

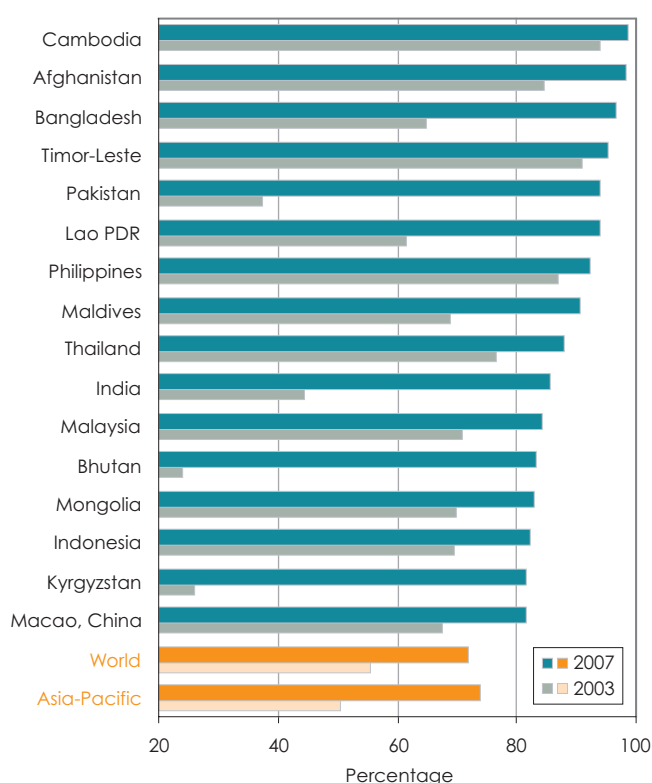
# 18 Information and communication technology

**Asia and the Pacific as a whole is making significant progress in mobile and Internet connectivity. Three-quarters of telephone connections are via mobiles. China has the world's highest number of Internet users.**

In Asia and the Pacific the main communications means for the majority of people in low-income economies are mobile telephones. The region has entered a period of rapid mobile expansion, increasing the number of affordable phones and decreasing the calling rates. Many developing countries are also increasing the number of fixed-line telephones, but at a much slower pace than previously. In the high-income economies, the growth in mobile penetration is clearly slowing down and in some cases the number of fixed lines is declining.

**Figure 18.1**

**Developing countries where mobile telephones comprised over 80 per cent of total telephones in 2007**



Across the region as a whole, mobile telephone subscriptions have surpassed those of fixed-line systems. Nevertheless the number of fixed-line connections has also been increasing, if more slowly: between 2003 and 2007 the number of lines per 100 people increased from 13 lines to 17. However, it is clear that some countries are progressing much more rapidly than others. The slowest growth has been in the Pacific.

At the same time there has been a rapid increase in many countries in broadband networking – which is set to become an important platform for many communications purposes, including Internet access and voice and video communications. Nevertheless average broadband penetration in the region is still low – in 2007, there were 3.5 broadband subscribers per 100 people. Much of the most recent expansion has been in the high-income economies, where almost 90 per cent of the growth in the number of Internet users is based on broadband connections. However, for the Asia-Pacific region as a whole the proportion is less than one-fifth. Many people still rely on other forms of access, including dial-up connections and Internet cafés.

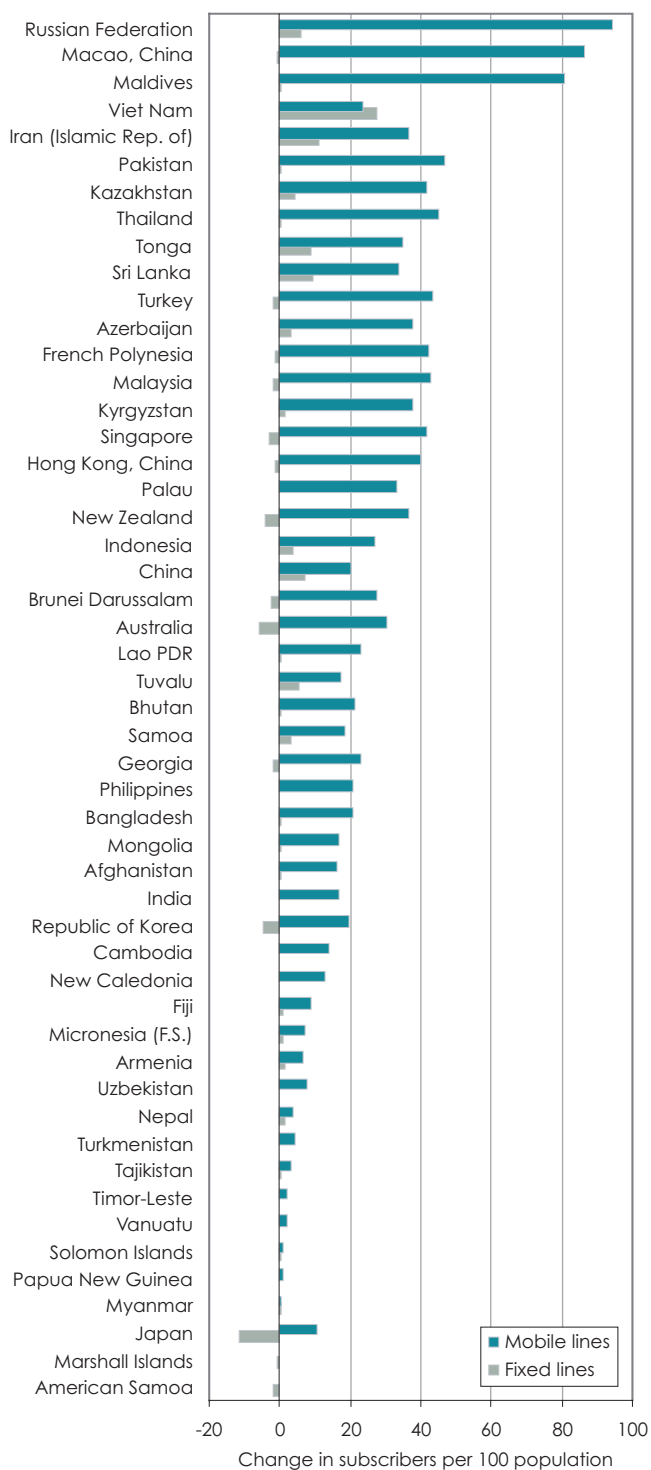
Although there are few reliable comparable statistics on the access to personal computers in the Asia-Pacific region there appear to be wide disparities – as expressed by the “digital divide”.

In the poorer developing countries most of the expansion in communications has been via mobile telephone connectivity, mostly based on voice and simple data services through SMS. When people need larger screens or higher bandwidth they turn to telecentres or Internet cafés. These countries find it difficult to expand fixed line-based Internet services because of the poor quality or unavailability of fixed telephone lines. Nevertheless quite sophisticated services are now becoming available via mobile connections. The Philippines, for example, now has banking systems that allow people to pay, receive and transfer money using a mobile telephone.

## 18. Information and communication technology

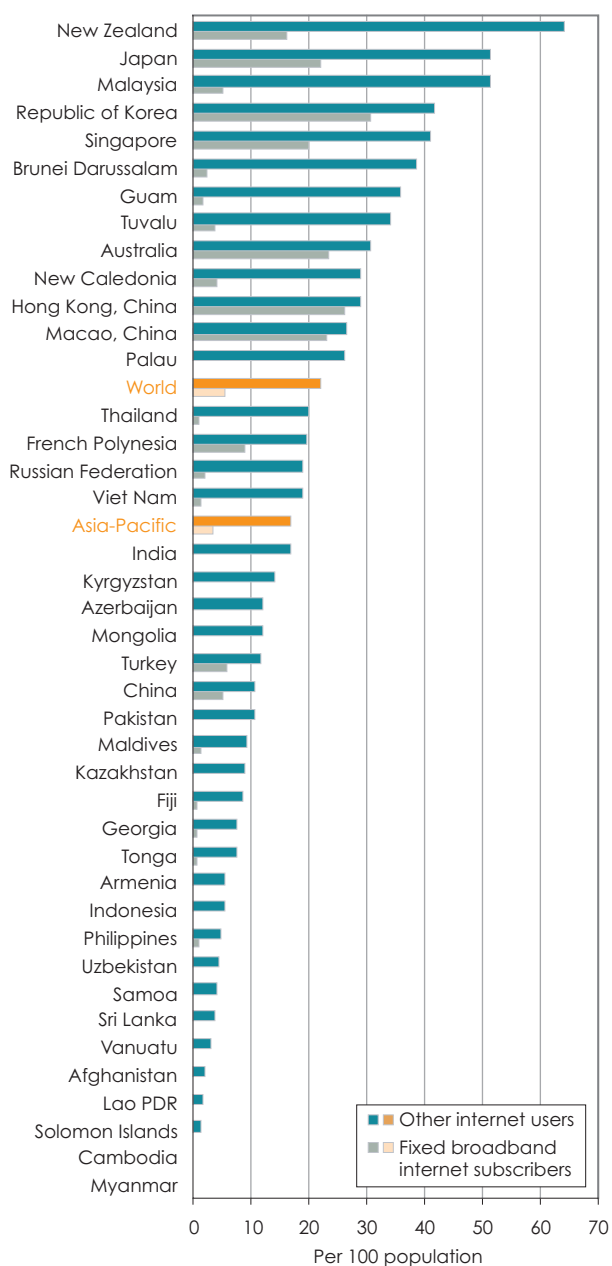
### Figure 18.2

Change in telephone lines per 100 population between 2003 and 2007



### Figure 18.3

Fixed-line broadband subscribers and other Internet users, 2007



In lower-income economies most current broadband technologies use wired infrastructure – cable, copper line, or fibre to the home. But they also have the option of newer technology using peer-to-peer wireless to distribute Internet access to villages.

The extent to which a country connects with the rest of the world can be gauged by its available international bandwidth. This varies hugely by country. Where it is low, this adds a further hurdle for extending Internet use since many developing countries rely on content from overseas.

In many countries in the region, the statistics on the actual use and impact of personal computers and the Internet are very limited. The forms of data also vary from country to country so it is difficult to make international comparisons. Because it will become increasingly important to gather reliable data, the international statistical community is currently revising and expanding the list of recommended ICT indicators and definitions.

Total international bandwidth (Megabits per second per 100 population)	
Afghanistan (2007)	0.1
Timor-Leste (2006)	0.6
Bangladesh (2006)	0.8
Cambodia (2007)	1.7
India (2006)	2.3
Lao People's Democratic Republic (2007)	3.2
Pakistan (2007)	4.3
Bhutan (2007)	6.8
Philippines (2007)	11.4
Malaysia (2005)	12.4
Thailand (2007)	39.0
Republic of Korea (2006)	103.6
Japan (2004)	103.8
Maldives (2007)	130.9
Singapore (2004)	578.0

#### Fixed telephone mainlines (per 100 population)

Fixed telephone lines refer to telephone lines connecting a subscriber's terminal equipment to the public switched telephone network (PSTN) and which have a dedicated port on a telephone exchange. Fixed telephone lines per 100 population is calculated by dividing the number of fixed telephone lines by the population and multiplying by 100. **Aggregates:** Averages are calculated using total population as weight. **Source:** International Telecommunication Union, ICT Statistics Database (online database, accessed on 23 June 2008).

#### Mobile cellular subscribers (per 100 population)

The number of users of portable telephones subscribing to a public mobile telephone service using cellular technology, which provides access to the PSTN, expressed per 100 population. This includes analogue and digital cellular systems, including IMT-2000 (Third Generation, 3G). Post-paid and prepaid subscribers are included. **Aggregates:** Averages are calculated using total population as weight. **Source:** International Telecommunication Union, ICT Statistics Database (online database, accessed on 23 June 2008).

#### Mobile cellular phone as share of total phone lines (percentage)

The proportion of mobile phones of all telephones. **Aggregates:** Averages are calculated using total population as weight. **Source:** International Telecommunication Union, ICT Statistics Database (online database, accessed on 23 June 2008).

#### Internet users (per 100 population)

The total number of Internet users via fixed and mobile networks irrespective of the device used, expressed per 100 population. **Aggregates:** Averages are calculated using total population as weight. **Source:** International Telecommunication Union, ICT Statistics Database. (online database, accessed on 23 June 2008).

#### Fixed broadband Internet subscribers (per 100 population)

The number of users of the Internet subscribing to paid high-speed access to the public Internet, expressed per 100 population. High speed is at least 256 kbit/s, in one or both directions. Fixed broadband Internet includes cable modem, DSL, fibre and other fixed broadband technology (such as satellite broadband Internet, Ethernet LANs, fixed-wireless access, Wireless Local Area Network, WiMAX etc.). Subscribers with access to data communications (including the Internet) via mobile cellular networks are excluded. **Aggregates:** Averages are calculated using total population as weight. Missing data have been imputed. **Source:** International Telecommunication Union, ICT Statistics Database (online database, accessed on 23 June 2008).

#### International Internet bandwidth (bits/second/population)

The total backbone bandwidth that the operators have to the international Internet divided by the total population. **Aggregates:** None. **Source:** International Telecommunication Union, Asia-Pacific Telecommunication/ICT Indicators 2008.



