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

**HARMONIZING ICT INDICATORS IN SATRC**

**Prepared by**

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

Adopted by

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# 1: INTRODUCTION

## 1.1 Background and Purpose

The ICT development indicators are widely used to understand the level of ICT development of any country whereby regulators and decision makers build their strategies and make future plans on the basis of these indicators. The ICT indicators are used by the governments to assess and evaluate their impact on social and economic developments in a country and can be further used to assess the level of digital and financial inclusion of a nation. Moreover, these indicators are also used for benchmarking countries’ ICT development. There are international indexes which are released by different telecom and ICT organizations using these indicators. ITU ICT index, GSMA Mobile Connectivity Index and EIU ICT Readiness Index are few important and popular ones. In addition, indexes such as Global Innovation Index and Doing Business Index, are also referred during investment decisions for any specific market. Harmonizing ICT indicators for SATRC countries will help members through knowledge sharing, comparative study and benchmark setting in addition to many other practical and analytical usage.

## 1.2 Scope of Study

The scope of the work includes:

1. To study the current state of ICT indicators in SATRC, the list of ICT indicators collected by SATRC members and the methodology of collection;
2. To suggest on the harmonization of ICT indicators for SATRC members;
3. Exchange ideas, opinions, and experiences among members to develop ICTs indicators in this region;
4. Knowledge transfer among member states.

## 1.3 Methodology

The study has been carried out by the lead expert in consultation with the other experts from member countries on the subject. A questionnaire was initially prepared by the group to obtain uniform information. The questioner is placed at Annex-2. Based on the inputs (Annex-3), the lead expert compiled, identified and harmonized the common indicators and generated this report based on the best practices for the SATRC regions. A supplementary and short questionnaire was sent to get comments from members about the data collection and display mechanism for harmonized indicators (Annex-4).

# 2: TYPES OF INDICATOR

ICT indicators can be discussed and presented through different set of categories. ITU report on ICT indicators - Measuring the Information Society (2018), ICT Indicators are discussed under the following groups:

1. Access to ICT
2. ICT Revenue & investment
3. Price of ICT Services
4. Use of ICT
5. ICT Skills

The list of the **first three groups of indicators** are covered explicitly in the Handbook for the Collection of Administrative Data on Telecommunications/ICT 2020. The first group represents the availability and development of ICT infrastructure. The second one covers financial efforts and outcomes. The third group cover cost or affordability of ICT services. These indicators are calculated or measured through administrative or supply side data. So, indicators included in these three categories can be termed as supply side indicators.

The **last two groups of indicators** are (D, E) are discussed in detail in the Manual for Measuring ICT Access and Use by Household and Individual 2020. *Use of ICT* related indicators shows the extent to which different types of ICT services are used by the household and individuals. ICT Skills related indicators show the readiness and capacity of the individual or group of citizens in effectively using ICT services. These are demand side indicators or indicators measured by survey data.

So, if brief, group of indicators can be divided into two categories based on their collection methodology:

1. Supply side or administrative indicators
2. Demand side indicators.

In recent years, another dimension in the discussion of indicators has been considered. Big data is being used popularly for collection and redefining indicators. **Big data can be used to produce new indicator**s, and replace or complement existing ICT indicators to enhance data collections, benchmarks and methodologies for measuring the information society. This new approach proposes to generate new indicators through big data analysis (**example: Usage of Mobile‐Cellular Networks for non‐IP‐Related Activities by Technology, IMEI Conversion Rate,** etc.) as well as replacing existing indicators through the new methodology (example: Domestic mobile‐Broadband Traffic by Contract Type Technology, International mobile‐ Broadband Traffic, by Contract Type etc.). The update on the current development in this approach can be found at the methodological report BIG DATA FOR MEASURING THE INFORMATION SOCIETY, ITU, 2017.

The Partnership on Measuring ICT for Development, an international, multi-stakeholder initiative to improve the availability and quality of ICT data and indicators particularly in developing countries, has discussed the ICT indicators under following categories:

1. ICT infrastructure and access
2. ICT access and use by households and individuals
3. ICT access and use by enterprises
4. ICT sector and trade in ICT goods
5. ICT in education
6. ICT in government

# 3: LIST OF INDICATORS

## 3.1 Administrative indicators

ITU lists the administrative indicators covering ICT infrastructure and access, finance and price related indicators as mentioned in Annex-1 (A.1).

Among these, the followings are the **core access indicators** defines by Partnership on Measuring ICT for Development.

1. Fixed-telephone subscriptions per 100 inhabitants
2. Mobile cellular telephone subscriptions per 100 inhabitants
3. Fixed broadband Internet subscriptions per 100 inhabitants, broken down by speed
4. Active mobile-broadband subscriptions per 100 inhabitants
5. International Internet bandwidth per inhabitant (bits/second/inhabitant)
6. Percentage of the population covered by a at least a 3G mobile network
7. Fixed broadband Internet prices per month
8. Mobile cellular telephone prepaid prices per month
9. Mobile broadband Internet prices per month
10. TV broadcasting subscriptions per 100 inhabitants

## 3.2 Household/Individual ICT Use Indicators

The key list of Household/demand side indicators, as listed by Partnership on Measuring ICT for Development and adopted by ITU, is mentioned in Annex-1 (A.2).

## 3.3 Other Core ICT Indicators

Agreed by Partnership on Measuring ICT for Development and accepted by ITU, the remaining core ICT indicators are mentioned in Annex 1 (A.3).

# 4: INDICATORS COLLECTED BY SATRC MEMBERS

The following group of indicators are collected by the SATRC members. The detailed list is available at Annex-3.

## Subscriber or Access Indicators

All the countries collect data related to subscription of telecom services. It includes the number of voice subscription for mobile and fixed network and data subscription for mobile and fixed network. Members also generate penetration or density related indicators (internet penetration, tele density etc. ) from subscription data. These are the most common indicators among reporting countries. These indicators are included into the core list of indicators, as mentioned above.

## Network Coverage or ICT Infrastructure Indicators

Network coverage data, specially the extent of mobile network development, are collected by almost all countries. But a couple of countries have not reported on these items. These core indicators are important to show the infrastructure development of different technologies. This group includes the indicators to present technology-wise coverage (i.e. 2G, 3G, 4G/LTE, WiMAX etc.) in terms of population and geography etc.

## Traffic related indicators

Some SATRC members collect voice and data traffic information on monthly basis. It includes traffic volume for both domestic and international voice call, Data Usage per subscribers, average upload and download speeds, etc.

## QoS Indicators

Most of the SATRC members collect data on QoS parameters and generate indicators. They collect all conventional QoS data for voice and data services, for example call set-up time, call drop rate, data download and upload speed by technology (3G/LTE, etc.), latency etc. One country reported about the collection of interconnection data.

## Financial Indicators

Some members reported that they collect investment and finance related data and generate indicators based on them. It includes investment, revenue generation etc.

## Tariff/Pricing Indicators

Some members collect data on pricing indicators. This mainly includes the price for basic voice services, tariff for mobile data service, price for fixed voice and data service etc.

## Data collected by SATRC members based on ITU Long/Short Questionnaire

As a separate note, most SATRC members reported that they collect data and report all indicators included in ITU short and long questionnaire on annual basis. It indicates that, especially considering the robust list of indicators included in long questionnaire, these countries produce rich list of indicators at least on annual basis.

## Note

All the indicators reported by SATRC members are of **administrative nature**. These are collected from supply side and mainly includes the ‘ICT Access/Infrastructure’ type of indicators. None of the members reported to be associated with the ‘ICT Use’ or ‘ICT Skill’ related indicators. It means SATRC telecom regulators may not be associated with producing demand side ICT indicators (as mentioned in section 3) which are significant in measuring ICT progress and are high in number. One member recommended to include the tariff, ARPU and roaming (charge) data to be collected and published considering SATRC regional requirement.

# 5: COLLECTION AND REPORTING FORMAT

All the members collect the indicators’ data from respective telecom operators in Excel/Word files. Understandably, data in these formats are easy to process and to work-on further. But also, it indicates that there is a room for improvement for SATRC countries in developing an automated process of data reporting and indicator generation following some best practice. Some members reported to have customized online platform for data report and compilation. This type of system can be replicated across all data collection nodes for easier and speedy collection and reporting mechanism.

# 6: DATA PUBLICATION

All the SATRC members report the subscription and penetration (or density) information for voice and internet services (for mobile and fixed network) on their website on monthly basis. Almost all of them also present the historical data and comparison for these indicators. One member additionally reports the QoS indicators and one member reports the financial (investment, revenue, FDI, govt revenue from sector) indicators on website on regular and monthly basis. Few members report that they publish a richer list of indicators through quarterly or annual printed publication which are also made available online.

# 7: INTERNATIONAL BEST PRACTICES

## The Mexican Telecommunications Databank

The Instituto Federal de Telecomunicaciones (IFT) created in 2016 what is probably the most comprehensive and modular telecommunication and broadcasting databank offered by any regulatory authority. The Mexico Telecommunications Databank (*Banco de Información de Telecomunicaciones* (BIT)) is a state-of-the-art website based on a business intelligence logic. Both in terms of data series available in the BIT (indicator frequency and time span) and the possibilities offered to work, exploit, visualize, and export data and reports from the application offered, are exceptional.

Quarterly and annual reports (historic series) for general industry data (GDP, revenues, national and foreign direct investment, employment, prices and concentration indices, among others), mobile and fixed networks services, open air TV and pay TV services, radio, as well as major wholesale services are offered for long time series periods (some of them since 1971) and at low disaggregation levels. All data can be visualized as well by operator, federal state and even municipalities. Since 2018, the BIT also includes information related to radioelectric spectrum tenure by operator and frequency band.

The BIT was designed to be accessed by a range of users, from basic to specialized users. The databank flexibility allows users to select indicator subsamples, filtering variables, time series selection, numerical operations on existing data series, as well as adding/removing/subtracting variables in a given table or plot. With a wide variety of figures, plots, styles and scales, the user can easily define table and figure templates and forecasts.

Data and figures can be easily visualized on computers, smartphones or tablets, and downloaded in the form of standardized reports or personalized queries for specialized users.

**International benchmarks are also available. It is possible to compare Mexico among economies with similar GDP per capita and its main trade partners (Argentina, Brazil, Canada, Chile, China, Colombia, Turkey, and the United States of America).** Comparisons not only cover traditional fixed and mobile telecommunication services, but also penetrations of audiovisual over-the-top subscriptions. In addition, in partnership with Regulatel (Association of regulators not only from Latin America and the Caribbean but also from Europe—Italy, Portugal, and Spain), the IFT receives and processes quarterly statistics from 22 countries (including Cuba). Visualization and exploitation of this data is available by country, telecommunication service, and degree of connectivity.

In accordance with IFT policies, the BIT includes gender related statistics. Moreover, the BIT now publishes survey data, as well as data from operators, collected by the Mexican National Statistical Office (INEGI) in collaboration with IFT and the Ministry of Communications and Transport (SCT). The "National Survey of ICT & Internet Use by Mexican Households (ENDUTIH)" is prepared on an annual basis, has a sample of more than 150 000 households, and collates national and state level data, including 49 cities, which represent almost 50 per cent of the Mexico population. (Source: Banco de Información de Telecomunicaciones (BIT): https:// bit .ift .org .mx/ BitWebApp/)

## Information society statistics in the Philippines

The Philippine Statistical System (PSS) is a decentralized system that ensembles all statistical organizations at all administrative levels, its personnel and the national statistical development program. One of its main components for an effective and efficient national statistical system is the management and coordination mechanism within the government.

The Philippine Statistics Authority (PSA), as lead agency, has to coordinate and monitor the implementation, periodic assessment and updating of the PSDP. Among other domains, the PSDP presents plans and methods of action to accurately monitor, track, and measure the impact of ICT, through timely and relevant statistics. An Interagency Committee on Information and Communications Technology Statistics (IAC-ICTS) was establish to coordinate the production of statistics in the ICT domain.

A number of key developments in ICT statistics in the PSDP 2018–2023 included institutional, methodological and implementation activities, among them:

• Inclusion of e-commerce indicators on establishment and household surveys;

• Inclusion of the ICT indicators and statistical activities in the system of official statistics;

• Creation of technical working groups under the IAC-ICTS to discuss plans to improve the generation of ICT statistics (e.g. household ICT use and access, business and e-commerce, education, ICT use and access of national government agencies, etc.);

• Formulation of an Information Society Statistics Framework and adoption of official concepts and definitions on ICT Statistics for statistical use;

• Development of guidelines for ICT data collection, production, and dissemination;

• Development of a methodology on the estimation of satellite accounts for the information economy;

• Conduct of surveys that will generate ICT related statistics to address the requirements of development plans such as the PDP 2017-2022, the SDGs, **ITU Core ICT Indicators**, eGov Master Plan. (Sources: http:// www .neda .gov .ph)

# 8: HARMONIZATION OF INDICATORS

All the SATRC members recommended to have harmonized ICT indicators for SATRC. Members agreed that it will help them in comparing developments among SATRC members and would present clearer visibility of comparative ICT development across this region.

But the members differ in opinion on the extent of harmonizing and method of harmonizing. Most of the members recommended to harmonize fixed and mobile (voice and data) subscription indicators, penetration and density indicators and broadband QoS (speed) indicators. But one member primarily recommended to put emphasis on subscription indicators.

Most of the members recommended to report mobile subscription information on quarterly basis. But three members recommended for annual and one for monthly reporting of these data. Most of the members recommended annual reporting for indicators of fixed service subscription and broadband speed because of their less dynamic nature. But few members also recommended for monthly or quarterly reporting. Ranking of broadband speed is not recommended by most members. Similarly, most of the members have not shown interest in harmonizing narrowband internet indicators. Detail list recommended indicators can be found in Q7 in Annex-2.

Almost all members recommended to make the members responsible for publishing the harmonized indicators. Few members specifically suggested to develop a centralized system for SATRC to report and publish these harmonized indicators.

# 9: RECOMMENDATIONS

1. Based on the recommendation of the members[[1]](#footnote-1), the following list of indicators are recommended as the primary list of indicators for harmonization across SATRC countries. The indicators listed in the following table are recommended by all members, are easily interpretable and can be collected easily in administrative process. Their reporting frequency is also presented alongside.

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Indicators** | **Reporting Frequency** |
|  | Total Cellular Subscriptions *(Post-paid) (2G – GSM/CDMA, 3G, 4G, EVDO)* | Quarterly |
|  | Total Cellular Subscriptions *(Pre-paid) (2G – GSM/CDMA, 3G, 4G, EVDO)* | Quarterly |
|  | Total Mobile Broadband Subscribers *(3G, 4G, EvDO)* | Quarterly |
|  | Mobile Broadband Penetration in % | Quarterly |
|  | Mobile Broadband DL Speed | Quarterly |
|  | Mobile Broadband UL Speed | Quarterly |
|  | Total Fixed-line Subscribers | Annual |
|  | Fixed Broadband Subscribers – Wired  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* | Annual |
|  | Fixed Broadband Penetration in % | Annual |
|  | Tele density (Overall Telephony, *Mobile & Fixed) in %* | Annual |

As most of the members collect and publish indicators 1-6 on monthly basis, it will be easier to report them as harmonized indicator of SATRC on quarterly basis. Due to very small churn in most of the SATRC countries, fixed line data are preferred to be reported on annual basis.

The ranking indicators are omitted in this recommendation as most members avoided them. Fixed line speed data are more complex to measure and report due to different speed level subscription and are omitted in this recommendation.

2. Based on the response against these primary set of indicators, SATRC may consider to gradually enrich this list of harmonized indicators.

3. The data for selected set of indicators can be collected and displayed through a centralized web-based platform. Members would submit their data using secure log-in process. But it is very important for all members to commit regular data submission to make the centralized system effective.

4. For quarterly indicators, data should be submitted to the centralized system within 20 days from the end of the quarter. For annual indicators, data should be submitted within 30 days from the end of the year.

# ANNEXURE – 1

## A.1 Administrative indicators

**1 Fixed-telephone networks**

Indicator 1.1: Total capacity of local public switching exchanges

Indicator 1.2: Number of households covered by a fixed wired network, by network technology

Indicator 1.3: Fixed-telephone subscriptions

Indicator 1.4: Analogue fixed-telephone lines

Indicator 1.5: VoIP subscriptions

Indicator 1.6: Fixed wireless local loop subscriptions

Indicator 1.7: ISDN subscriptions

Indicator 1.8: ISDN voice-channel equivalents

Indicator 1.9: Public payphones

Indicator 1.10: Percentage of fixed-telephone subscriptions that are residential

Indicator 1.11: Percentage of fixed-telephone subscriptions in urban areas

Indicator 1.12: Fixed-telephone numbers ported

**2 Mobile-cellular networks**

2.1 Subscriptions

Indicator 2.1: Mobile-cellular telephone subscriptions, by postpaid/prepaid

Indicator 2.2: Mobile-cellular telephone subscriptions, by technology

Indicator 2.3: Active mobile-broadband subscriptions

Indicator 2.4: Active subscriptions to LTE/WiMAX mobile broadband

2.2 Coverage

Indicator 2.5: Percentage of the land area covered by mobile-cellular network

Indicator 2.6: Percentage of the population covered by a mobile-cellular network

Indicator 2.7: Percentage of the population covered by at least a 3G mobile network

Indicator 2.8: Percentage of the population covered by at least a 4G/LTE mobile network

2.3 Portability

Indicator 2.9: Mobile-cellular numbers ported

2.4 Data services

Indicator 2.10: Machine-to-Machine (M2M) mobile-network subscriptions

2.5 Spectrum

Indicator 2.11: Amount of spectrum allocated for IMT systems, in MHz

Indicator 2.12: Amount of spectrum licensed for IMT systems, in MHz

**3 Internet**

3.1 International bandwidth

Indicator 3.1: Lit/equipped international bandwidth capacity, in Mbit/s

Indicator 3.2: International bandwidth usage, in Mbit/s

Indicator 3.3: Domestic Internet bandwidth, in Mbit/s

3.2 Fixed Internet subscriptions

Indicator 3.4: Fixed Internet subscriptions

Indicator 3.5: Fixed-broadband subscriptions, by technology

Indicator 3.6: Fixed-broadband subscriptions, by speed

Indicator 3.7: Fixed-broadband subscriptions for organizations

3.3 Leased lines

Indicator 3.8: Leased-line subscriptions

**4 Bundles**

Indicator 4.1: Subscriptions to fixed-broadband and fixed-telephone bundles

Indicator 4.2: Subscriptions to fixed-broadband, fixed-telephone and pay TV bundles

**5 Traffic**

5.1 Fixed-telephone traffic

Indicator 5.1: Domestic fixed-to-fixed telephone traffic, in minutes

Indicator 5.2: Fixed-to-mobile telephone traffic, in minutes

Indicator 5.3: International incoming and outgoing fixed-telephone traffic, in minutes

5.2 Mobile telephone traffic

Indicator 5.4: Domestic mobile-telephone traffic, in minutes

Indicator 5.5: Outgoing mobile traffic to international, in minutes

Indicator 5.6: Incoming international traffic to mobile network, in minutes

Indicator 5.7: Roaming by home subscribers abroad (outbound roaming), in minutes

Indicator 5.8: Roaming by foreign subscribers (inbound roaming), in minutes

Indicator 5.9: SMS/MMS roaming by domestic subscribers (outbound SMS roaming)

Indicator 5.10: SMS/MMS roaming by foreign subscribers (inbound SMS roaming)

Indicator 5.11: SMS sent

Indicator 5.12: SMS international

Indicator 5.13: MMS sent

Indicator 5.14: VoIP traffic, in minutes

Indicator 5.15: Total international incoming and outgoing telephone traffic, in minutes

5.3 Internet traffic

Indicator 5.16: Domestic Internet traffic

Indicator 5.17: Fixed-broadband Internet traffic, in exabytes

Indicator 5.18: Mobile broadband Internet traffic - within the country

Indicator 5.19: Mobile broadband Internet traffic outside the country - data roaming out

**6 Employment, Revenue and Investment**

6.1 Persons employed

Indicator 6.1: Full-time equivalent telecommunication employees, by operator type

Indicator 6.2: Full-time equivalent telecommunication employees (i51), by gender

6.2 Revenue from telecommunication services

Indicator 6.3: Revenue from all telecommunication services

Indicator 6.4: Revenue from fixed-telephone services

Indicator 6.4a: Revenue from fixed-telephone connection charges

Indicator 6.4b: Revenue from fixed-telephone subscription charges

Indicator 6.4c: Revenue from fixed-telephone calls

Indicator 6.5: Revenue from fixed Internet services

Indicator 6.6: Revenue from leased lines

Indicator 6.7: Revenue from fixed value-added telecommunication services

Indicator 6.8: Revenue from mobile networks

Indicator 6.9: Revenue from international inbound roaming

Indicator 6.10: Other telecommunication revenue

6.3 Investment

Indicator 6.11: Annual investment in telecommunication services

Indicator 6.12: Annual investment in non-tangible assets

Indicator 6.13: Annual foreign investment in telecommunications

**7 Broadcasting indicators**

7.1 Multichannel TV subscriptions

Indicator 7.1: Multichannel TV subscriptions

Indicator 7.2: Terrestrial multichannel TV subscriptions

Indicator 7.3: Satellite TV subscriptions

Indicator 7.4: IPTV subscriptions

**8 Quality of service indicators**

Indicator 8.1: Faults per 100 fixed-telephone lines per year

Indicator 8.2: Percentage of fixed-telephone faults cleared by next working day

Indicator 8.3: Mobile cellular unsuccessful call ratio

Indicator 8.4: Mobile cellular dropped call ratio

Indicator 8.5: Complaints per 100 mobile cellular subscriptions

Indicator 8.6: Complaints per 100 mobile broadband subscriptions

Indicator 8.7: Complaints per 100 fixed broadband subscriptions

Indicator 8.8: Service activation time for fixed broadband service

**9 ICT Price data collection and benchmarking**

9.1 Baskets revision 2018

9.2 Prices of mobile network services

Basket 1: Mobile-cellular low-usage basket

Basket 2: Mobile broadband data and voice basket: low usage

Basket 3: Mobile broadband data and voice basket: high usage

Basket 4: Mobile-broadband data-only basket

9.3 Prices of fixed network services

Basket 5: Fixed-broadband 5 GB basket

9.4 Fixed telephone service prices

Indicator 9.1: Installation fee for residential telephone service

Indicator 9.2: Monthly subscription for residential telephone service

Indicator 9.3: Price of a three-minute call to a fixed-telephone line

Indicator 9.4: Price of a three-minute-call to a mobile-cellular phone

Indicator 9.5: Installation fee for business telephone service

Indicator 9.6: Monthly subscription for business telephone service

Among these, the followings are the core access indicators defines by Partnership on Measuring ICT for Development.

1. Fixed-telephone subscriptions per 100 inhabitants
2. Mobile cellular telephone subscriptions per 100 inhabitants
3. Fixed broadband Internet subscriptions per 100 inhabitants, broken down by speed
4. Active mobile-broadband subscriptions per 100 inhabitants
5. International Internet bandwidth per inhabitant (bits/second/inhabitant)
6. Percentage of the population covered by a at least a 3G mobile network
7. Fixed broadband Internet prices per month
8. Mobile cellular telephone prepaid prices per month
9. Mobile broadband Internet prices per month
10. TV broadcasting subscriptions per 100 inhabitants

## A.2 Household/Individual ICT Use Indicators

1. Proportion of households with a radio
2. Proportion of households with a TV
3. Proportion of households with telephone
4. Proportion of households with a computer
5. Proportion of individuals using a computer
6. Proportion of households with Internet
7. Proportion of individuals using the Internet
8. Proportion of individuals using the Internet, by location
9. Proportion of individuals using the Internet, by type of activity
10. Proportion of individuals using a mobile cellular telephone
11. Proportion of households with Internet, by type of service
12. Proportion of individuals using the Internet, by frequency
13. Proportion of households with multichannel television, by type
14. Barriers to household Internet access
15. Proportion of individuals with ICT skills, by type of skills
16. Household expenditure on ICT
17. Proportion of individuals using the Internet, by type of portable device and network used to access the Internet
18. Proportion of individuals who own a mobile phone
19. Proportion of individuals not using the Internet, by type of reason
20. Proportion of individuals who purchased goods or services online, by type of good and service purchased
21. Proportion of individuals who purchased goods or services online, by type of payment channel
22. Proportion of individuals who purchased goods or services online, by method of delivery
23. Proportion of individuals who did not purchase goods or services online, by type of reason

## A.3 Other Core ICT Indicators

Agreed by Partnership on Measuring ICT for Development and accepted by ITU, the followings are the remaining core ICT indicators:

### A.3.1 Core indicators on use of ICT by enterprises

1. Proportion of businesses using computers
2. Proportion of persons employed routinely using computers
3. Proportion of businesses using the Internet
4. Proportion of persons employed routinely using the Internet
5. Proportion of businesses with a web presence
6. Proportion of businesses with an intranet
7. Proportion of businesses receiving orders over the Internet
8. Proportion of businesses placing orders over the Internet
9. Proportion of businesses using the Internet by type of access
10. Proportion of businesses with a Local Area Network
11. Proportion of businesses with an extranet
12. Proportion of businesses using the Internet by type of activity

### A.3.2 Core indicators on the ICT sector and trade in ICT goods

1. Proportion of total business sector workforce involved in the ICT sector
2. ICT sector share of gross value added
3. ICT goods imports as a percentage of total imports
4. ICT goods exports as a percentage of total export

### A.3.3 Core indicators on ICT in education

1. Proportion of schools with a radio used for educational purposes
2. Proportion of schools with a television used for educational purposes
3. Proportion of schools with a telephone communication facility
4. Learners-to-computer ratio in schools with computer-assisted instruction
5. Proportion of schools with Internet access by type of access
6. Proportion of learners who have access to the Internet at school
7. Proportion of learners enrolled at the post-secondary level in ICT-related fields
8. Proportion of ICT-qualified teachers in schools
9. Proportion of schools with electricity

### A.3.4 Core indicators on e-government

1. Proportion of persons employed in central government organizations routinely using computers
2. Proportion of persons employed in central government organizations routinely using the Internet
3. Proportion of central government organizations with a local area network
4. Proportion of central government organizations with an intranet
5. Proportion of central government organizations with Internet access, by type of access
6. Proportion of central government organizations with a web presence
7. Selected Internet-based online services available to citizens, by level of sophistication of service

# ANNEXURE – 2

**Questionnaire for Work Item on Harmonizing ICT Indicators in SATRC**

Q1. Please share all ICT Indicators being collected by Telecom Regulator in your country along with collection timelines? Kindly provide definitions for those Indicator which are not self-explanatory.

Q2. What’s the methodology for collection of ICT Indicators? In which format (Excel, Word, etc.) are the indicators collected?

Q3. Which Indicators are being reported on website? Do you post current / historical ICT Indicators on website as well?

Q4. Do you have online system of Indicator reporting?

Q5. Would you like to recommend any new ICT Indicators which are not being monitored at present? If so, kindly list down the Indicator and the reason why it should be monitored.

Q6. In your view, is there a need to Harmonize Indicators across SATRC? If so, should SATRC maintain and disseminate ICT Indicators of its members?

Q7. Which Harmonized Indicators in your view should be reported and what should be the time period (Monthly, Quarterly, Yearly)? *(Sample Indicators list is shown below)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Indicators | | Reporting Frequency | | | |
| S.No. | 1. Mobile Telephony Subscriptions | Monthly | Quarterly | Annually | Other |
| 1.1 | Total Cellular Subscribers  *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  |  |  |  |
| 1.2 | Total Subscriptions *(Post-paid)* |  |  |  |  |
| 1.3 | Total Subscriptions *(Pre-paid)* |  |  |  |  |
| 1.4 | Total Mobile Broadband Subscribers *(3G, 4G, EvDO)* |  |  |  |  |
| S.No. | 2. Fixed Telephony Subscriptions | Monthly | Quarterly | Annually | Other |
| 2.1 | Total Fixed-line Subscribers |  |  |  |  |
| S.No. | 3. Broadband / Internet Subscriptions | Monthly | Quarterly | Annually | Other |
| 3.1 | Fixed Broadband Subscribers – Wired  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* |  |  |  |  |
| 3.2 | Fixed Broadband Subscribers – Wireless  *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* |  |  |  |  |
| 3.3 | Mobile Broadband Subscribers *(Same as 1.4 )* |  |  |  |  |
| 3.4 | Fixed Narrowband Subscribers - Wired *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  |  |  |
| 3.5 | Mobile Narrowband Subscribers  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  |  |  |  |
| 3.6 |  |  |  |  |  |
| 3.7 |  |  |  |  |  |
| S.No. | 4. Broadband / Internet Speed\* | Monthly | Quarterly | Annually | Other |
| 4.1 | Mobile Broadband DL Speed |  |  |  |  |
| 4.2 | Mobile Broadband UL Speed |  |  |  |  |
| 4.3 | Rank (Mobile Broadband) |  |  |  |  |
| 4.4 | Fixed Broadband DL Speed |  |  |  |  |
| 4.5 | Fixed Broadband UL Speed |  |  |  |  |
| 4.6 | Rank (Fixed Broadband) |  |  |  |  |
| S.No. | 5. Tele-density & Penetration *(%)* | Monthly | Quarterly | Annually | Other |
| 5.1 | Overall Telephony *(Mobile & Fixed)* |  |  |  |  |
| 5.2 | Fixed Broadband |  |  |  |  |
| 5.3 | Mobile Broadband |  |  |  |  |
| 5.4 | Overall Broadband *(Mobile & Fixed)* |  |  |  |  |

*\* based on "Speedtest Global Index" (*<https://www.speedtest.net/global-index>*)*

# ANNEXURE – 3

**Response to Questionnaire by SATRC Working Group Experts**

**QUESTIONS:**

**Q1. Please share all ICT Indicators being collected by Telecom Regulator in your country along with collection timelines? Kindly provide definitions for those Indicator which are not self-explanatory.**

|  |  |
| --- | --- |
| **Member Countries** | **Responses** |
| **Afghanistan** | Data is collected on quarterly basis.  These indicators are collected: Investment, revenue, number of different subscribers, BTSs, tariffs, packages, internet traffic, incoming and outgoing national and international SMS and minutes, coverage and so on.  Indicators which are included in the below ITU Questionnaires:  Indicators of ITU World Telecommunication - ICT Indicators Long Questionnaire.  Indicators of ITU World Telecommunication - ICT Indicators Short Questionnaire. |
| **Bangladesh** | (See below) |
| **Bhutan** | The information is collected on quarterly basis only. For now, we just collect information on number of subscribers. |
| **India** | 1. Subscription Data for (wireless, wireline, Internet broadband, PMRTS, VSAT) services (Collected on monthly and quarter basis) 2. Revenue and usage for wireless services (Quarterly) 3. Financial data of telecom sector (Quarterly) 4. QoS parameters of wireline, wireless and broadband services (Quarterly) |
| **Iran** | There are four major KPI categories: 1-Interconnection, 2-Mobile Voice Services, 3-Mobile SMS Services, 4-Mobile Data Services for different cellular network generation (2G/3G/4G)  Major KPIs of Interconnection are as follows:  1) ASR : Answer to Seizure Ratio  2) CER : Circuit Efficiency Ratio  3) POI: Point of Interconnection  Major KPIs of Mobile Voice Services for 2G are as follows:  1) CSSR : Call Setup Success Rate  2) CDR : Call Drop Rate  3) MOS: Mean Opinion Score  4) Rx Level Idle Mode(dBm)  5) RxQUALSUB Dedicated Mode  Major KPIs of Mobile Voice Services for 3G are as follows:  1) CSSR\_CS\_3G  2) CSSR\_PS\_3G  3) CDR  4) CPICH RSCP Idle Mode (dBm)  5) CPICH Ec/No Idle Mode  6) MOS  Major KPIs of Mobile Voice Services for 4G are as follows:  1) RSRP Idle Mode(dBm)  2) RSRQ Idle Mode  3) MOS  4) LTE Service Request Success Rate  5) LTE eRAB Drop Rate  Major KPIs of Mobile SMS Services are as follows:  1) SMS SSR : Short Message Service Sending Success Rate  Major KPIs of Mobile Data Services for 2G are as follows:  1) GPRS Download Throughput  2) EDGE Download Throughput  Major KPIs of Mobile Data Services for 3G are as follows:  1) Average User Throughput in Downlink  2) Average User Throughput in Uplink  3) Minimum User Throughput in Downlink  Major KPIs of Mobile Data Services for 4G are as follows:  1) Average User Throughput in Downlink  2) Average User Throughput in Uplink  3) Minimum User Throughput in Downlink |
| **Maldives** | ICT indicators are collected on a monthly and annual basis. Please see attached list of collected indicators. |
| **Nepal** | There are two major KPI categories: 1-Subscription of Voice Telephony Service (Fixed, Mobile (2G/3G/4G) and other (GPMCS), 2-Subscription of Broadband Services (Fixed Wired Broadband (ADSL, Cable/FTTH and Internet Lease Line), Fixed Wireless Broadband (Radio link and Wi-Max) and Mobile Broadband (3G/4G and EVDO)) |
| **Pakistan** | All forms of ICT indicators collection along with timelines for submission are annexed. |
| **Sri Lanka** | Statistical data relating to Fixed Access Telephone Subscriptions, Cellular Mobile Telephone Subscriptions, Fixed Narrowband Subscriptions, Fixed Broadband Subscriptions and Mobile Broadband Subscriptions are collected on quarterly basis.  Data relating to ITU World Telecommunication/ICT Indicators Long and Short Questionnaires are separately collected on annual basis. |

**Bangladesh:**

|  |  |  |  |
| --- | --- | --- | --- |
| SL | Indicators | Definition | Reporting Frequency |
| 1 | Proportion of population covered by a mobile network, by technology (2G, 3G, 4G) | Proportion of population covered by mobile network, broken down by technology, refers to the percentage of inhabitants living within range of a mobile cellular signal, irrespective of whether or not they are mobile phone subscribers or users. This is calculated by dividing the number of inhabitants within range of a mobile cellular signal by the total population and multiplying by 100. | Monthly |
| 2 | Fixed internet broadband subscriptions, by speed | The indicator fixed internet broadband subscriptions, by refers to the number of fixed broadband subscriptions to the public internet split by advertised download speed. | Annually |
| 3 | Mobile Subscriber | Mobile SIM are available in active Mode of a MNO | Monthly |
| 4 | Internet Subscriber | Active Internet Subscriber of a Fixed and Mobile broadband service provider | Monthly |
| 5 | Fixed telephone Subscriber | Active fixed voice subscription | Monthly |
| 6 | Uses of Data | Data used by fixed and mobile broadband subscriber | Annually |
| 7 | Capacity of data | Country capacity (submarine + Satellite +ITC) | Annually |
| 8 | Number of BTS installed | Number of BTS installed by MNO | Annually |
| BTRC collects all data related to ITU short and long questionnaires at least on annual basis. Additionally, it collects data on MNP porting, voice and data traffic (volume, speed), interconnection traffic, bandwidth usage, fiber optic network development (length, node) etc. | | | |

**Q2. What’s the methodology for collection of ICT Indicators? In which format (Excel, Word, etc.) are the indicators collected?**

|  |  |
| --- | --- |
| **Member Countries** | **Responses** |
| **Afghanistan** | Excel format. |
| **Bangladesh** | As per BTRC directives, Operators submit data monthly and quarterly by online system and also by email in Excel format.  For large number of ISP operators, an online self-reported database is used where respective ISP put its information (subscriber, bandwidth usage, POP location etc) and this information is automatically preserved and compiled in the system. It is a customized built system by BTRC. |
| **Bhutan** | In Excel format. |
| **India** | The ICT indicators are collected through a prescribed format in Word and Excel. |
| **Iran** | In Excel Format and online access through PM tools |
| **Maldives** | Excel |
| **Nepal** | In Excel Format and online access through email tools |
| **Pakistan** | PTA collects data in Excel format |
| **Sri Lanka** | Excel format. |

**Q3. Which Indicators are being reported on website? Do you post current / historical ICT Indicators on website as well?**

|  |  |
| --- | --- |
| **Member Countries** | **Responses** |
| **Afghanistan** | Number of different subscribers, investment, coverage, BTSs, number of the license holders in telecom sector and so on. |
| **Bangladesh** | Indicators related to mobile and fixed service subscription (for both voice and internet) are reported monthly on website. These indicators show both current and historical data on the website. |
| **Bhutan** | We post current number of subscriber’s statistics as well as historical data. |
| **India** | The indicators collected are compiled and released in book format titled ‘The Indian Telecom Services Performance Indicator” every quarter. The soft copy of the report is published on our website ([www.trai.gov.in](http://www.trai.gov.in)) also.  Telecom subscriber data is collected every month the same are released every month through a Press Release and published every month. |
| **Iran** | Coverage Test Result (Level and Quality) are reported on website. |
| **Maldives** | 1. Total Number of Fixed Lines (Male’ area, and Other Regions)  2. Total Number of Mobile Subscriptions (Postpaid & Prepaid),  3. Total Number of Broadband Subscriptions (Fixed & Mobile)  4. Teledensity (Fixed, Mobile & Fixed+Mobile) |
| **Nepal** | Subscription information of voice and data services (for both mobile and fixed network) are reported on website in each month. Historical representation of these data is also presented regularly. |
| **Pakistan** | The website has following indicators Subscribers (Operator wise), Teledensity, FDI, Investments, Revenues, Contribution to National Exchequer and Complaints. This data is being available from 2003-04 till to date. |
| **Sri Lanka** | Current and historical statistics (as mentioned in the Q1) are posted on our official website. |

**Q4. Do you have online system of Indicator reporting?**

|  |  |
| --- | --- |
| **Member Countries** | **Responses** |
| **Afghanistan** | No. |
| **Bangladesh** | Yes |
| **Bhutan** | No. |
| **India** | Yes, some of the data are collected online. But most of the data collected through off-line mode. |
| **Iran** | Yes. |
| **Maldives** | No. |
| **Nepal** | Yes. |
| **Pakistan** | We are in the process of implementing online reporting system which will be operational by end of 2019. |
| **Sri Lanka** | No |

**Q5. Would you like to recommend any new ICT Indicators which are not being monitored at present? If so, kindly list down the Indicator and the reason why it should be monitored.**

|  |  |
| --- | --- |
| **Member Countries** | **Responses** |
| **Afghanistan** | N/A. |
| **Bangladesh** | N/A. |
| **Bhutan** | Looking at other SATRC countries, we need to follow ITU questionnaires to get important data. |
| **India** | No new ICT indicators are recommended as of now. |
| **Iran** | No. We recently updated them. |
| **Maldives** | N/A. |
| **Nepal** | No. We recently updated them. |
| **Pakistan** | It is suggested that from SATRC perspective local tariffs, roaming tariffs (data, voice) and ARPUs may be included. |
| **Sri Lanka** | N/A |

**Q6. In your view, is there a need to Harmonize Indicators across SATRC? If so, should SATRC maintain and disseminate ICT Indicators of its members?**

|  |  |
| --- | --- |
| **Member Countries** | **Responses** |
| **Afghanistan** | Indicators harmonization among SATRC is required. |
| **Bangladesh** | SATRC Should focus on the indicators covered in ITU long and short questionnaire. And compare regional status based on these. |
| **Bhutan** | Yes, there is need to harmonize indicators among SATRC and also maintain and disseminate the same. |
| **India** | It is helpful to know the growth of subscribers across SATRC particularly that of Wired Broadband, mobile broadband, wireless services, etc., which will help to analyze the growth pattern of each of the SATRC member country. |
| **Iran** | Yes, there is need to harmonize indicators among SATRC and also maintain and disseminate the same. |
| **Maldives** | Yes, easier for comparison of indicators among member countries. But better to leave the maintenance and dissemination to the member countries. Members could agree on the indicators that need to be harmonized and disseminated through the members’ websites. |
| **Nepal** | Yes, there is need to harmonize indicators among SATRC and also maintain and disseminate the same. |
| **Pakistan** | Yes, SATRC needs to harmonize ICT indicators across SATRC countries where all countries regulators must have harmonized indicators on their website in addition to all other indicators that are already being reported. |
| **Sri Lanka** | It is useful for the SATRC member countries to have a common set of harmonized ICT indicators. |

**Q7. Which Harmonized Indicators in your view should be reported and what should be the time period (Monthly, Quarterly, Yearly)?**

**Afghanistan**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers**  *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  |  | √ |  |
| 1.2 | **Total Subscriptions** *(Post-paid)* |  |  | √ |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* |  |  | √ |  |
| 1.4 | **Total Mobile Broadband Subscribers** *(3G, 4G, EvDO)* |  |  | √ |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** |  |  | √ |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired**  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* |  |  | √ |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless**  *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* |  |  | √ |  |
| 3.3 | **Mobile Broadband Subscribers** *(Same as 1.4 )* |  |  | √ |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  | √ |  |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  |  | √ |  |
| **S.No.** | **4. Broadband / Internet Speed\*** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Mobile Broadband DL Speed** |  |  | √ |  |
| 4.2 | **Mobile Broadband UL Speed** |  |  | √ |  |
| 4.3 | **Rank (Mobile Broadband)** |  |  |  |  |
| 4.4 | **Fixed Broadband DL Speed** |  |  | √ |  |
| 4.5 | **Fixed Broadband UL Speed** |  |  | √ |  |
| 4.6 | **Rank (Fixed Broadband)** |  |  |  |  |
| **S.No.** | **5. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 5.1 | **Overall Telephony** *(Mobile & Fixed)* |  |  | √ |  |
| 5.2 | **Fixed Broadband** |  |  | √ |  |
| 5.3 | **Mobile Broadband** |  |  | √ |  |
| 5.4 | **Overall Broadband** *(Mobile & Fixed)* |  |  | √ |  |

**Bangladesh:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers**  *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  |  | √ |  |
| 1.2 | **Total Subscriptions** *(Post-paid)* |  |  | √ |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* |  |  | √ |  |
| 1.4 | **Total Mobile Broadband Subscribers** *(3G, 4G, EvDO)* |  |  | √ |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** |  |  | √ |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired**  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* |  |  | √ |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless**  *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* |  |  | √ |  |
| 3.3 | **Mobile Broadband Subscribers** *(Same as 1.4 )* |  |  | √ |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  | √ |  |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  |  | √ |  |
| **S.No.** | **4. Broadband / Internet Speed\*** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Mobile Broadband DL Speed** |  |  | √ |  |
| 4.2 | **Mobile Broadband UL Speed** |  |  | √ |  |
| 4.3 | **Rank (Mobile Broadband)** |  |  | √ |  |
| 4.4 | **Fixed Broadband DL Speed** |  |  | √ |  |
| 4.5 | **Fixed Broadband UL Speed** |  |  | √ |  |
| 4.6 | **Rank (Fixed Broadband)** |  |  | √ |  |
| **S.No.** | **5. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 5.1 | **Overall Telephony** *(Mobile & Fixed)* |  |  | √ |  |
| 5.2 | **Fixed Broadband** |  |  | √ |  |
| 5.3 | **Mobile Broadband** |  |  | √ |  |
| 5.4 | **Overall Broadband** *(Mobile & Fixed)* |  |  | √ |  |

**Bhutan:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers**  *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  | √ |  |  |
| 1.2 | **Total Subscriptions** *(Post-paid)* |  | √ |  |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* |  | √ |  |  |
| 1.4 | **Total Mobile Broadband Subscribers** *(3G, 4G, EvDO)* |  | √ |  |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** |  | √ |  |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired**  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* |  | √ |  |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless**  *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* |  | √ |  |  |
| 3.3 | **Mobile Broadband Subscribers** *(Same as 1.4 )* |  | √ |  |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  |  | na |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  | √ |  |  |
| **S.No.** | **4. Broadband / Internet Speed\*** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Mobile Broadband DL Speed** |  | √ |  |  |
| 4.2 | **Mobile Broadband UL Speed** |  | √ |  |  |
| 4.3 | **Rank (Mobile Broadband)** |  | √ |  |  |
| 4.4 | **Fixed Broadband DL Speed** |  | √ |  |  |
| 4.5 | **Fixed Broadband UL Speed** |  | √ |  |  |
| 4.6 | **Rank (Fixed Broadband)** |  | √ |  |  |
| **S.No.** | **5. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 5.1 | **Overall Telephony** *(Mobile & Fixed)* |  | √ |  |  |
| 5.2 | **Fixed Broadband** |  | √ |  |  |
| 5.3 | **Mobile Broadband** |  | √ |  |  |
| 5.4 | **Overall Broadband** *(Mobile & Fixed)* |  | √ |  |  |

**India:[[2]](#footnote-2)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers**  *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  | X |  |  |
| 1.2 | **Total Subscriptions** *(Post-paid)\** |  | X |  |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* |  |  |
| 1.4 | **Total Mobile Broadband Subscribers** *(3G, 4G, EvDO)* |  | X |  |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** |  | X |  |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired**  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* |  | X |  |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless**  *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* |  | X |  |  |
| 3.3 | **Mobile Broadband Subscribers** *(Same as 1.4 )* |  |  |  |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  |  |  |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  |  |  |  |
| **S.No.** | **4. Broadband / Internet Speed\*** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Mobile Broadband DL Speed** |  | X |  |  |
| 4.2 | **Mobile Broadband UL Speed** |  | X |  |  |
| 4.3 | **Rank (Mobile Broadband)** |  |  |  |  |
| 4.4 | **Fixed Broadband DL Speed** |  |  |  |  |
| 4.5 | **Fixed Broadband UL Speed** |  |  |  |  |
| 4.6 | **Rank (Fixed Broadband)** |  |  |  |  |
| **S.No.** | **5. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 5.1 | **Overall Telephony** *(Mobile & Fixed)* |  | X |  |  |
| 5.2 | **Fixed Broadband** |  | X |  |  |
| 5.3 | **Mobile Broadband** |  | X |  |  |
| 5.4 | **Overall Broadband** *(Mobile & Fixed)* |  | X |  |  |

**Iran:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers** *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  | 🗹 |  |  |
| 1.2 | **Total Subscriptions** *(Post-paid)* |  | 🗹 |  |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* |  | 🗹 |  |  |
| 1.4 | **Total Mobile Broadband Subscribers***(3G, 4G, EvDO)* |  | 🗹 |  |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** | 🗹 |  |  |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired** *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* | 🗹 |  |  |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless** *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* | 🗹 |  |  |  |
| 3.3 | **Mobile Broadband Subscribers***(Same as 1.4 )* |  | 🗹 |  |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  |  |  |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  | 🗹 |  |  |
| **S.No.** | **4. Broadband / Internet Speed\*** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Mobile Broadband DL Speed** |  | 🗹 |  |  |
| 4.2 | **Mobile Broadband UL Speed** |  | 🗹 |  |  |
| 4.3 | **Rank (Mobile Broadband)** |  |  |  | 🗹 |
| 4.4 | **Fixed Broadband DL Speed** |  | 🗹 |  |  |
| 4.5 | **Fixed Broadband UL Speed** |  |  |  |  |
| 4.6 | **Rank (Fixed Broadband)** |  |  |  | 🗹 |
| **S.No.** | **5. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 5.1 | **Overall Telephony***(Mobile & Fixed)* |  | 🗹 |  |  |
| 5.2 | **Fixed Broadband** |  | 🗹 |  |  |
| 5.3 | **Mobile Broadband** |  | 🗹 |  |  |
| 5.4 | **Overall Broadband***(Mobile & Fixed)* |  | 🗹 |  |  |

**Maldives:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers**  *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  | ✔ |  |  |
| 1.2 | **Total Subscriptions** *(Post-paid)* |  | ✔ |  |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* |  | ✔ |  |  |
| 1.4 | **Total Mobile Broadband Subscribers** *(3G, 4G, EvDO)* |  | ✔ |  |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** |  | ✔ |  |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired**  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* |  | ✔ |  |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless**  *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* |  | ✔ |  |  |
| 3.3 | **Mobile Broadband Subscribers** *(Same as 1.4 )* |  | ✔ |  |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  |  |  |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  |  |  |  |
| **S.No.** | **4. Broadband / Internet Speed\*** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Mobile Broadband DL Speed** |  |  |  |  |
| 4.2 | **Mobile Broadband UL Speed** |  |  |  |  |
| 4.3 | **Rank (Mobile Broadband)** |  |  |  |  |
| 4.4 | **Fixed Broadband DL Speed** |  |  |  |  |
| 4.5 | **Fixed Broadband UL Speed** |  |  |  |  |
| 4.6 | **Rank (Fixed Broadband)** |  |  |  |  |
| **S.No.** | **5. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 5.1 | **Overall Telephony** *(Mobile & Fixed)* |  | ✔ |  |  |
| 5.2 | **Fixed Broadband** |  | ✔ |  |  |
| 5.3 | **Mobile Broadband** |  | ✔ |  |  |
| 5.4 | **Overall Broadband** *(Mobile & Fixed)* |  | ✔ |  |  |

**Nepal:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers** *(2G – GSM/CDMA, 3G, 4G, EVDO)* | 🗹 |  |  |  |
| 1.2 | **Total Subscriptions** *(Post-paid)* | 🗹 |  |  |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* | 🗹 |  |  |  |
| 1.4 | **Total Mobile Broadband Subscribers***(3G, 4G, EvDO)* | 🗹 |  |  |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** | 🗹 |  |  |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired** *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* | 🗹 |  |  |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless** *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* | 🗹 |  |  |  |
| 3.3 | **Mobile Broadband Subscribers***(Same as 1.4 )* | 🗹 |  |  |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 512 kbps)* | 🗹 |  |  |  |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 512 kbps)* | 🗹 |  |  |  |
| **S.No.** | **4. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Overall Telephony***(Mobile & Fixed)* | 🗹 |  |  |  |
| 4.2 | **Fixed Broadband** | 🗹 |  |  |  |
| 4.3 | **Mobile Broadband** | 🗹 |  |  |  |
| 4.4 | **Overall Broadband***(Mobile & Fixed)* | 🗹 |  |  |  |

**Pakistan:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers**  *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  | Yes |  |  |
| 1.2 | **Total Subscriptions** *(Post-paid)* |  | Yes |  |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* |  | Yes |  |  |
| 1.4 | **Total Mobile Broadband Subscribers** *(3G, 4G, EvDO)* |  | Yes |  |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** |  |  | Yes |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired**  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* |  |  | Yes |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless**  *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* |  |  | Yes |  |
| 3.3 | **Mobile Broadband Subscribers** *(Same as 1.4 )* |  | Yes |  |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  | Yes |  |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  | Yes |  |  |
| **S.No.** | **4. Broadband / Internet Speed\*** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Mobile Broadband DL Speed** |  |  | Yes |  |
| 4.2 | **Mobile Broadband UL Speed** |  |  | Yes |  |
| 4.3 | **Rank (Mobile Broadband)** |  |  | Yes |  |
| 4.4 | **Fixed Broadband DL Speed** |  |  | Yes |  |
| 4.5 | **Fixed Broadband UL Speed** |  |  | Yes |  |
| 4.6 | **Rank (Fixed Broadband)** |  |  | Yes |  |
| **S.No.** | **5. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 5.1 | **Overall Telephony** *(Mobile & Fixed)* |  | Yes |  |  |
| 5.2 | **Fixed Broadband** |  | Yes |  |  |
| 5.3 | **Mobile Broadband** |  | Yes |  |  |
| 5.4 | **Overall Broadband** *(Mobile & Fixed)* |  | Yes |  |  |

**Sri Lanka:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | | **Reporting Frequency** | | | |
| **S.No.** | **1. Mobile Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 1.1 | **Total Cellular Subscribers**  *(2G – GSM/CDMA, 3G, 4G, EVDO)* |  |  | ✓ |  |
| 1.2 | **Total Subscriptions** *(Post-paid)* |  |  | ✓ |  |
| 1.3 | **Total Subscriptions** *(Pre-paid)* |  |  | ✓ |  |
| 1.4 | **Total Mobile Broadband Subscribers** *(3G, 4G, EvDO)* |  |  | ✓ |  |
| **S.No.** | **2. Fixed Telephony Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 2.1 | **Total Fixed-line Subscribers** |  |  | ✓ |  |
| **S.No.** | **3. Broadband / Internet Subscriptions** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 3.1 | **Fixed Broadband Subscribers – Wired**  *(DSL, HFC, FTTH, Cable, Leased Line, etc.)* |  |  | ✓ |  |
| 3.2 | **Fixed Broadband Subscribers – Wireless**  *(3G, 4G, Wi-Fi, Wi-Max, EvDO, etc.)* |  |  | ✓ |  |
| 3.3 | **Mobile Broadband Subscribers** *(Same as 1.4 )* |  |  | ✓ |  |
| 3.4 | **Fixed Narrowband Subscribers - Wired** *(Dial-up, ISDN, Download Speed < 256 kbps)* |  |  | ✓ |  |
| 3.5 | **Mobile Narrowband Subscribers**  *(2G - GSM / CDMA, Download Speed < 256 kbps)* |  |  | ✓ |  |
| **S.No.** | **4. Broadband / Internet Speed\*** | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 4.1 | **Mobile Broadband DL Speed** |  |  |  |  |
| 4.2 | **Mobile Broadband UL Speed** |  |  |  |  |
| 4.3 | **Rank (Mobile Broadband)** |  |  |  |  |
| 4.4 | **Fixed Broadband DL Speed** |  |  |  |  |
| 4.5 | **Fixed Broadband UL Speed** |  |  |  |  |
| 4.6 | **Rank (Fixed Broadband)** |  |  |  |  |
| **S.No.** | **5. Tele-density & Penetration** *(%)* | **Monthly** | **Quarterly** | **Annually** | **Other** |
| 5.1 | **Overall Telephony** *(Mobile & Fixed)* |  |  | ✓ |  |
| 5.2 | **Fixed Broadband** |  |  | ✓ |  |
| 5.3 | **Mobile Broadband** |  |  | ✓ |  |
| 5.4 | **Overall Broadband** *(Mobile & Fixed)* |  |  | ✓ |  |

# ANNEXURE-4

**Supplementary Questions and replies**

:

1. Should the harmonized indicators be displayed by the SATRC members on their respective web-portals or should it be done on a SATRC portal in an aggregated format?

Answer:

**Bangladesh**: If all the members agree to regularly and timely submit the selected set of indicators, the data collection and display can be done through a centralized web-platform.

**Pakistan**: All selected indicators should be displayed on STARC portal, under information sharing platform.

1. If you suggest for an aggregated SATRC portal for displaying harmonized indicators, what should be the methodology for data submission to that aggregated system (automatic through a secured login system / manual by email)?

Answer:

**Bangladesh**: A web-based platform can be used for data submission.

**Pakistan**: Automated through a secured Login System.

1. Any other suggestion regarding the collection and display of harmonized indicators.

**Bangladesh**: In case a centralized system for data collection and display, all members need to commit timely data submission to make the system effective.

1. Official reply and comments are included in the Annex-3. [↑](#footnote-ref-1)
2. However, one of the Indian delegate suggested to include the fixed broadband speed as harmonized indicator in the SG meeting held on 29 September 2021. [↑](#footnote-ref-2)