16. Under regulatory framework for MNOs and MVNOs, are MNOs under mandatory obligation to entertain the requests of MVNO(s) to enter into an agreement?

Answer: If we plan to introduce MVNOs, then we might make it mandatory obligation for MNOs to entertain the request for MVNOs. Without such measure in place, it might be difficult to introduce MVNOs. Their entry into the market can be made difficult or blocked by MNO.

Q17. Can MVNOs make independent interconnect and roaming with other MNOs?

Answer: This might be possible. If we want to introduce MVNO then it is equally important to given then certain flexibility in their operations including choice of interconnection as well as roaming.

Q18. What is the latest position of your organization on MVNO?

Do you consider that MVNOs have potential to enrich competition through provision of additional choices, improved customer service and innovative services and packages?

Answer: Right now, we have not made any decision on this subject. As mentioned above, we will review the out-come of this study report as a basis to study the possibility of introducing MVNO in Bhutan.

Q19. What are regulatory challenges currently being faced with regard to MVNO operations.

Answer: There is no specific challenge associated with the MVNOs operations. However due to the market size, we have not considered the licensing of MVNOs.

India

India presently does not have any MVNO. However, the Department of Telecommunication (DoT) has issued a guidelines for grant of unified license (Virtual Network operators) which is available at the following weblink: http://www.dot.gov.in/sites/default/files/UL%20(VNO)%20Guidelines.pdf.

Iran

No response received

Maldives

Q1. How many Mobile Network operators (MNOs) are operating in your country?

Ans: 2

Q2. How many MVNOs are operating in your country?

Ans: 0

Q3. How do you see market conditions in your cellular mobile market for the need of MVNOs? For example, level of competition, level of prices, availability of alternative / additional choices, quality of customer service, innovation in tariff packages, etc.

Ans: With both mobile service providers providing all services fully nationwide, and with a high level of prevailing competition between them, we currently do not feel the need for MVNOs in Maldives. In general the case for MVNOs exist when service providers have excess capacity with limitations in rolling out service. (which is not the case for Maldives)

a. Should there be a limit on the number of MVNOs in your telecom market? N/A

b. Should there be any restriction on the number of MVNOs attached to MNO? N/A

Q4. Is there any framework in place for MVNO? No

a. Please mention salient features of the existing framework for MVNO.

Q5. What types of MVNO models are recognized or included in the framework? N/A

a. What are the financial obligations on each type of MVNO model?

b. What are the license fees for each MVNO model?

Q6. Is Infrastructure-based MVNO allowed in your country? – Can MVNO provide its own core network and manage its own core transmission network to carry traffic.

Ans: No Independent Infrastructure providers.

Q7. Can existing Mobile Network Operator (MNO) become MVNO of its own network or any other MNOs?

Ans: N/A

Q8. What kind of license is issued to the MVNO?

Ans: N/A

Q9. What roles are assigned to the MNO with regard to going into MVNO operation with an MVNO? N/A

Q10. What are the Quality of Service parameters for MVNO?

Ans: N/A

a. On the use of MNO network, is quality of service obligation responsibility of MNO or MVNO?

Q11. In what type of MVNO model, spectrum is shared?

Ans: N/A

a. If any spectrum is shared, then how are the spectrum fees governed?

Q12. How is numbering resource utilized for MVNO? Whether the main MNO is responsible to get numbering and sublet to MVNO or the MVNO is required to get his resource.

Ans: N/A

Q13. How are customer grievances addressed in case of MVNO?

Ans: N/A

Q14. Is there a requirement of signing an agreement with MNO before submitting license application for MVNO?

Ans: If an operator is willing to partner with third party as MVNO for service provision, this could be considered, and in this case, yes a signed agreement would be required.

Q15. As cellular mobile markets are observing consolidation, do you consider MVNOs as option to preserve competition in the market?

Ans: Not really for Maldives.

Q16. Under regulatory framework for MNOs and MVNOs, are MNOs under mandatory obligation to entertain the requests of MVNO(s) to enter into an agreement? No

Q17. Can MVNOs make independent interconnect and roaming with other MNOs? N/A

Q18. What is the latest position of your organization on MVNO?

Ans: Not practical for current scenario in Maldives. Maybe for some other countries.

a. Do you consider that MVNOs have potential to enrich competition through provision of additional choices, improved customer service and innovative services and packages?

Q19. What are regulatory challenges currently being faced with regard to MVNO operations.

Ans: N/A

Nepal

Q20. How many Mobile Network operators (MNOs) are operating in your country?

Ans:- There are 5 Mobile Network Operators in Nepal. They are Nepal Doorsanchar Company Ltd., Ncell Pvt. Ltd., Smart Telecom Pvt. Ltd., United Telecom Ltd. and Nepal Satellite Telecom Pvt. Ltd.

Q21. How many MVNOs are operating in your country?

Ans:- There is no MVNOs in Nepal.

Q22. How do you see market conditions in your cellular mobile market for the need of MVNOs? For example, level of competition, level of prices, availability of alternative / additional choices, quality of customer service, innovation in tariff packages, etc.

a. Should there be a limit on the number of MVNOs in your telecom market?

b. Should there be any restriction on the number of MVNOs attached to MNO?

Ans:-

Q23. Is there any framework in place for MVNO?

a. Please mention salient features of the existing framework for MVNO.

Ans:- There is no framework for MVNO in Nepal. But NTA has started study to formulate regulatory framework for MVNO in Nepal.

Q24. What types of MVNO models are recognized or included in the framework?

a. What are the financial obligations on each type of MVNO model?

b. What are the license fees for each MVNO model?

Ans:-As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q25. Is Infrastructure-based MVNO allowed in your country? – Can MVNO provide its own core network and manage its own core transmission network to carry traffic.

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q26. Can existing Mobile Network Operator (MNO) become MVNO of its own network or any other MNOs?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q27. What kind of license is issued to the MVNO?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q28. What roles are assigned to the MNO with regard to going into MVNO operation with an MVNO?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q29. What are the Quality of Service parameters for MVNO?

a. On the use of MNO network, is quality of service obligation responsibility of MNO or MVNO?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q30. In what type of MVNO model, spectrum is shared?

a. If any spectrum is shared, then how are the spectrum fees governed?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q31. How is numbering resource utilized for MVNO? Whether the main MNO is responsible to get numbering and sublet to MVNO or the MVNO is required to get his resource.

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q32. How are customer grievances addressed in case of MVNO?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q33. Is there a requirement of signing an agreement with MNO before submitting license application for MVNO? \

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q34. As cellular mobile markets are observing consolidation, do you consider MVNOs as option to preserve competition in the market?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q35. Under regulatory framework for MNOs and MVNOs, are MNOs under mandatory obligation to entertain the requests of MVNO(s) to enter into an agreement?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q36. Can MVNOs make independent interconnect and roaming with other MNOs?

Ans:- As per the regulatory framework for MVNO in Nepal to be approved by the NTA/Government of Nepal.

Q37. What is the latest position of your organization on MVNO?

Do you consider that MVNOs have potential to enrich competition through provision of additional choices, improved customer service and innovative services and packages?

Ans:- There is no framework for MVNO in Nepal. But NTA has started study to formulate regulatory framework for MVNO in Nepal.

Q38. What are regulatory challenges currently being faced with regard to MVNO operations.

Ans:- Currently, there is no MVNO in Nepal. That’s why we do not have any regulatory challenges currently being faced with regard to MVNO operations.

Sri Lanka

No response received