Improving broadband access in Southeast & Central Asia

Rajnesh Singh
Director, Asia-Pacific Bureau

June 2016 | Bangkok

Our Mission

To promote the open development, evolution, and use of the Internet for the benefit of all people throughout the world.

Internet Society

The Internet Society at Work

Provides leadership in policy issues

Advocates open Internet Standards

Promotes Internet technologies that matter

Develops Internet infrastructure

Undertakes outreach that changes lives

Recognizes industry leaders

Internet Society

Global Presence

NORTH AMERICA

EUROPE

THE MIDDLE EAST

AFRICA

ASIA

LATIN AMERICA/CARIBBEAN

114	**84k**	**143**	**5**	**20**
Chapters Worldwide	Members and Supporters	Organization Members	Regional Bureaus	Countries where ISOC staff are present

Internet Society

Asia Pacific: 20 Chapters

Australia	India Delhi	Malaysia	Republic of Korea
Bangladesh Dhaka	India Kolkata	Nepal	Singapore
Hong Kong	India Trivandrum	Pacific Islands	Sri Lanka
India Bangalore	Indonesia Jakarta	Pakistan Islamabad	Taiwan Taipei
India Chennai	Japan	Philippines	Thailand

Internet Society
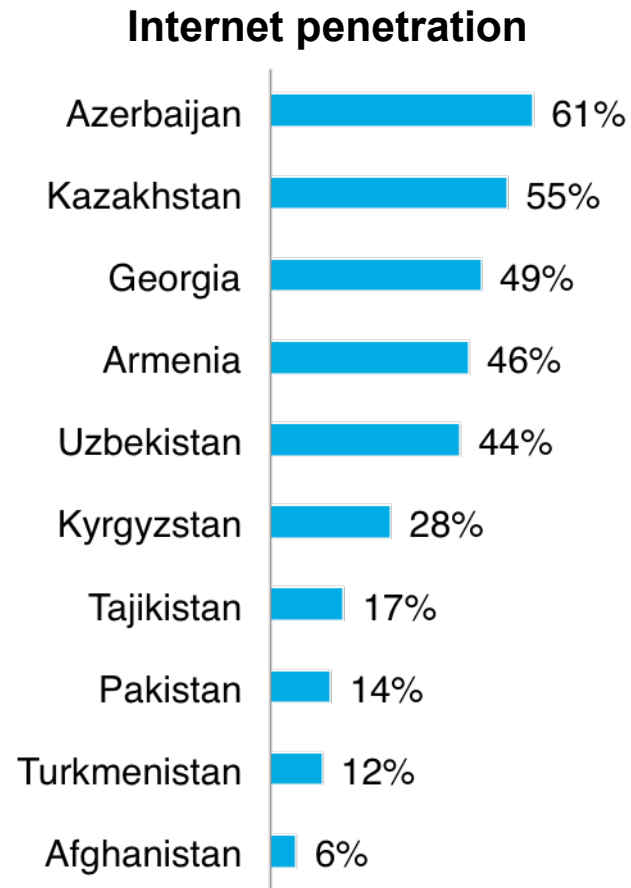
The Internet in Southeast Asia

- Southeast Asia's Internet population has doubled in the last five years, spurred mainly by wireless broadband adoption

- Emerging economies drive Internet usage growth in the region—however, broadband penetration in ASEAN continues to lag behind the global average

- Wide discrepancies between economies like Singapore and Myanmar present significant challenges to the fruition of the ASEAN Economic Community

Internet penetration

Country	Penetration
Singapore	82%
Brunei	68.80%
Malaysia	67.50%
Vietnam	48.30%
Philippines	39.70%
Thailand	34.90%
Indonesia	17.10%
Laos	14.30%
Cambodia	9%
Myanmar	2.10%
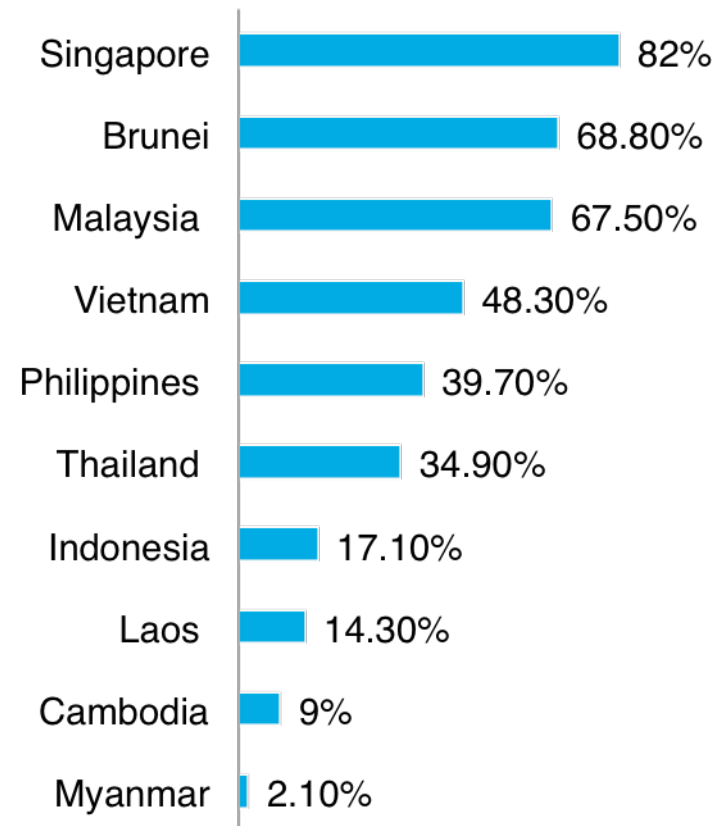
Source: World Telecommunication/ICT Development Report and database 2014

The Internet in Central Asia +5

Internet penetration

Country	Penetration
Azerbaijan	61%
Kazakhstan	55%
Georgia	49%
Armenia	46%
Uzbekistan	44%
Kyrgyzstan	28%
Tajikistan	17%
Pakistan	14%
Turkmenistan	12%
Afghanistan	6%

Source: World Telecommunication/ICT Development Report and database 2015

- Like Southeast Asia, the Internet population in Central Asia +5 has doubled in the last five years

- The pace by which these 10 countries have transitioned from fixed to mobile broadband vary greatly—resulting in greater gaps in broadband density between them

- But overall, mobile broadband proves to be more accessible, and have made Internet access more affordable especially for the bottom 6 countries

Internet Society

Issues and challenges – Southeast Asia

- Incumbent carriers dominate the market in many ASEAN economies—they run their own Internet transit points and do not always provide equitable access to competing ISPs

- This has brought forth access bottlenecks to international gateways and cable landing stations—competing carriers may need to connect indirectly to the incumbent's network, paying premium rates while facing bandwidth restrictions

- The lack of carrier-neutral Internet exchange points (IXPs) in the sub-region forces smaller ISPs to transit their traffic through the incumbent's network even when traffic is domestic

- While many ASEAN countries enjoy access to submarine cables, some like Cambodia, Laos and Myanmar either don't have landing stations, or depend on aging and low-capacity connections

Issues and challenges – Central Asia +5

- Most of the 10 countries in the study are landlocked—this drastically limits their access to submarine cable systems and makes them reliant on transit and interconnections with their neighbours

- These interconnections can be costly, and are also largely low-capacity trans-border links—the lack of adequate international bandwidth thus leads to comparatively lower speeds and higher prices

- Mountainous and/or desert terrain, along with low populations scattered over large distances also pose significant hurdles to Internet infrastructure roll out

- Majority of the countries studied have dominant state incumbents—this contributes to unfavourable market conditions that further limit broadband adoption in the sub-region

Trends and observations

- In both Southeast and Central Asia, the cost of international bandwidth is higher in countries that do not have adequate international connectivity—this is passed on to end-users

- Meanwhile, countries with high international bandwidth tend to have lower transit prices

- There is also a strong correlation between affordability of access and Internet take-up in both sub-regions

- It is worth noting that countries with higher Internet penetration also tend to have competitive market conditions

Internet Society

Key takeaways

- Countries with low Internet usage levels need to expand national coverage via fixed-line backhaul networks, with wireless playing key role for access

- In both sub-regions, connectivity is patchy or non-existent in small or remote communities —in case of market failure, government can lead in extending last mile access to unserved and underserved areas

- For Central Asia +5, Pakistan, along with Iran, could channel greater bandwidth into the sub-region by being a transit provider (both have submarine cable access)

- For Southeast Asia, opening the telecoms market can boost supply, which can in turn drive down wholesale prices of international connectivity

- Local caching facilities, e.g. local data centres, can encourage both local and foreign providers to have their content hosted on local servers, thus lowering both latency of access and international transit costs

- The development of locally relevant content and apps will make the Internet valuable to those who already have connectivity within their reach

Policy recommendations

Think wireless	📶	Internet access policies should be more mobile- and wireless-centric—and so do initiatives to connect unserved and underserved areas
Make it affordable	🐖	Make network access available and affordable for ISPs, and make Internet access devices more affordable to the general populace
Build IXPs	⬡	Support the development of carrier-neutral Internet exchange points to help reduce transit costs and remove bandwidth bottlenecks
Be transparent	🔍	Make policies, procedures and regulations clear and transparent to encourage market participation and promote a competitive environment

Internet Society

Policy recommendations

Share infrastructure		Urge operators to share access to facilities and resources, from towers to spectrum, especially for economies that only have 1 or 2 dominant carriers
Build capacity		Develop the ability of marginalised sectors, including women, persons with disabilities and low-income populations to use digital tools
Stimulate demand		Make public services available online, starting with health, education, government and disaster risk management services
Boost backhaul supply		Encourage upgrades and investments in fibre-based backhaul infrastructure to support the growing demand for broadband

Internet Society

Rajnesh Singh

Regional Director, Asia-Pacific

singh@isoc.org

INTERNET SOCIETY ASIA-PACIFIC

9 Temasek Boulevard
#09-01 Suntec Tower Two
Singapore 038989

T: +65 6407 1470
F: +65 6407 1501
E: apac@isoc.org

Follow us on Twitter: twitter.com/isocapac
Follow us on Scoopit!: www.scoop.it/t/internet-in-asia-pacific
Read our blog: www.internetsociety.org/blog/asia-pacific-bureau

Internet Society