

Chapter 1

ICT Proliferation on a Worldwide Scale

Part 1

Section 1 Rapid Worldwide ICT Proliferation

Figure 1-1-1-1 provides snapshots of the mobile-phone penetration rate in 2000 and 2012 superimposed on a world map. In 2000, the penetration rate was already over 75 percent in Japan, South Korea, and some European nations. The rate had not yet crossed the 50-percent line in North America or Australia and it had not reached even 25 percent in developing nations.

As of 2012, however, the map had completely trans-

formed: the penetration rate of mobile phones exceeds 75 percent not only in developed nations but also in most developing countries. The map makes it evident that mobile phones have spread on a truly global scale, in developed and developing countries alike.

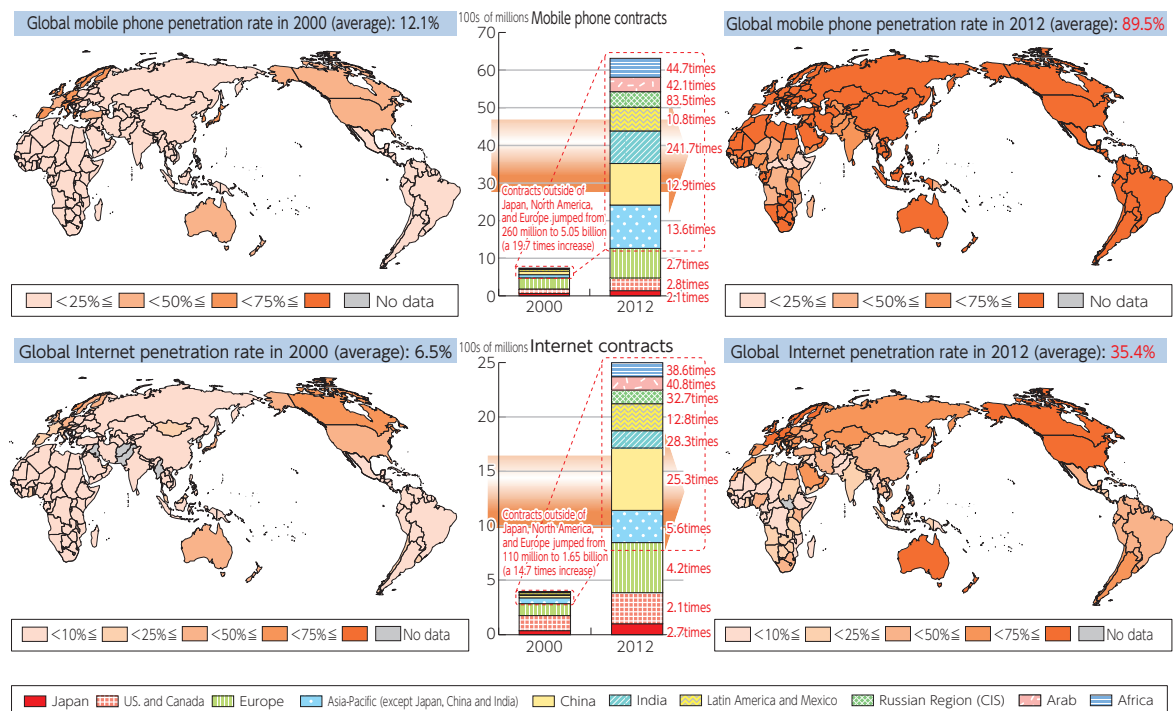
The same trend is seen with the state of Internet proliferation. This demonstrates that ICT has rapidly expanded around the world in just a dozen years.

Section 2 ICT Proliferation in Developing Nations

ICT is spreading throughout the world as shown above, and this trend is widely seen in developing countries as well. In 2005, there were 7.8 Internet users and 22.9 mobile phone subscriptions for every 100 inhabit-

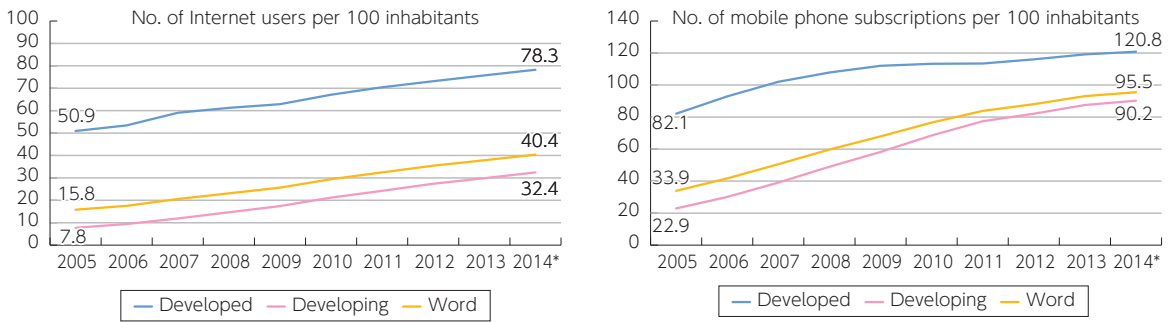
ants in developing countries. By 2014, these figures will soar to 32.4 Internet users and 90.2 subscriptions per 100 inhabitants (Figure 1-2-1-1).

Figure 1-1-1-1 Transitions in the global penetration rate of mobile phones and the Internet



(Source) "Study Report on Success Factors in Global ICT Industry Strategies and Future Directions," MIC (2014)
Prepared from ITU World Telecommunication/ICT Indicators 2013 data

Figure 1-2-1-1 No. of Internet users and mobile phone subscriptions per 100 inhabitants



*Estimated
(Source) ITU

Section 3 Solving Public Issues with ICT

As mobile phones and other ICT devices spread through developing countries and other places, efforts are being made to utilize these devices to overcome

various social issues. Consequently, ICT is quickly becoming an essential infrastructure supporting the lives of people.

1. Fast rise of mobile money transfer systems in developing countries

The growth of mobile phones has been remarkable in developing countries, despite 2.5 billion people without bank accounts. This has spurred the rapid proliferation of mobile money transfer services that can be accessed with the prepaid SIM cards widely available in developing countries. According to “State of the Industry 2013:

Mobile Financial Services for the Unbanked” released by the GSMA in March 2014, there were 219 mobile money transfer services in 84 countries at the end of 2013, the majority (51.7 percent) of which are in Sub-Saharan Africa (Figure 1-3-1-1).

2. MOOCs

Massive Open Online Courses (MOOCs) are online courses where students preregister and study a specific subject. Unlike common online courses, students who complete the requirements of a MOOC receive a course diploma. Various educational institutions, regardless of

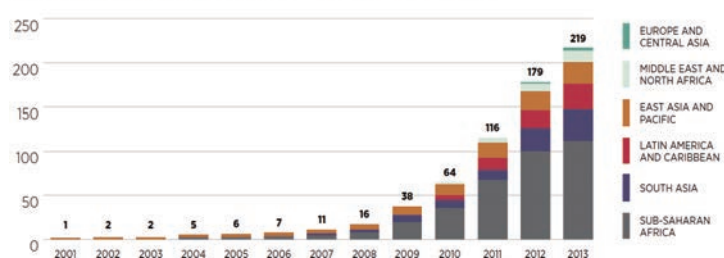
country, participate in U.S. and European MOOC platforms—such as Coursera, edX, Udacity, Future Learn, Open2Study, and OpenEd—and provide online courses to students around the world (Figure 1-3-2-1).

3. Application of mobile phones to the agriculture sector

Africa’s economic growth has brought with it a burgeoning middle class that is willing to pay higher prices for good quality food. A World Bank report forecasts that if national governments step up deregulation and other efforts in this sector, the annual African agriculture market, which was valued at 313 billion dollars in 2010, will triple to 1 trillion dollars by 2030. Much of this

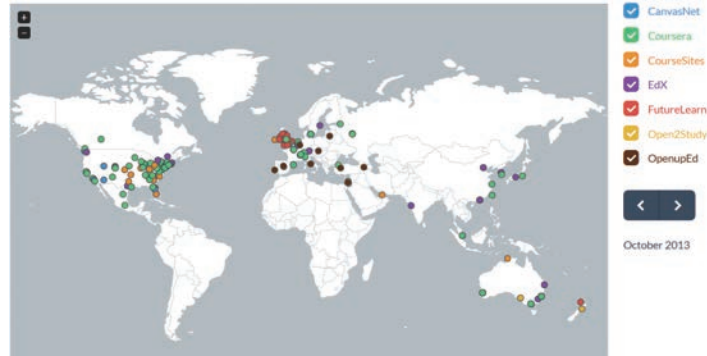
growth will owe to demand from the middle class.

Figure 1-3-1-1 Transitions in mobile money transfer services worldwide
NUMBER OF LIVE MOBILE MONEY SERVICES FOR THE UNBANKED BY REGION (2001-2013; YEAR END)



(Sources) “Study Report on the State of ICT Use and Application in Developing Nations,” MIC (2014) GSMA

Figure 1-3-2-1 Spread of organizations offering MOOCs (as of Oct. 2013)



(Source) "Study Report on the Social Impacts of ICT Advancement," MIC (2014)
<http://edutechnica.com/moocmap/#>

4. Growth of mobile health, particularly in Africa

According to the World Health Organization, there were 35.3 million people living with HIV worldwide in 2012. This is a 17 percent increase, representing some 5 million people, over 11 years from the 30.3 million HIV patients in the world in 2001. Around 25 million of these people, or 71 percent of the world's total, are concen-

trated in Sub-Saharan Africa.

The Praekelt Foundation, an NPO established in South Africa in 2007, has been providing information to prevent HIV via mobile phones that are now increasingly available in Africa. Already 50 million people are using Praekelt's services in 15 Sub-Saharan countries.