Broadband Development in the Asia-Pacific Region

ITU Regional Forum on Reshaping Policy and Regulatory Landscape for Accelerating Broadband Access

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Presentation Outline

- *ITU at a Glance*
- *ICT revolution and the remaining gaps: 2000-2015*
- *The Digital Divide in 2015*
- *Broadband Commission for Digital Development*
- *ITU Asia-Pacific Regional Initiative on Development of Broadband Access and Adoption of Broadband*
- *National Broadband Plan/Policy in the Asia-Pacific Region*
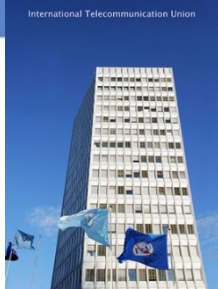
❑ **Founded in 1865; Responsible for issues that concern Information and Communication Technologies.**

❑ **193 Member States, 655 Sector Members and 98 Academia Members.**

❑ **HQs in Geneva, Switzerland; 4 Regional Offices & 7 Area Offices.**

ITU: Regional Office for Asia and the Pacific

38 Member States
134 Sector Members, Associates
17 Academia

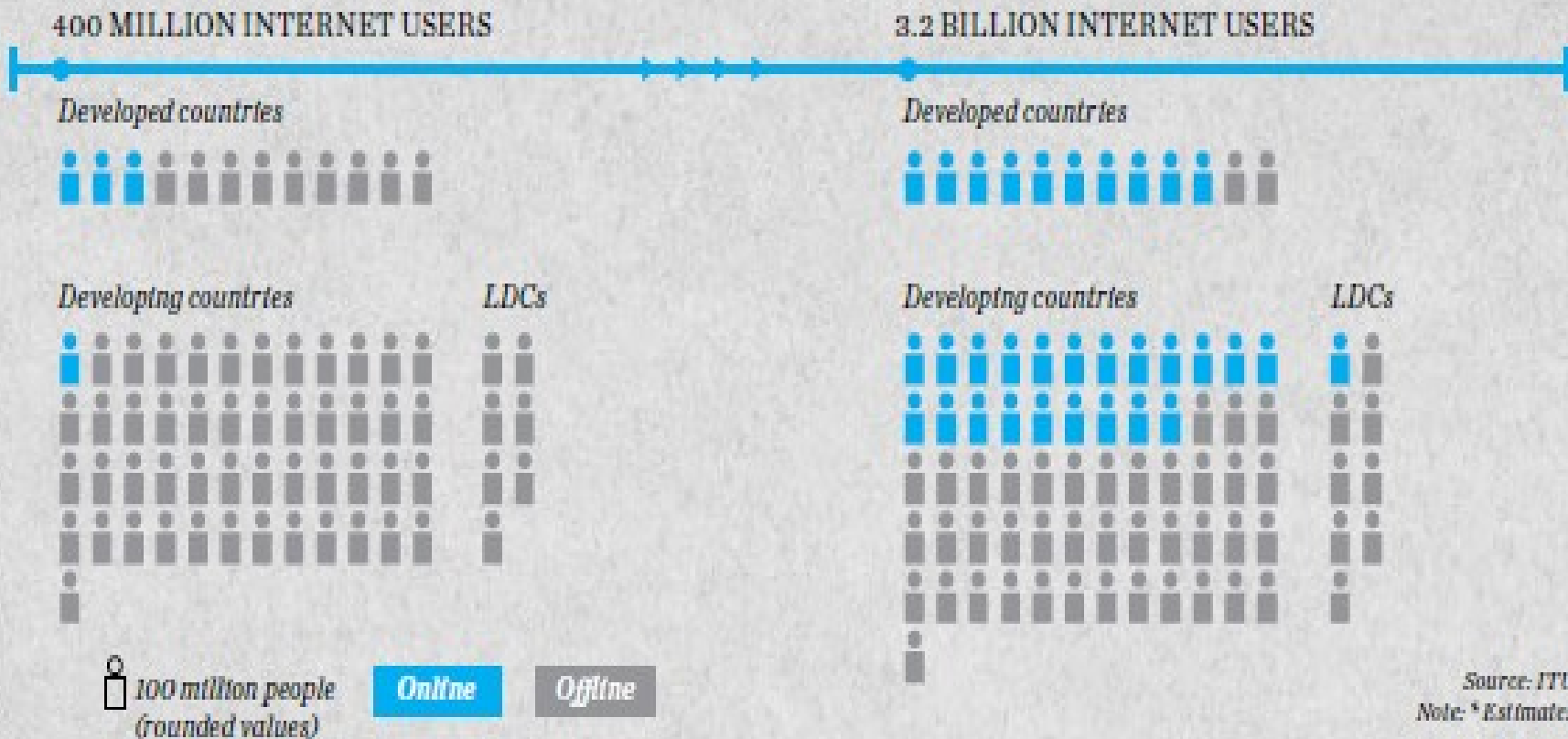| Least Developed Countries (12)				Low-Income States (10)	The Rest (10)
			Land Locked Developing Countries (5)		
Afghanistan	Kiribati	Fiji	PNG	D.P.R. Korea	Australia
Bangladesh	Solomon Is.	Maldives	Samoa	India	Brunei
Bhutan	Tuvalu	Marshall Islands		Indonesia	China/Hong Kong
Cambodia	Vanuatu	Micronesia		Mongolia	Iran
Lao, PDR		Nauru		Pakistan	Japan
Nepal		Tonga		Philippines	Malaysia
Myanmar				Sri Lanka	New Zealand
Timor Leste				Vietnam	R.O. Korea
					Singapore
					Thailand

Small Islands Developing States (12)

2000-2015: ICT revolution and the remaining gaps

2000-2015: ICT revolution and the remaining gaps

15 years of ICT growth: *what has been achieved?*

Per 100 inhabitants/households

- Mobile-cellular telephone subscriptions — 96.8, 95.3
- Individuals using the Internet — 43.4
- Population covered by 2G mobile-cellular network
- Mobile broadband subscriptions — 47.2
- Fixed-broadband subscriptions — 10.8
- Households with Internet — 46.4

Source: ITU.
Note: * Estimates.

Legend:
- Mobile-cellular telephone subscriptions
- Individuals using the Internet
- Population covered by 2G mobile-cellular network
- Mobile broadband subscriptions
- Fixed-broadband subscriptions
- Households with Internet

3G mobile-broadband coverage is extending rapidly and into the rural areas

2011

3G population coverage, 45%

World population 7 billion

2015*

3G population coverage, 69%

World population 7.4 billion

2015*

3G rural population coverage, 29%

World rural population 3.4 billion

3G urban population coverage, 89%

World urban population 4 billion

No 3G population coverage
3G population coverage

Source: ITU.
*Note: * Estimates.*

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1865
2015

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The *digital divide* in 2015

Percentage of households with Internet access

%

Region	Value
Europe	82.1
The Americas	60.0
CIS	60.1
Arab States	40.3
Asia & Pacific	39.0
Africa	10.7
Developed	81.3
World	46.4
Developing	34.1
LDCs	6.7
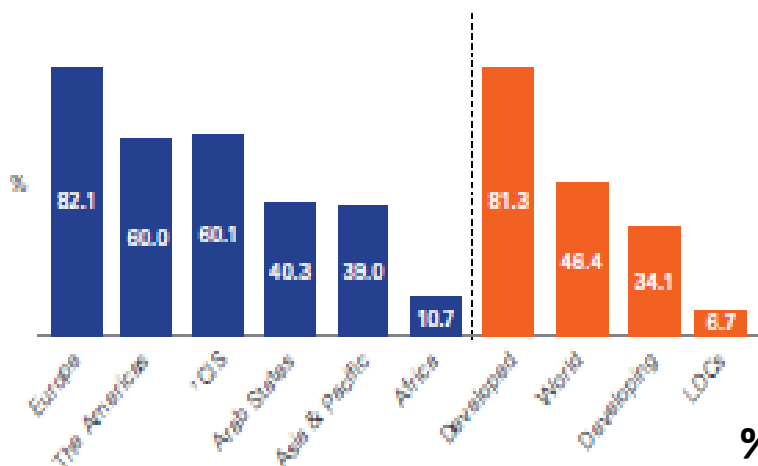
% HH with internet access in Asia-Pacific Region (2013-2014)

Afghanist... | Australia | Banglade... | Bhutan | Brunei | Cambodia | Indonesia | Iran | Japan | Korea | Malaysia | Mongolia | New... | Singapore | Thailand
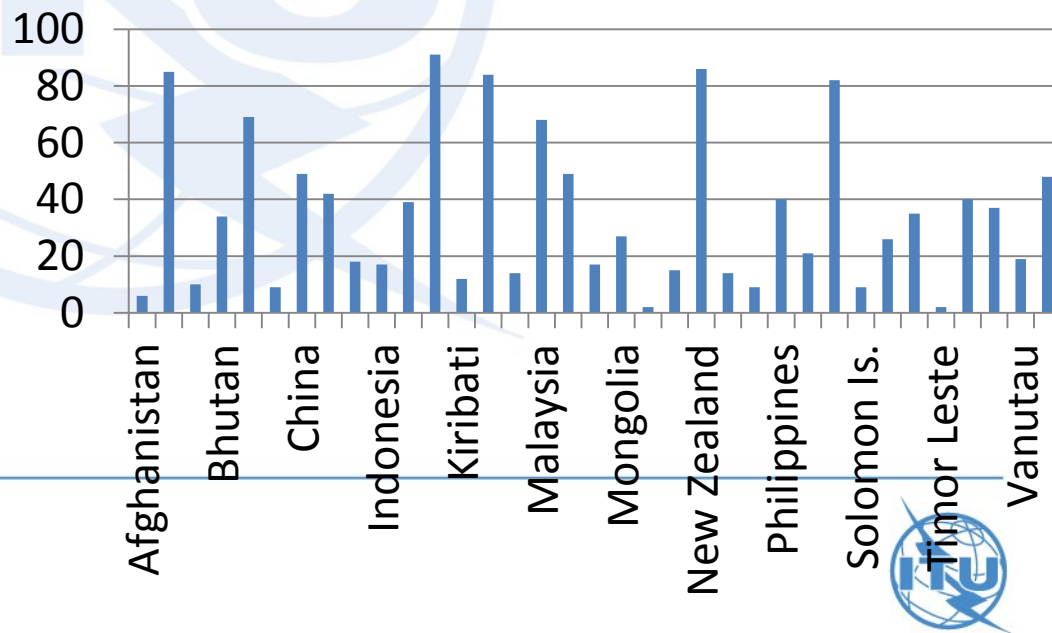
Note: Data represnting only 16 countries
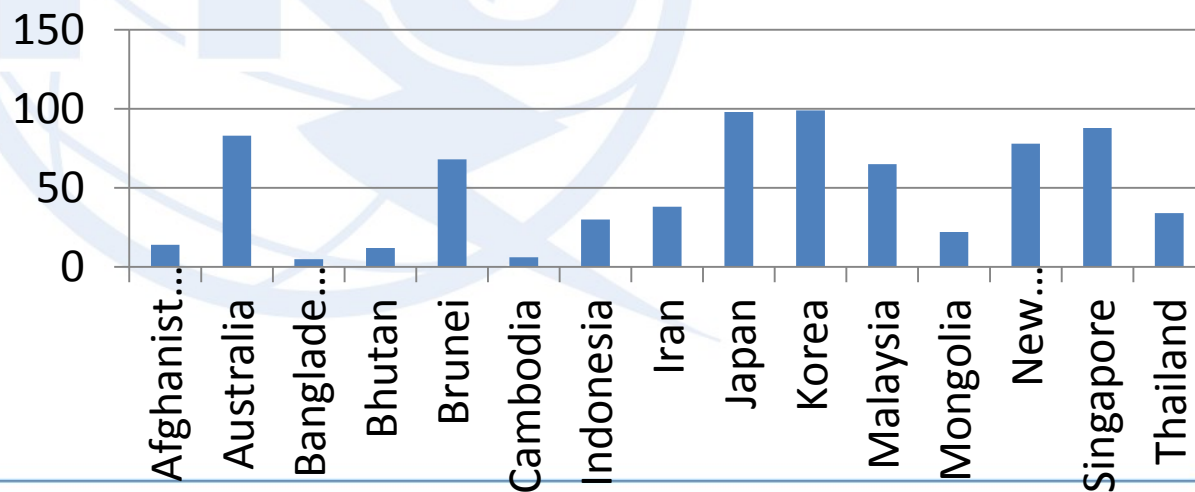
The *digital divide* in 2015
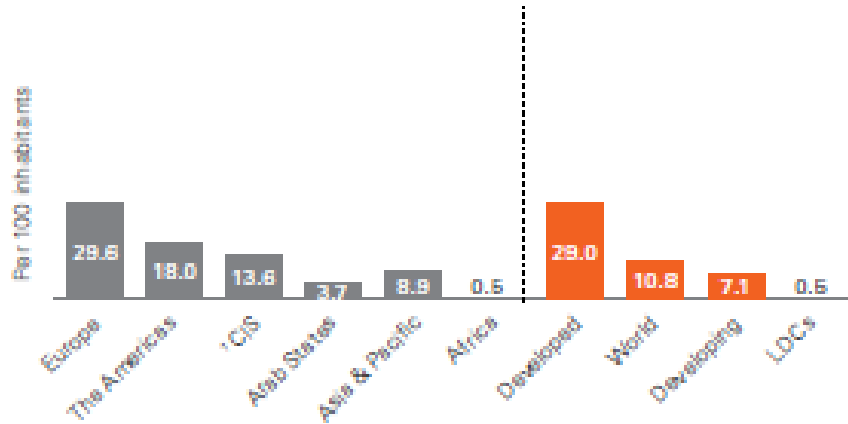
Percentage of individuals using the Internet

Percentage of individuals using the internet in the Asia-Pacific Region (2014)
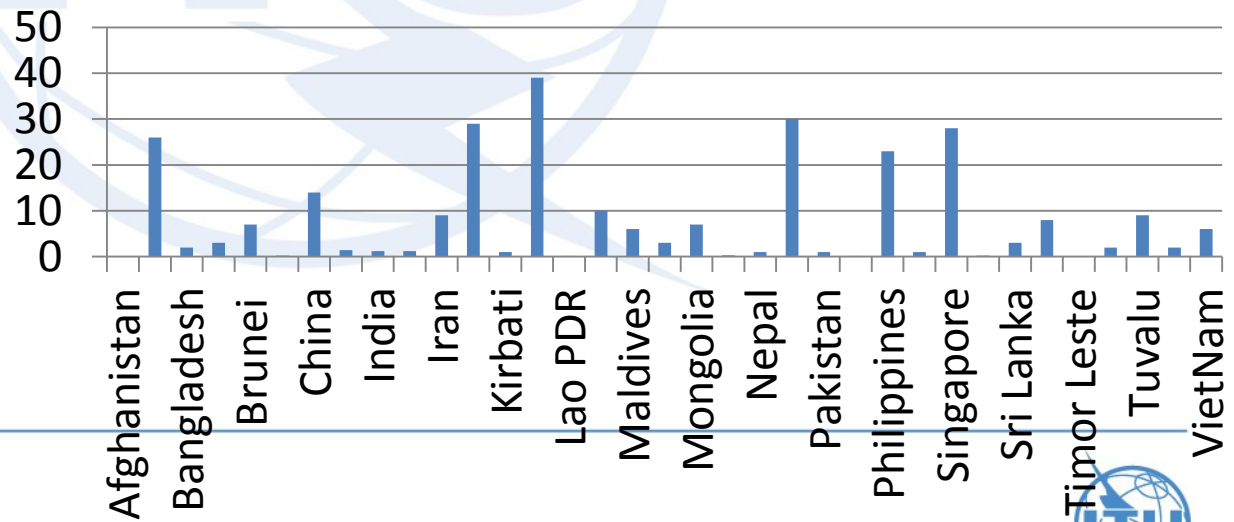
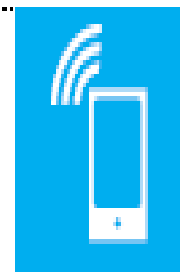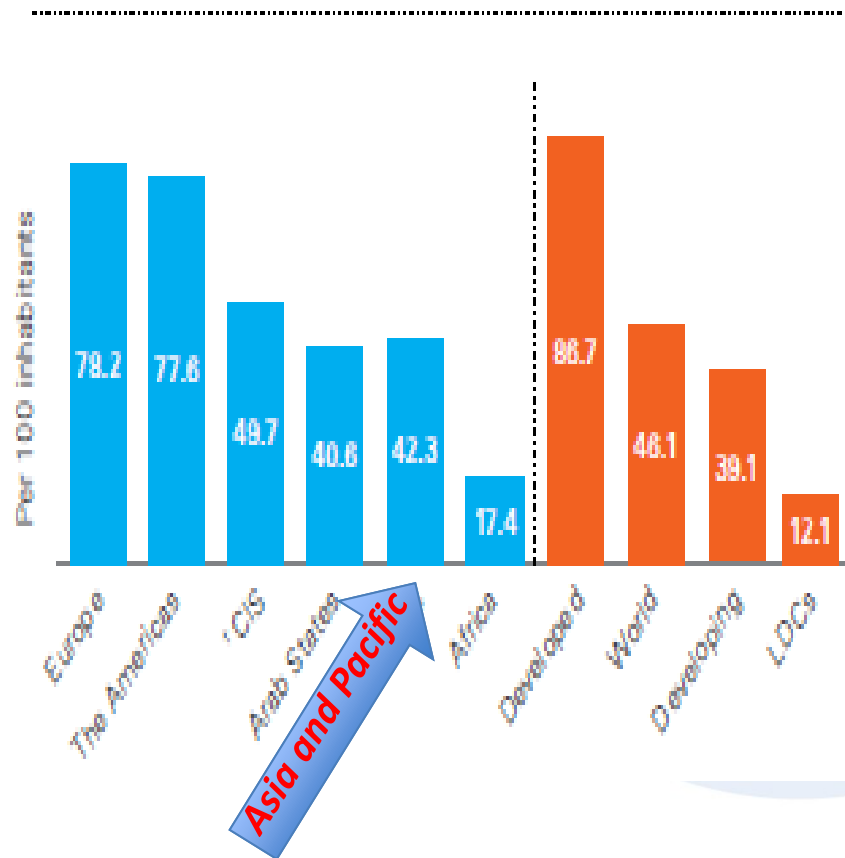# The *digital divide* in 2015

Fixed-broadband subscriptions

Fixed broadband subscription per 100 inhabitants in the Asia-Pacific region (2014)

1865 2015

The *digital divide* in 2015

Mobile broadband subscriptions

Per 100 inhabitants

- Europe: 78.2
- The Americas: 77.6
- CIS: 49.7
- Arab States: 40.6
- Asia and Pacific: 42.3
- Africa: 17.4
- Developed: 86.7
- World: 46.1
- Developing: 39.1
- LDCs: 12.1

- Mobile-broadband penetration levels are highest in Europe and the Americas, at around 78 active subscriptions per 100 inhabitants

- Africa is the only region where mobile broadband penetration remains below 20%

Source: ITU

150 1865 2015

BROADBAND COMMISSION RECOMMENDATIONS (2014)

THE STATE OF BROADBAND 2014: BROADBAND FOR ALL

A Report by the
Broadband Commission for Digital Development
September 2014

1. Launch a national broadband plan;

2. Monitor, review and update ICT regulations, including regulatory approaches to spectrum;

3. Promote education for all (EFA), including the use or BB, as well as the skills and talents necessary for BB;

4. Reduce taxes and import duties on telecommunication/ICT equipment and services;

5. Accelerate investment in BB infrastructure;

6. Enhance demand for BB services through new initiatives and local content;

7. Engage in ongoing monitoring of ICT developments; and

8. Utilize USFs to close the digital divide.

ITU: Asia-Pacific Regional Initiatives (2015-2018)

|	
Initiative #1	**Special Consideration For LDCs*, SIDSs**, Including Pacific Island Countries, And Landlocked Developing Countries**
Initiative #2	**Emergency Telecommunications**
Initiative #3	**Harnessing The Benefits Of New Technologies**
Initiative #4	**Development of Broadband Access And Adoption of Broadband**
Initiative #5	**Policy And Regulation**

*LDC: Least Developed Countries
SIDS: Small Island Developing States

> *"It is vital that every country prioritizes broadband policy into account to shape its future social and economic development and prosperity"*
>
> *- Broadband Commission (2014)*

- As of 2014, **11 countries** out of the 38 ITU member states in the Asia-Pacific region **did not have a broadband policy/plan** while some countries need to **improve or update their policy**

- **Under the ASP RI 4**, ITU (in collaboration with the MSIP Republic of Korea) assisted 16 Member States in developing :

  - **Wireless Broadband Master Plans (Myanmar, Nepal, Samoa, Vietnam)**
  - **National Broadband Policy/Plan (12 LDCs /developing countries)**
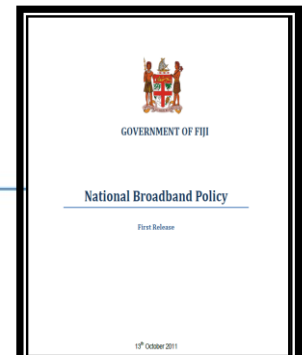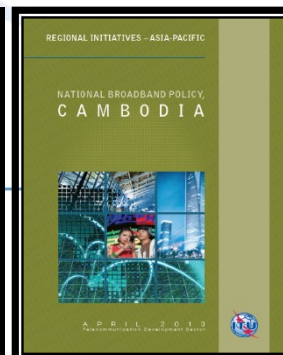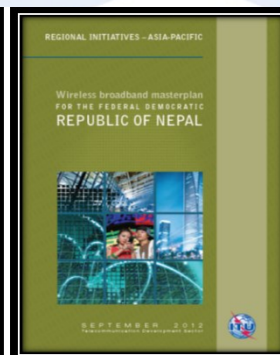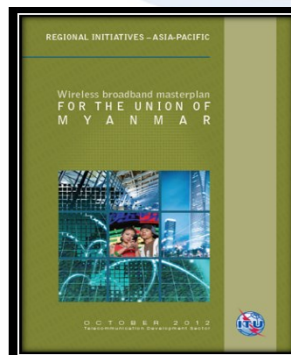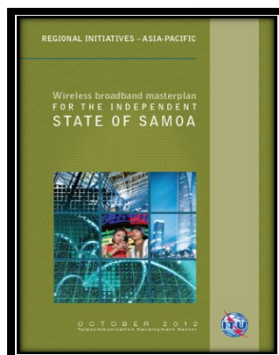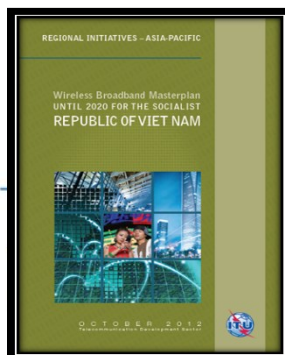
Current Status of National Broadband Policy

- 6 countries fully approved the NBP at the highest level while the rest are close to finalizing

- All these policies set out clear vision, key objectives and principles as well as short/mid-term goals

- Provided with thorough BB Implementation Action Plans with responsible organizations and targets including:

  ✓ Broadband availability targets
  ✓ Plans for reducing regulatory burdens
  ✓ Review of licensing/spectrum management
  ✓ Improving adoption, affordability
  ✓ Universal Service Obligations
  ✓ Sector-specific application (e-gov, e-health, e-education, etc.)
  ✓ Fostering innovation and local service/contents

Approved

Bhutan, Brunei
Fiji, Indonesia
PNG, Nepal
, Samoa

Under Review

Bangladesh
Cambodia, Lao PDR
Pakistan

In Draft

Philippines, Myanmar
Marshall Islands
Vanuatu

Feedback from Members

- In June 2015, ITU carried out **a survey to assess the progress on implementing the national broadband policy** for the countries assisted for establishment of the policy/plans

- **14 countries** responded to the survey questionnaire:

  > **Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Fiji, Indonesia, Lao PRD, Myanmar, Nepal, Pakistan, Papua New Guineas, Philippines, Samoa, Vanuatu**

- The survey was directed to the Member States / regulator or agency responsible for implementing national broadband policy/plan

- Assessed the progress on regulatory/market environment, availability, affordability, universal services, sector-specific broadband applications, etc.

Progress Assessment

Average Progress Score in the last 3 years
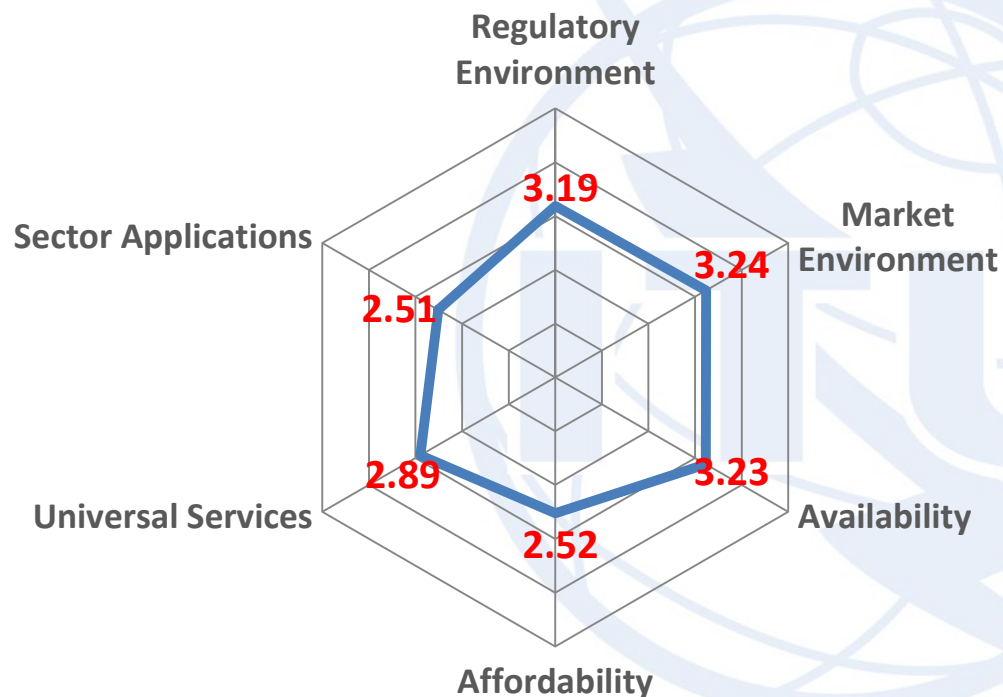
- Assessment on **the degree of progress in the last 3 years** were measured using 32 questions under six categories of the broadband ecosystem

- Overall, the studied countries showed relatively good progress on *availability, market and regulatory environment*.

Availability

- Most countries have specified in their NBP an ambitious target to increase broadband availability across the nation within a specified timeframe

Country	Broadband Availability Target
Bangladesh	Not specified
Bhutan	80% of the population
Brunei D.	80% of the households by 2017
Cambodia	90% of the population by 2018
Fiji	50% of the population by 2018
Indonesia	75% of the population by 2017
Lao PDR	60% of the post offices as community access points by 2016
Marshall I.	Not specified
Myanmar	Not specified
Nepal	45% of the households by 2018
Pakistan	50% of the population by 2017
Papua N.G.	50% of the population by 2018
Philippines	Not specified
Vanuatu	98% of the population by 2018

Affordability

- Cost of broadband vary considerably among the studied countries. Average monthly price for an **entry-level service may cost between 5 to 45 USD while high speed between 17.6 to 500 USD**

- Majority of the respondents estimated that these prices can be appropriate for high-income or urban middle-income households but **expensive for rural middle-income or low-income households**

	BGD	BTN	BRN	FJI	IDN	LAO	MMR	NPL	PAK	PNG	PHL	WSM	VUT
Entry BB Price (Monthly, USD)	5	7	30	15	NA	15	15	40	5	NA	22	45	30
High S BB Price (Monthly, USD)	20	41	75	100	NA	40	500	100	18	NA	44	75	200

	Very inexpensive	A little Inexpensive	Appropriate	A Little expensive	Very expensive
High-income	1	4	7	2	0
Urban Middle	0	1	8	4	1
Rural Middle	0	0	3	6	5
Low Income	0	0	1	3	10

Degree of Competition

Number of Market Players

	One	Two	Three	More than 3 players
Fixed	Bhutan, Brunei, Fiji, Myanmar, PNG, Samoa	Nepal, Vanuatu	Bangladesh	Cambodia (5), Lao (4), Pakistan (5), Philippines (5+)
Mobile		Bhutan, Brunei, Fiji, Nepal, Samoa, Vanuatu	Myanmar, PNG	Bangladesh (5), Cambodia (5), Indonesia (7), Lao (4), Pakistan (5), Philippines (4)
Broadband		PNG, Samoa	Bhutan, Brunei	Bangladesh (5), Cambodia (5), Fiji (4), Lao (4), Myanmar (3), Pakistan (5), Philippines (5+), Vanuatu (4)

- Mobile and broadband services have **multiple market players** in most countries

Effort to Improve Market Dynamics

	Already has	Considering	Not Yet
Simplifying the process of FDI	Brunei, Cambodia, Fiji, Indonesia, Myanmar, Nepal, Pakistan, PNG, Vanuatu	Bangladesh, Bhutan, Lao, Philippines, Samoa	
Introduce new BB players	Bhutan, Cambodia, Fiji, Lao, Myanmar, Pakistan, PNG, Philippines, Samoa	Bangladesh, Nepal, Vanuatu	Brunei, Indonesia

- Most countries responded their governments **already tried to introduce new players to the broadband market** while Bangladesh, Nepal and Vanuatu are considering further steps
- Countries also **tried to simplify the process of foreign direct investment** while Bangladesh, Bhutan, Lao, Philippines and Samoa are considering further

USO and USOF

Has USO and USOF	Bangladesh*, Bhutan, Fiji, Indonesia, Myanmar, Nepal*, Pakistan, PNG, Samoa, Vanuatu	
Means to collect USOF	**Levy on operator revenues**	Bangladesh (1% from only mobile operators), Indonesia (0.75% from all operators), Myanmar (2% from all licensees), Nepal (2% from all licensees), Pakistan (1.5% from all operators), Fiji, PNG*, Vanuatu
	Fixed installment from licensees	Bhutan (currently reviewing 1% levy on gross revenue option)
Under Review	Brunei*, Cambodia, Lao*	
No USO	Philippines	

- 10 out 14 countries established Universal Service Obligations (USO) /USOF
- Levy on telecom operators' revenue is the most common means of collecting USOF although its scope and amount may vary between countries

Examples of USOF Spending

Not yet used	Bangladesh, Samoa
Bhutan	• Rural mobile connectivity • Internet Connectivity to Schools • To fund small stretch of fiber optic in the central part of Bhutan
Indonesia	Develop phone and internet access in rural/remote area
Pakistan	• Build nationwide broadband infrastructure • Promote broadband adoption • Introduction of e-services such as e-health, e-education, e-commerce
PNG	The initial funding was from the World Bank and beginning in 2013, it was used mainly for infrastructure development to extend 2G cellular services (Voice and SMS) to more than 50 USO designated sites around PNG.
Vanuatu	• Subsidy UAP project to establish a pilot telecentre in a rural school • Invest in ICT and Telecommunications project for schools and rural areas

Examples of Sector-specific Applications

Bangladesh	• Bangladesh Research and Education Network (BdREN)
Bhutan	• Established National Research and Education Network (DrukREN) • Developed three sector specific ICT Master Plans for Education, Health & Tourism • Development of e Procurement framework, ICT for land management and ICT industry development roadmap are currently under progress.
Brunei	• e-Hijrah initiative (e-Health) / BruHims (Brunei Darussalam Healthcare Information and Management System)
Lao PDR	• E-learning system prepared by the University of Lao
Nepal	• 'ICT in Education master plan 2013-2018' to connect the public schools • Telemedicine services are operational in many places
Pakistan	• e-agriculture project in Sindh province, • Virtual university provides online education to students across Pakistan • Punjab Anti Dengue App - an application to track the dengue activity • Sabaq.pk - a website that hosts free video lectures for the curriculum of 9th and 10th class
Philippines	• eHealth Philippines • TESDA Online Program (teaching online technical skills)

Priority Areas of NBP

Priority	This year	By 2017	By 2020
No. 1	Availability	USO	e-education
No. 2	Regulatory Reform	Availability	Local content
No. 3	Spectrum mgmt	e-government	User adoption
Other responses	USO e-government e-education Affordability	Licensing regime e-education Spectrum mgmt e-healthcare	Affordability Consumer right e-healthcare e-government

- **The government's top 3 priority areas of NBP this year** were reported as *broadband availability, regulatory reform and spectrum management*

- *USO, availability and e-government* were ranked as the priority areas in the **next three years** while *e-education, local content and user adoption* were important in the **next five years**

Challenges to NBP Implementation

Main Barriers to Implementing NBP (Responses)

- Lack of investment on infrastructure (11)
- Large rural areas with sparse population (11)
- Affordability (11)
- Lack of attractive online services (11)
- Lack of awareness on broadband benefits (10)
- Lack of skilled human resources in government (9)
- Lack of sufficient funding (7)
- Lack of consumer demand for broadband (7)

- Still, **multiple barriers exist in implementing NBPs** including *lack of investment, geography, affordability* as well as *limited user demand/attractive online services*

- Institutional issues or end-user terminals were ranked low

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