UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

TOWARDS EIGHTH SESSION OF THE SPECA THEMATIC WORKING GROUP MEETING ON KNOWLEDGE-BASED DEVELOPMENT
ALMATY, KAZAKHSTAN
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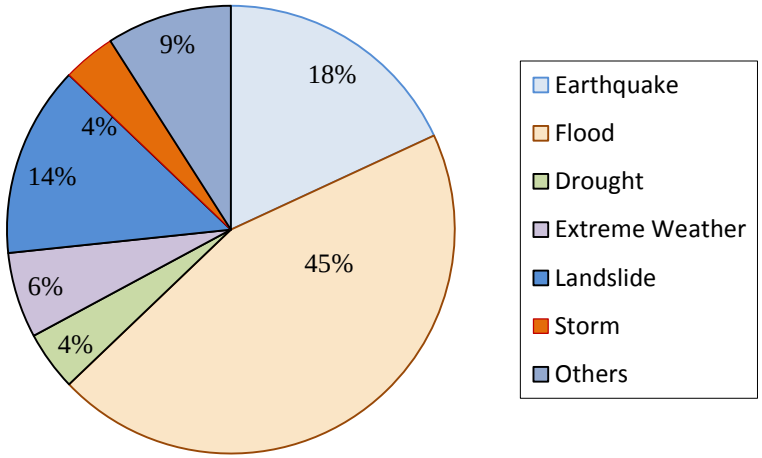
Disaster impact in SPECA

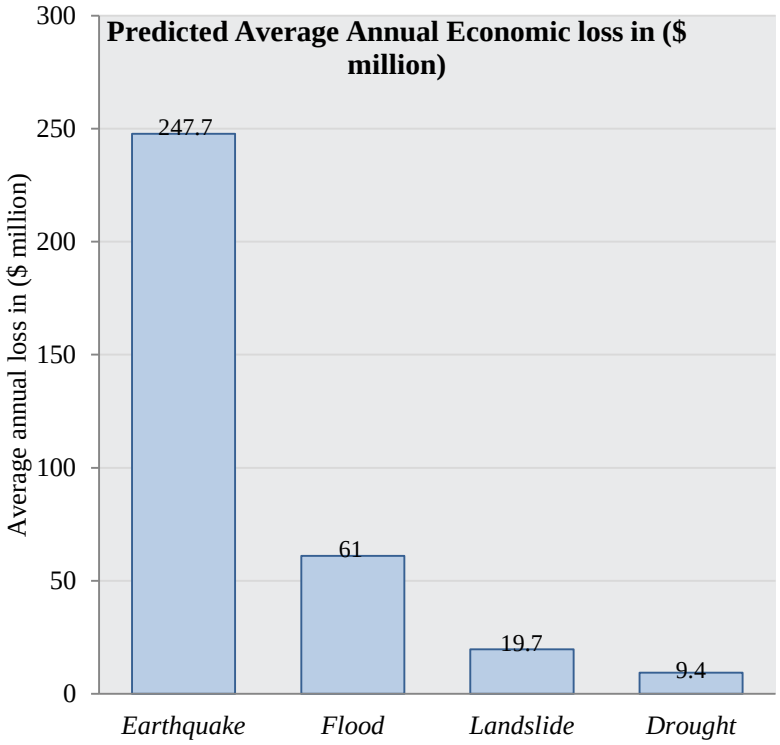
- The SPECA region is highly vulnerable to disasters such as earthquakes, floods, landslides, drought and extreme temperature
- During the period 2000-2015, the reported 210 disasters have caused 10,639 deaths, and affected more than 16 million people
- Floods are the most frequent and costliest disasters but earthquake is the predominant risk
- Majority of population concentrated within areas of high or very high seismic hazard (Kyrgyzstan 99.9%, Tajikistan 88.3%, and Uzbekistan 80.4%) or within a moderate to very high hazard area (Turkmenistan 97% and Kazakhstan 43.6%)
- Disasters have disproportionate impact in the region. According to EM-DAT (2000-2014), two countries (Afghanistan and Tajikistan) account for 75.5% of the total economic damage in SPECA region

Percentage distribution of disasters in SPECA region (% in terms of disaster Occurrence)

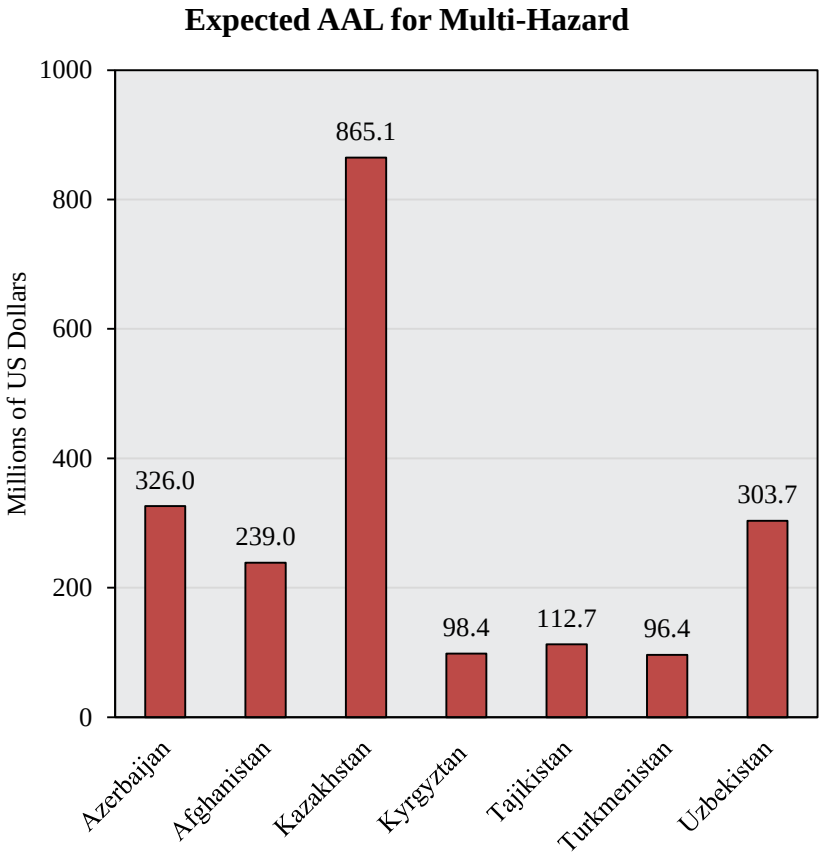


Source: ESCAP, based on data from EM-DAT (2015).

Projected Average Annual Loss (AAL) is high

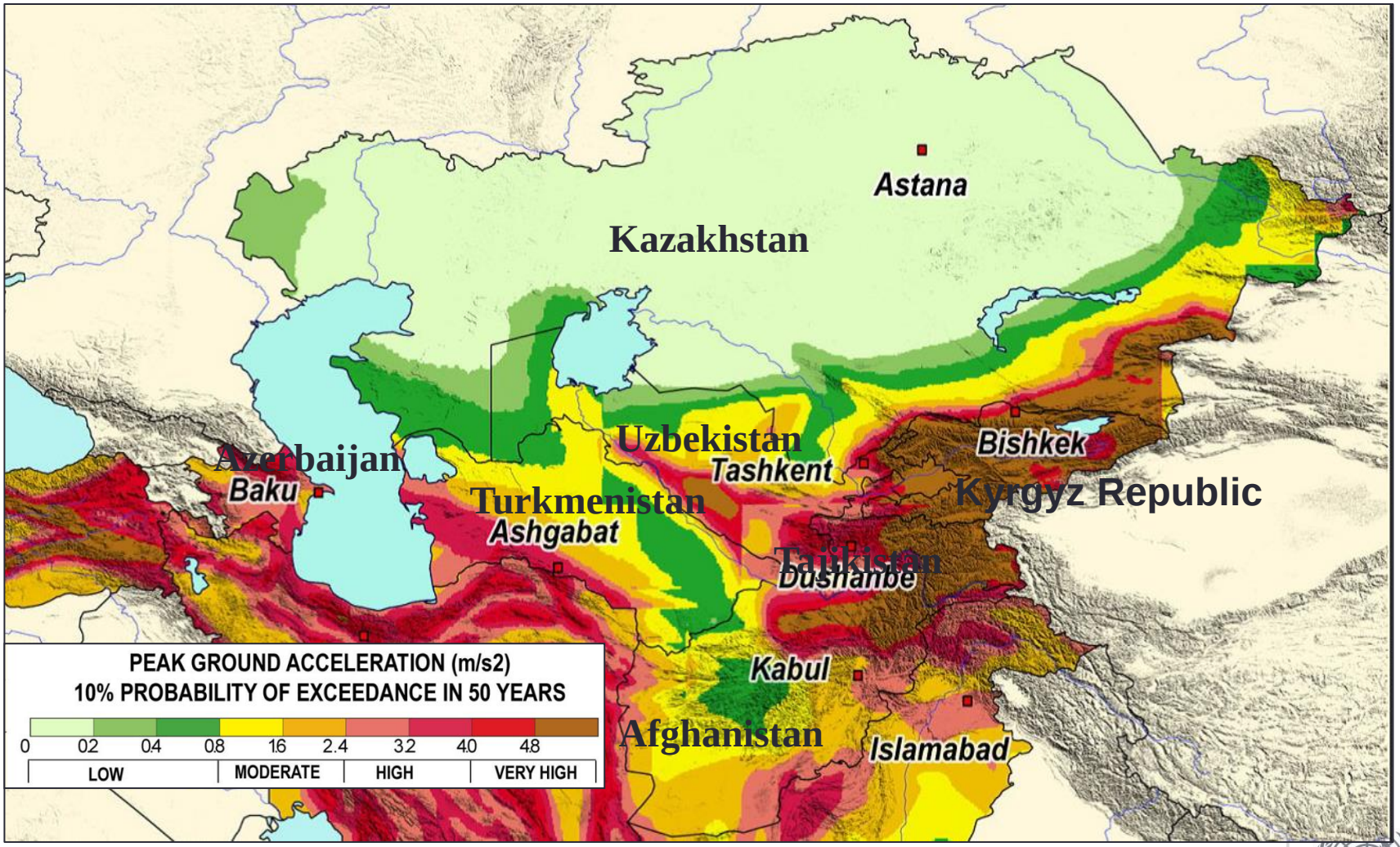


Source: World Bank and UNISDR (2009)



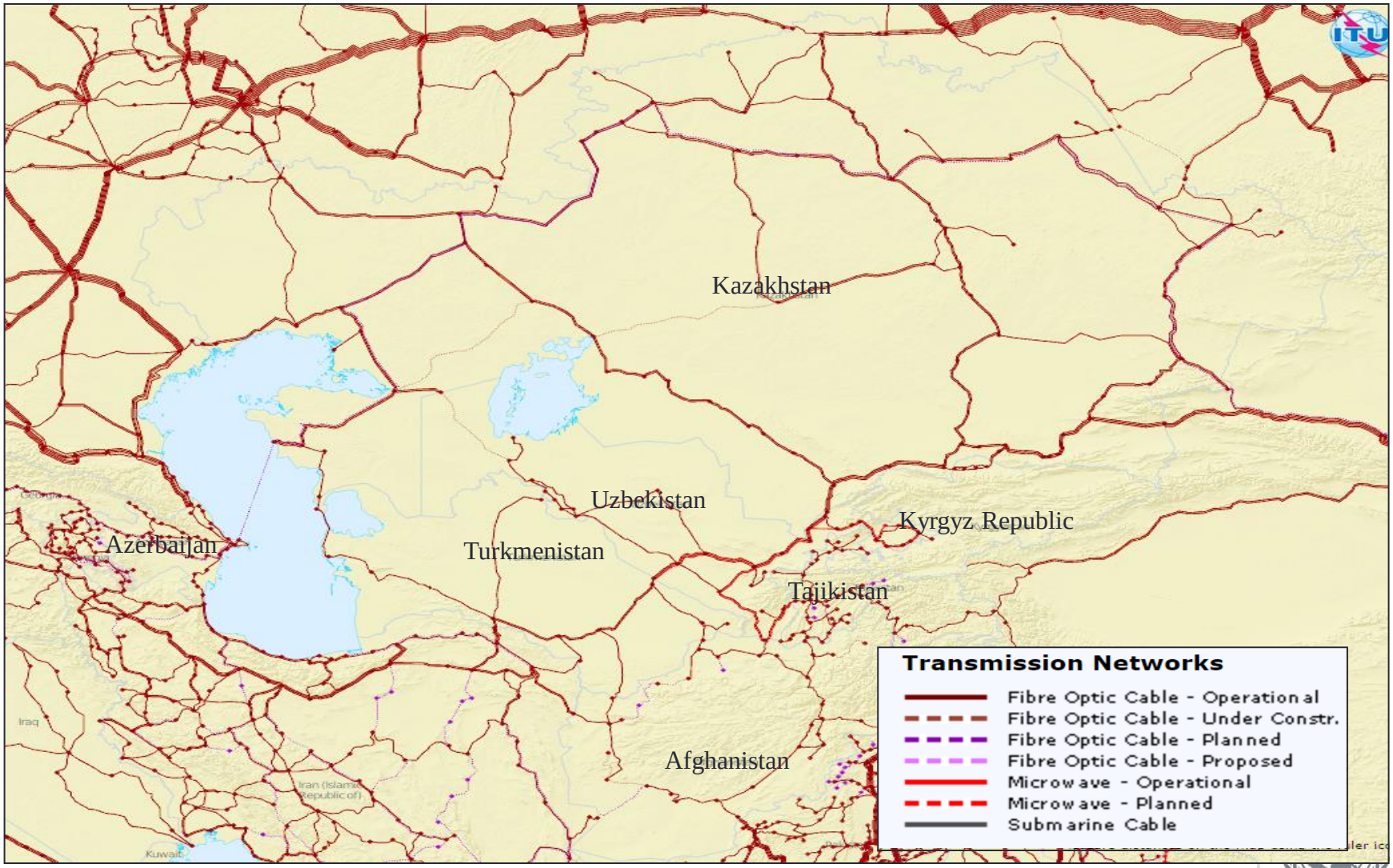
Source: ESCAP based on data from UNISDR (2015)

Seismic Hazard Map



Source: GSHP (1999)

Transmission Map

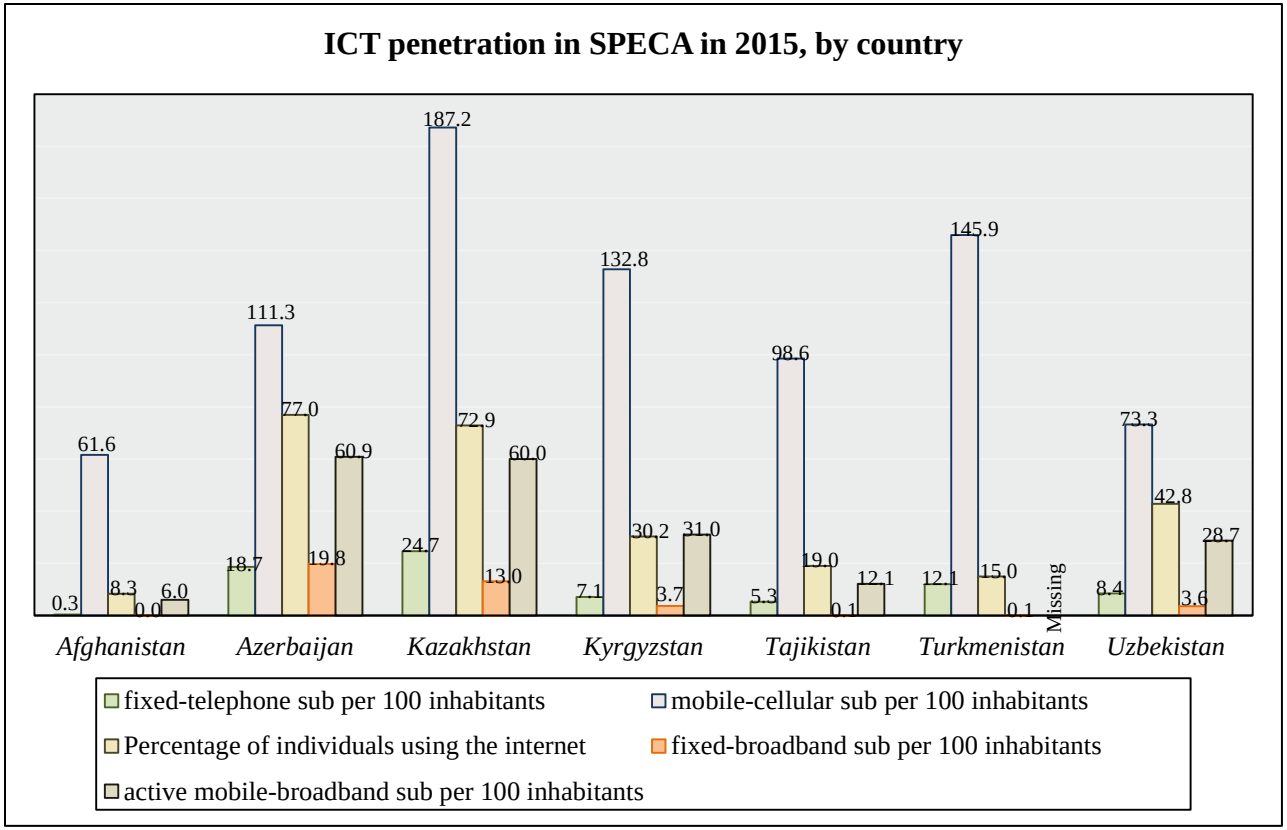


Source: ITU, interactive map available at http://www.itu.int/itu-d/tnd-map-public/

Digital Divide in the Region

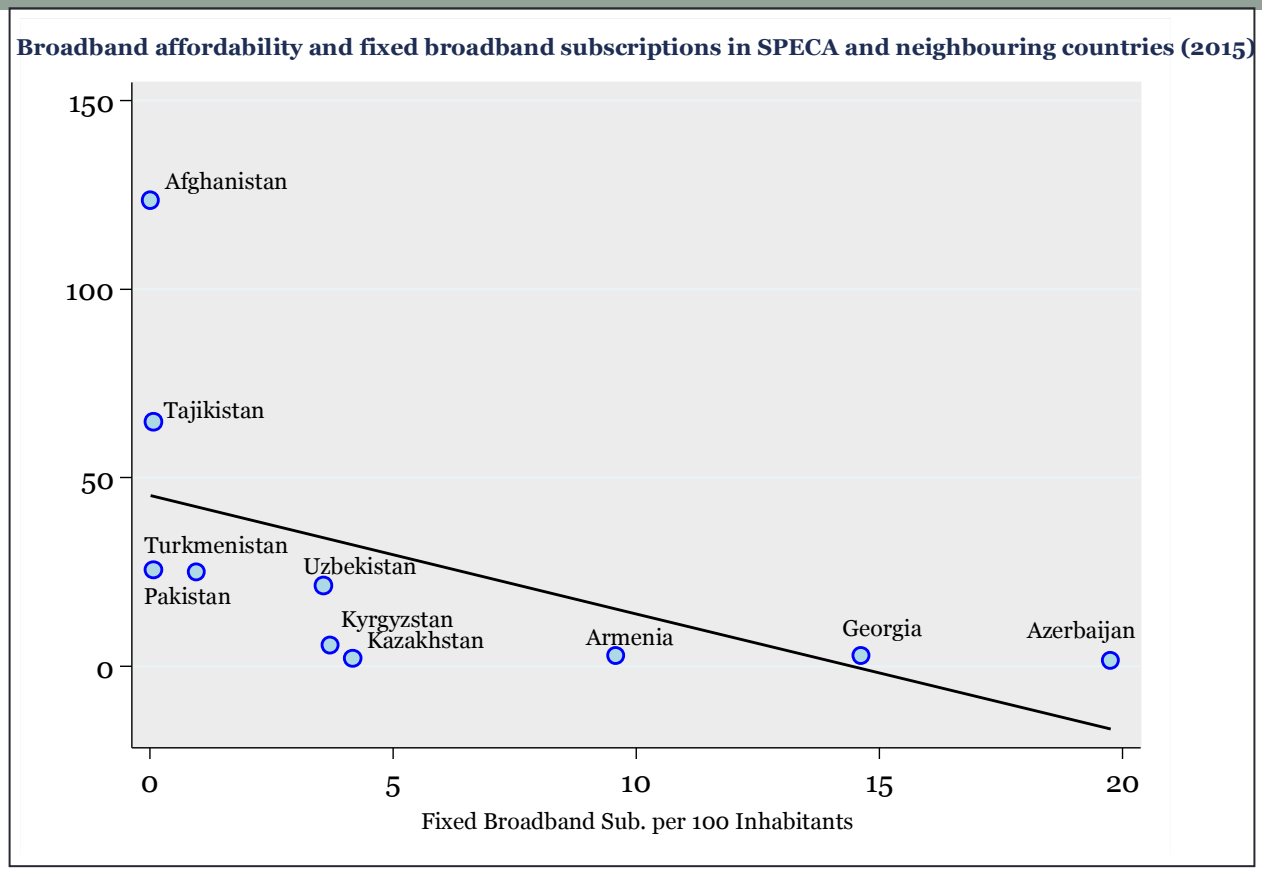
- Digital divide exists in the region. The two richest economies Kazakhstan and Azerbaijan, exhibit the highest share of internet users and fixed-broadband subscribers
- In comparison, Turkmenistan, Tajikistan and Afghanistan have the lowest share of internet users and fixed broadband subscribers
- The share of internet user in Azerbaijan was 77% as compared to 8.3% in Afghanistan
- Richer countries have a wider access to ICT for DRR/DRM but high adoption rates makes their respective economies more vulnerable if ICT assets are damaged
- There is a potential for mobile-based DRR/DRM practices in the less economically advanced countries due to a relatively affordable cost and good coverage

Digital Divide in the region



Source ESCAP, based on ITU (2016).

- Azerbaijan and Kazakhstan lead the way in terms of ICT indicators
- Afghanistan and Tajikistan are behind

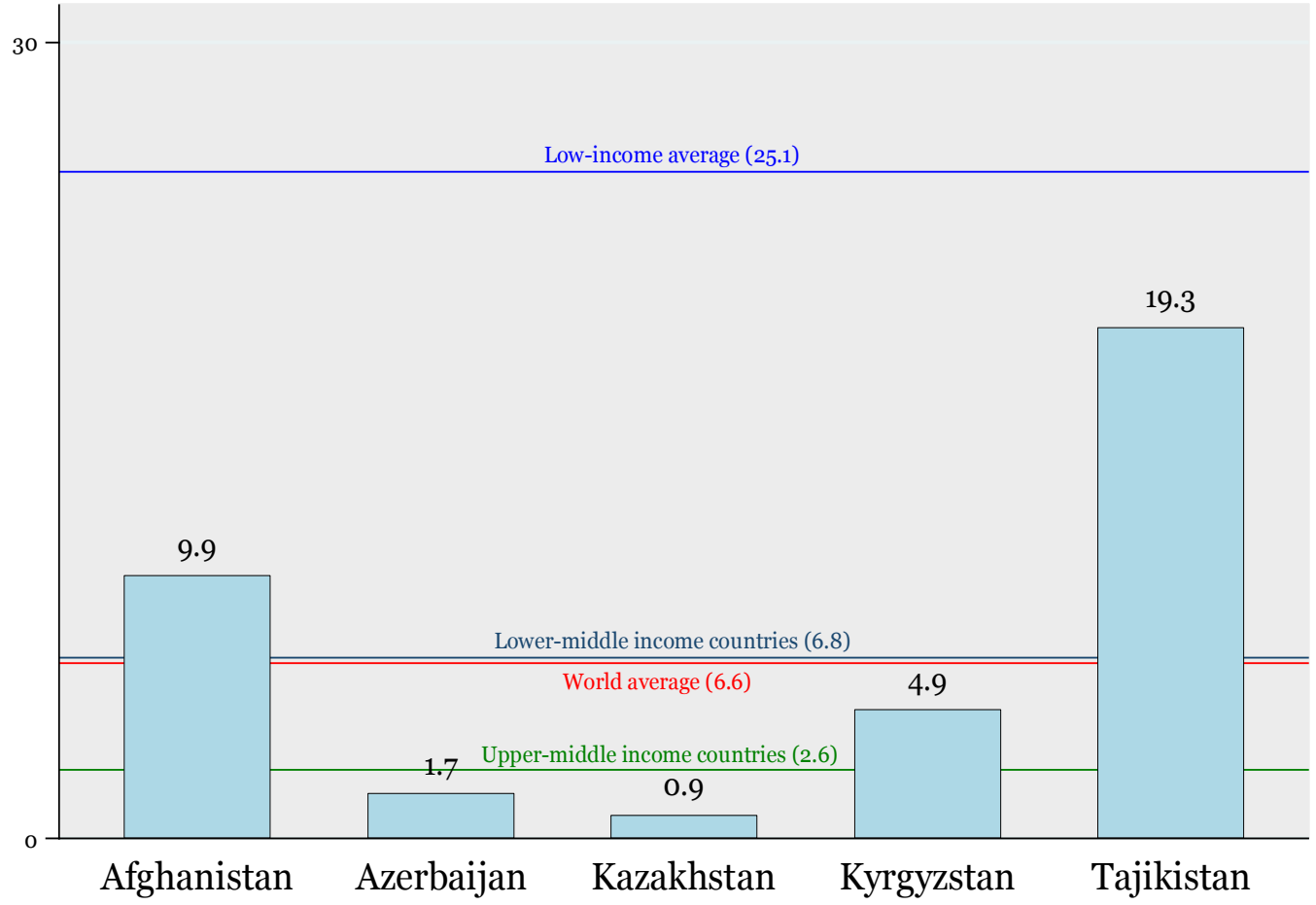


Sources: cost of fixed broadband and data on fixed broadband subscriptions from ITU (2016), GNI data from the World Development Indicators (2016).

- Digital divide is also noticeable in terms of coverage and cost
- However, good mobile-cellular network coverage everywhere and price of running a mobile phone relatively cheaper compared to other countries in the same income groups
- **Main point to emphasize- affordability**

Monthly cost of running mobile phone in SPECA

(by country, 2014)

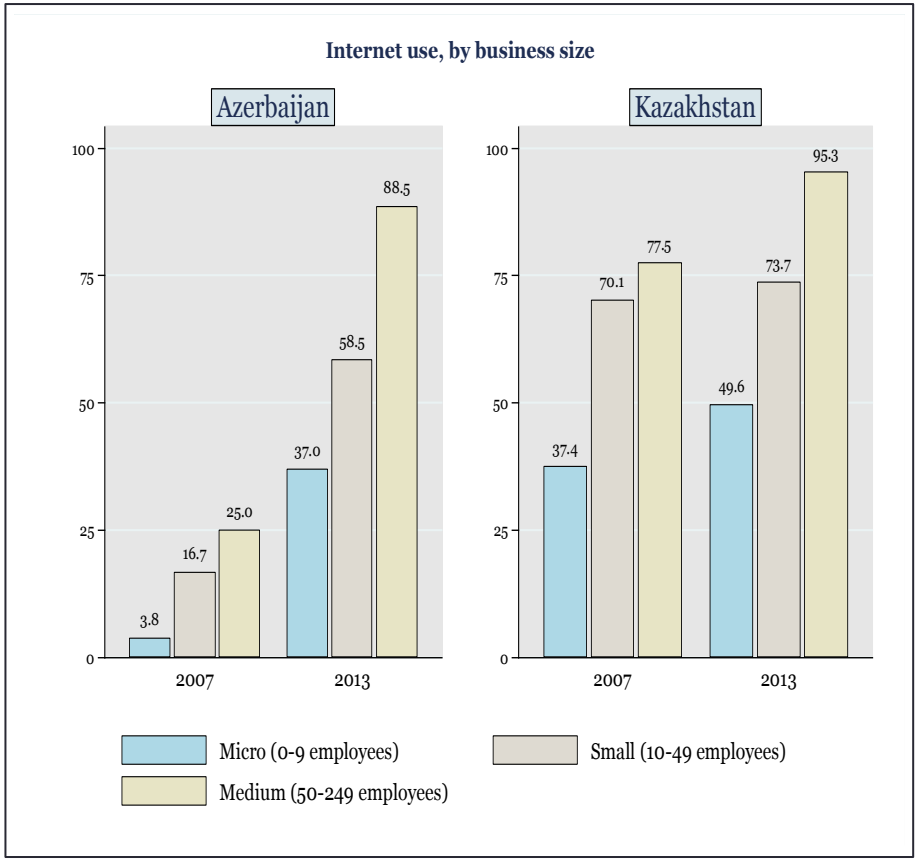


Sources: data on cost from ITU (2016), GNI per capita from World Development Indicators (2016).

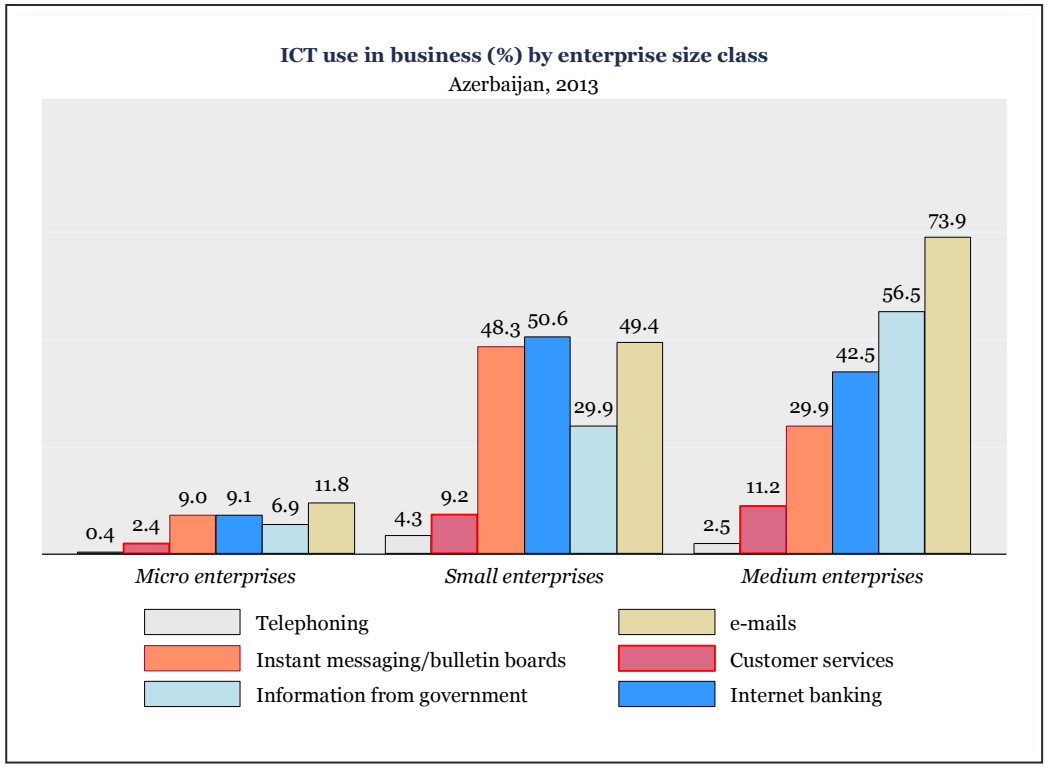
- Digital divide can also be observed between firms
- Factors influencing ICT use include business size
- SMEs rely extensively on ICT in their activities
- Availability of ICT tools for DRR/DRM practices will depend on companies' characteristics in terms of location, ICT affordability and size
- ICT generates economic growth and economic growth leads to higher ICT adoption rates

Therefore:

- ICT is not only a tool, but also a crucial economic asset that needs to be protected both at the macro and micro levels during disasters



Source: ESCAP, based on UNCTAD (2015)



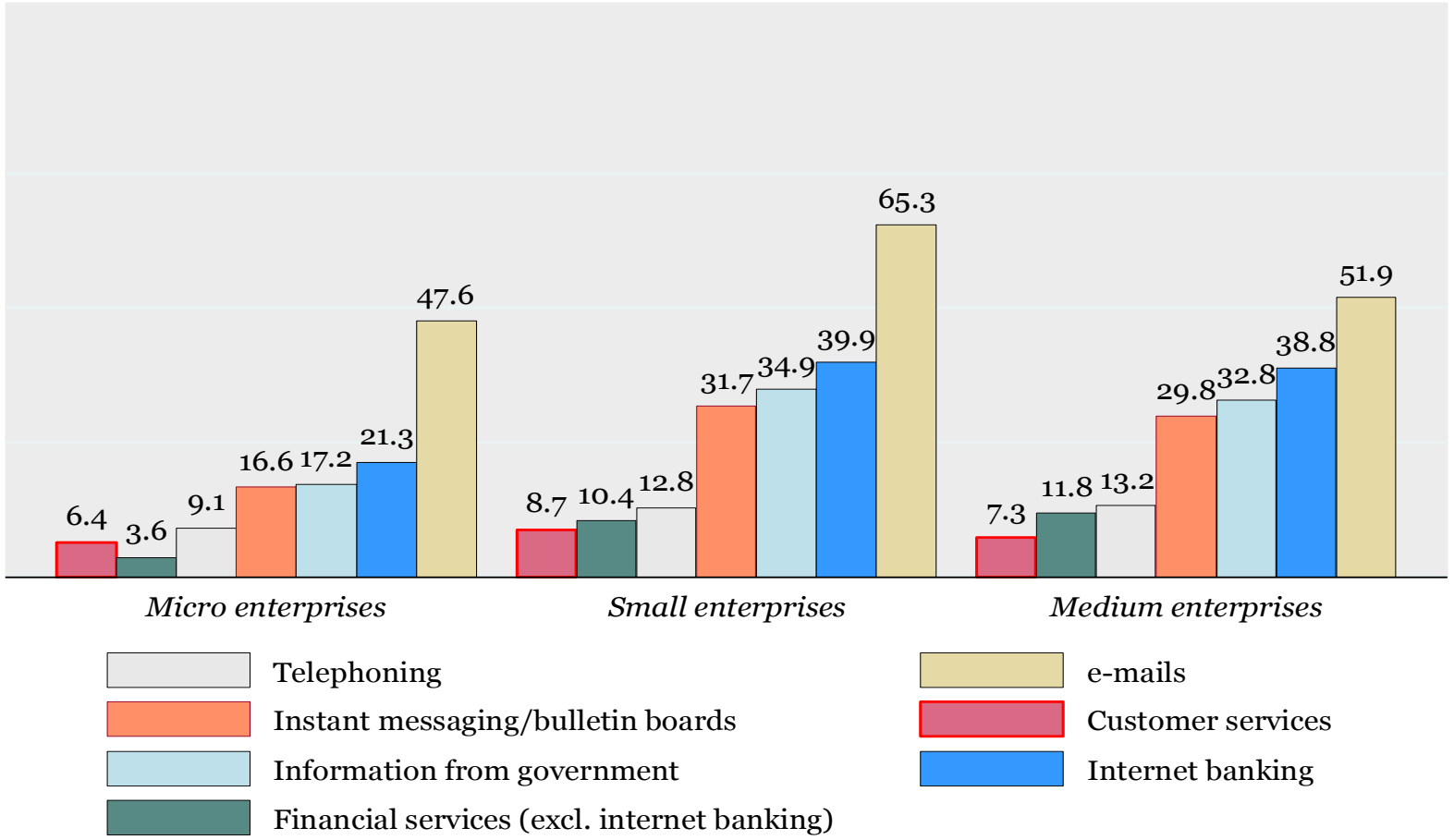
Source: ESCAP, based on UNCTAD (2015)

SMEs in the region use ICT for multiple reasons. Internet is used in SMEs in Kazakhstan and Azerbaijan for the following:

- Communication: telephoning, e-mails
- Finance: internet banking
- Online services for customers: delivery, online orders
- Getting information from the government

ICT use in business (%) by enterprise size class

Kazakhstan, 2013



Source: ESCAP, based on UNCTAD (2015)

Protecting ICT Assets

Preparedness

- Identify risks and vulnerabilities through hazard mapping, seismic microzonation,
- Understand the risk for businesses and promote Business continuity plans (BCP) in SMEs. Less than 2% of SMEs in Kazakhstan are insured against natural disaster risks. 83% of SMEs surveyed in the Asia-Pacific Economic Cooperation (APEC) area did not have any Business Continuity Plan
- Training and information about good practices. Governments can provide training and information about good DRR/DRM practices to SMEs
- Better informed firms can urge their suppliers to adopt BCP as they will be more aware of the disruptions caused by natural disasters in value chains

Protecting ICT Assets

Robustness and reliability

- Measures to mitigate traffic congestion on the network during disasters
- Measures to protect the quality and speed of data
- Increased back-up power at the base stations and all other communication facilities to counter electricity outages
- More legal and normative requirements for crucial ICT infrastructures such as datacenters and base stations

Redundancy

- Offer redundancy. Alternative paths for terrestrial internet links, more internet providers at the international frontier
- Projects such as the Trans-Eurasian Information Super Highway (TASIM) project initiated by Azerbaijan, the Asia-Pacific Information Superhighway (AP-IS) can address these needs

Protecting ICT Assets

Enhancing e- resilience

- Backing up data to improve e-resilience. Save data on external drive.
- Offsite backup by using cloud technology

Increase Use of Innovative technology in Future

- Increase use of cloud computing
- Mobile networks can be scaled up quickly using mobile base station or “cells on wheels” to offer redundancy
- Mobile Network Big Data (MNBD)- extremely large datasets generated from different data sources can be used for disaster data collection eg. population displacement

Regional Cooperation

- Many disasters are transboundary in nature with impacts felt across countries
- Need to promote regional cooperation and mechanisms particularly for transboundary disasters
- Establishment of Asian and Pacific Centre for the Development of Disaster Information Management (APDIM), in Tehran, Iran as regional institution of ESCAP
- Aims to reduce human losses and material damages from the negative impact of natural hazards through enhancement of disaster information management in the region through south-south cooperation
- Particular focus on vulnerable subregions of South and South West Asia and North and Central Asia
- The Asia Pacific Superhighway (AP-IS) initiative mandated by member states of ESCAP aims to provide seamless connectivity across the continent, to enhance regional connectivity and ICT resilience across the Continent.

In preparation for future disasters

- Do countries take into account disaster risks in their national policies, programmes and planning in terms of ICT?
- How prepared are countries for seismic risks to protect damage to ICT infrastructure?
- Do countries have a DRM plan for humanitarian assistance if the ICT infrastructure is damaged?
- How to build disaster resilience of countries that are both high-risk and low-capacity with limited ICT infrastructure?

THANK YOU