2009

STATISTICAL YEARBOOK FOR ASIA AND THE PACIFIC

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

ESCAP is the regional development arm of the United Nations and serves as the main economic and social development centre for the United Nations in Asia and the Pacific. Its mandate is to foster cooperation between its 53 members and 9 associate members. ESCAP provides the strategic link between global and country-level programmes and issues. It supports Governments of the region in consolidating regional positions and advocates regional approaches to meeting the region's unique socio-economic challenges in a globalizing world. The ESCAP office is located in Bangkok, Thailand. Please visit our website at www.unescap.org for further information.



The shaded areas of the map represent ESCAP members and associate members.

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Preface

This is the third consecutive issue of the *Statistical Yearbook for Asia and the Pacific* in its current format. The *Yearbook* is aimed at a non-specialized audience that is interested in the Asian and Pacific region – in its people, economies and environment. In an effort to keep the format user-friendly and readable, we have avoided some of the technical terms, complex charts and in-depth analysis that are a mainstay of some other ESCAP publications.

Rich in information content, the *Yearbook* includes data, charts and a textual overview of well over 200 indicators, covering all spheres of the work of the Economic and Social Commission for Asia and the Pacific, as well as such cross-cutting issues as poverty and gender.

In order to maximize the comparability of indicators across countries and regions and over time, the *Yearbook* uses annual data from the most respected international data sources. The Asia-Pacific region is defined as the members and associate members of ESCAP excluding those members that are not in Asia or the Pacific. Because these countries and areas are so diverse, the *Yearbook* publishes absolute numbers only for a limited number of series. Instead, it usually expresses indicators as ratios of two series, or in per capita terms, or by unit of land area or of output.

The structure of the *Yearbook* is the same as in 2008, except that we have inserted an entirely new chapter 15, on research and development. Some adjustments have been made to the indicator tables, and the charts are a mix of new ones and updates from the previous year.

The *Yearbook* has established its position as a leading regional reference on Asia and the Pacific. We are proud to have again been assisted by best subject matter experts from within the ESCAP secretariat and from partner agencies of the United Nations system in Bangkok, as is indicated in the acknowledgements.

The full *Yearbook* is published online at http://www.unescap.org/stat/data/syb2009, from where it can be downloaded as a whole or in parts. Whereas the printed and PDF versions only have space for selected years, we share the full time series, including those that were used to derive numerous indicators, through the ESCAP Data Centre at http://www.unescap.org/stat/data/.

The baseline year for the data is 1990 – intentionally the same as that for the Millennium Development Goals, so the *Yearbook* can also be used for tracking progress towards the Goals. The *Yearbook* uses the internationally comparable data available at the time of publication. For more recent estimates and forecasts, readers can also consult another ESCAP publication, the *Economic and Social Survey for Asia and the Pacific*.

After publishing the *Yearbook* for three years in the current format, the secretariat is keen to hear what readers think about it. Are the chapter texts useful, or should we perhaps place more emphasis on the limitations and uses of the data? Please complete the readership survey form, inserted or online, and return it to ESCAP, or e-mail any other feedback to stat.unescap@un.org.

Under the new ESCAP work programme, we are scheduled to bring out just one printed copy of the *Yearbook* for the budget cycle 2010-2011, but that does not mean that we will downgrade our data services to users. On the contrary, we will focus on improving the interface and frequency of data updating in our Data Centre, before the next issue arrives in 2011.

Thank you.

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The *Statistical Yearbook for Asia and the Pacific* was prepared under the overall guidance of Haishan Fu. Ilpo Survo oversaw the preparation and acted as editor-in-chief.

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The Statistical Information Services Section of the Statistics Division was responsible for compiling the data and metadata, calculating the indicators and most of the regional aggregates, for preparing the charts and tables, and compiling and pre-editing the manuscript.

Eric Hermouet led the technical data compilation and output preparation, for which the team included Nongnuch Hiranyapaisansakul, Panyasri Phuvakirivivat, Krisana Boonpriroje, Panpaka Supakalin, Nixie Reyes Mabanag and Marisa Limawongprance. Margarita Guerrero, Yanhong Zhang, and Joel Jere, of the Statistics Division, drafted substantive inputs and assisted in the review of the chapters. Pornrat Lertyosthanavath and Varaphorn Prapatsakdi provided administrative support.

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ESCAP gratefully acknowledges the contribution of all other agencies that compile and make available internationally comparable statistics on their websites. Without their substantial efforts, the *Yearbook* would not have been possible. We hope that the *Yearbook* increases the use of their data and the original data, the sources of which are almost always national statistical systems. The individual data sources used in the *Yearbook* are mentioned among the respective indicator definitions, which appear after the narrative in each chapter. The sources also appear in a separate list of online data sources.

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List of abbreviations and acronyms

ART	antiretroviral therapy
ASEAN	Association of South East Asian Nations
APTA	Asia-Pacific Trade Agreement
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CO_2	carbon dioxide
DOTS	Directly Observed Treatment Short-Course
DPT3	Diphtheria toxoid, tetanus toxoid and pertussis vaccine third dose
DSL	digital Subscriber Line
ECO	Economic Cooperation Organization
EDGAR	Emission Database for Global Atmospheric Research
EFA	Education for All
FDI	foreign direct investment
GER	gross enrolment ratio
GDP	gross domestic product
GNI	gross national income
GPI	Gender Parity Index
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
ICT	information and communications technology
IEA	International Energy Agency
ILO	International Labour Organization
IMF	International Monetary Fund
IMR	infant mortality rate
ISIC	International Standard Industrial Classification
ITU	International Telecommunication Union
IUCN	International Union for Conservation of Nature
LDC	least developed countries
LLDC	landlocked developing countries
MDG	Millennium Development Goal
MMR	maternal mortality ratio
NCHS	National Center for Health Statistics
NER	net enrolment ratio
N_2O	nitrous oxide
ODA	official development assistance
ODP	ozone-depleting potential
OECD	Organisation for Economic Co-operation and Development
PM10	Particulate Matter 10 microns
PPP	purchasing power parity
PSTN	Public Switched Telephone Network
PTR	pupil-teacher ratio
RIVM	National Institute for Public Health and the Environment
R&D	research and development
SAARC	South Asian Association for Regional Cooperation

SAFTA	South Asian Free Trade Area
SLE	school life expectancy
SNA	System of National Accounts
TB	tuberculosis
TEU	twenty-foot equivalent unit
TFR	total fertility rate
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
WHO	World Health Organization

Overview

Many more people in Asia and the Pacific now die from non-communicable diseases...

In around one fifth of Asia-Pacific countries, most lives lost are the result of diseases such as cardiovascular diseases, cancers, diabetes and chronic respiratory diseases. In China, for example, these non-communicable diseases account for 59% of lives lost, and in the Russian Federation for 62%. Smoking is a major contributing factor, particularly for men: on average, only around 5% of women smoke, but in East and North-East Asia, for example, for men the proportion is 58%. Injuries are also taking their toll – from traffic accidents to warfare and natural disasters. In Sri Lanka, for example, in 2004 (tsunami year), injuries represented 62% of lives lost; in Indonesia 37%; and in the Maldives, 30%. In 2007, the region had around 700,000 road deaths – more than half of the world total.

Nevertheless, in about one third of Asia-Pacific countries, more than 40% of lives are lost to communicable diseases – such as malaria, tuberculosis, measles and cholera. In Afghanistan in 2004, these accounted for 77% of deaths, in Tajikistan for 72%, and in Cambodia for 67%. Malaria is a particularly severe problem in South-East Asia and in South and South-West Asia, and also in the Pacific: in 2006, for Papua New Guinea, for example, there were 26,743 malaria cases per 100,000 people. A more widespread infectious disease, however, is tuberculosis, and the prevalence, at 224 cases per 100,000 people, is higher than the global average. The highest rates in 2007 were in Cambodia at 665 cases per 100,000 people, and in the Philippines at 500.

HIV and AIDS also remain a serious concern. Asia and the Pacific has low HIV prevalence overall but since it has a large population it has a high number of people, 5.9 million, living with HIV, of whom one third are women. In most countries, prevalence is either stabilizing or still increasing – particularly among injecting drug users, men who have sex with men, and sex workers.

...while many women still lose their lives as a result of childbirth

In Asia and the Pacific as a whole, the maternal mortality rate in 2005 was 313 maternal deaths per 100,000 live births. The rate was highest in the poorest countries at 604. The most serious problems were in South and South-West Asia – 830 deaths per 100,000 live births in Nepal, for example, and 1,800 in Afghanistan. One of the most critical interventions for reducing maternal mortality is to ensure that the mother gives birth in the presence of a skilled birth attendant, which is much less likely in rural areas: in Bangladesh, for example, coverage was 30% for urban households, but only 3% for rural ones.

For children, the earliest years are the most dangerous

The region's highest rate infant mortality rate (IMR) is in South and South-West Asia – 57 deaths per thousand live births of children under one year old, whereas in South-East Asia and North and Central Asia and the Pacific, the rates are close to 25. The lowest subregional rate is 18, for East and North-East Asia. The good news is that since 1990 the IMR has fallen significantly. Countries that more than halved their IMR between 1990 and 2007 include: Armenia, from 48 to 22; Azerbaijan, from 78 to 34; Bangladesh, from 105 to 47; Indonesia, from 60 to 25; Maldives, from 79 to 26; and Turkey, from 67 to 21.

The reductions in infant and child mortality have been achieved partly through better standards of nutrition. Nevertheless, many countries still have high levels of malnutrition. Afghanistan,

Bangladesh, India, Nepal and Pakistan, for example, have close to, or over, 40% of children underweight. Even in the Maldives and Sri Lanka, which have made greater progress in infant and child mortality, the proportion is still around 30%.

A matter of concern for both adults and children, however, is that the Governments of some developing countries still spend relatively small amounts on health – requiring individuals and families to fend for themselves, a serious problem for the poorest. In Pakistan, for example, the Government spends only $8 per person on health services, and Tajikistan only $16 – compared with $742 in Maldives, for example, or $218 in Tonga.

Rates of both deaths and births are falling...

As a result of falling death rates, people are living longer. The Asia-Pacific region has had relatively high life expectancies for some time, so over the past decade further increases have been modest. Between 1990-95 and 2005-2010, female life expectancy increased from 65.8 to 70.7 years, and male life expectancy from 62.5 to 66.6 years. Both are higher than the global average. However, the female advantage differs from one country to another. In Kazakhstan and the Russian Federation, for example, women will live more than 12 years longer than men. At the other end of the scale, there are a number of countries where women have a much smaller advantage – two years or less – as in Bangladesh, Micronesia (Federated States of), Nepal, Pakistan, Timor-Leste and Solomon Islands. The only country in which women and men have the same life expectancy is Afghanistan – 44 years.

While death rates have been coming down, fewer children are being born. In the decade between 1990-1995 and 2005-2010, the total fertility rate (TFR), which is the number of children that a woman will bear in her lifetime, fell from 2.9 to 2.3. This has been consequence of both government-supported reproductive health programmes and rapid economic and social growth. All East and North-East Asian countries or areas have TFRs below replacement level – 2.1 children per woman. In some countries, however, the TFR has remained high. Over the period 2005-2010, it was above 3.0 children per woman in Afghanistan, the Lao People's Democratic Republic, Pakistan, the Philippines, Tajikistan, Timor-Leste and several Pacific island States.

...which is changing the region's population structures.

As mortality and fertility rates switch from high to low, a number of countries are passing through their demographic transitions, from younger to older populations. Between 1990 and 2008, the proportion of the region's population aged 0-14 years declined steadily, from 33.1 to 26.2%. Over the same period, the proportion aged 65 or older increased, from 5.1 to 6.9%. Japan is the most striking example of an ageing population, with 21.4% of people over 65 years, but a number of other countries now have rates between 10 and 15% – Armenia; Australia; Georgia; Hong Kong, China; New Zealand; Republic of Korea; and the Russian Federation.

For the developing countries, the early years of the demographic transition present an economic opportunity, since the proportion of younger people will have declined but the proportion of older people will not yet have increased significantly – permitting a couple of decades of high productivity and relatively low health expenditure.

Under normal circumstances, national populations should have roughly the same number of males and females. But a number of countries deviate from this. In South and South-West Asia, for example, the sex ratio – the number of females per 100 males – is considerably below 100, often as a consequence of discrimination against women and girls. On the other hand, in most countries in North and Central Asia, the ratio is above 100, because of higher female life expectancies.

And throughout the region more people are now moving to cities...

As a result of rural-urban migration and population growth, the region's urban population is growing by 2.3% per year – more than twice as fast as the population as a whole. By 2008, the urban areas were home to almost 43% of the region's people – around one third of whom live in slums. The most urbanized subregion was the Pacific, at over 70%, followed by North and Central Asia at 63%. Generally, urbanization is highest in the faster developing countries, where it is often producing

"megacities": the Asia-Pacific region has 11of the world's 19 cities that have more than 10 million people. These agglomerations – such as New Delhi, Tokyo, Beijing, Manila, Bangkok, Shanghai and Jakarta – often radiate out considerable distances along transport corridors, as "ribbon" development, encompassing a number of urban and rural local governments, complicating issues of urban planning, management and governance.

...while others are migrating to other countries in the region in search of work.

Most Asia-Pacific international migrants stay within the region, in many cases travelling just to a neighbouring country. By 2010, the region will have almost 53 million international migrants – around 1.3% of its total population – and one quarter of all the world's migrants. But there is also migration between Asia and the Pacific and other global regions, a rate of three per 10,000 people. The country in the region hosting the largest stock of migrants – 12.3 million – is the Russian Federation, where the recent economic boom has attracted many labour migrants. The most significant country of current permanent immigration within the region is Australia, where between 1990 and 2005 the number of immigrants grew by more than 20%. The proportion of immigrants appears to be highest, however, in some countries that have small populations: Northern Mariana Islands, with 62% migrants; Macao, China, with 54%; Nauru, with 52%; Guam, with 44%; and Singapore, with 41%.

Many countries rely on remittances from overseas migrant workers. In 2007, in Tajikistan, for example, they represented 57% of gross national income (GNI), and in Tonga, 38%.

Migrants and others now have higher aspirations because of better education...

Between 2000 and 2007, primary school enrolment across the region increased from 86 to 90%. The highest rates – above 90% – were in South-East Asia and North-Central Asia. Among the lowest were in Timor-Leste at 63%, Marshall Islands at 66%, and Cook Islands at 67%. Having improved the situation in primary schools, governments are now paying greater attention to secondary schooling – where net enrolment rates are much lower, at around 60%. Tertiary education, too, is expanding: between 2000 and 2007, the average tertiary gross enrolment ratio increased from 13 to 21%.

At the primary level, the Asia-Pacific region in 2006 as a whole had achieved gender parity. For the 30 countries for which data are available between 2005 and 2007, two-thirds had achieved parity. For the 9 countries which still had disparities between the sexes, 7 showed disparities in favour of boys. At the secondary level, only one-third of the countries with available data had reached secondary gender parity. Just as important as enrolling children at school is keeping them there, and by 2007 school life expectancy across Asia and the Pacific had, on average, reached 11.0 years for males and 10.4 years for females.

Most people rely on government schools, and across the region, governments were generally allocating between 12 and 18% public expenditure to education. At the primary level, in 2007, on average this has allowed schools to allocate 26 pupils per teacher. The number tends to be higher in the poorer countries, but even here the ratios are often coming down: between 2000 and 2007, the pupil: teacher ratio in primary schools in the least developed countries fell from 47:1 to 44:1. Ratios at the secondary level tend to be lower, averaging 20:1 in the region as a whole.

...but millions of people are still illiterate.

Higher levels of enrolment have helped increase literacy rates. Nevertheless, the region still has over 500 million illiterate people, of whom almost two thirds are women. Of the 31 countries that had data between 2005 and 2007, nine had literacy rates below 80% – Cambodia, The Lao People's Democratic Republic, Bangladesh, Bhutan, India, Nepal, Pakistan, Papua New Guinea and Vanuatu.

A more educated workforce is becoming more productive...

Generally, the region has been increasing the number of employed workers and their productivity, though the growth of both has slowed somewhat. Between 2007 and 2008, productivity growth fell from 5.7 to 3.1%. Even so, this was still

a higher growth rate than in other global regions. Agriculture remains a major employer, accounting for 41% of the workforce, but this share has been falling as a rising proportion is taken up by the services sector, at 36%. Many of those in agriculture or services are own-account or family workers, who can be considered to be in vulnerable employment. The remaining 23%, who are more likely to be informal employment, work in industry.

The informal sector also absorbs many people who might otherwise be unemployed, so formal unemployment tends to be quite low, averaging around 5% across the region. But the rate is higher for women, and almost twice as high for young people in the 15-24 age group.

...and contributing to stronger economic growth

Between 1990 and 2008, the region's aggregate real GDP nearly doubled – to $17.7 trillion – and is now not far behind that of Europe. Within Asia and the Pacific, the highest growth rates in 2008 were achieved by the middle-income economies, at 6.9%. The low-income economies reached 5.7%, while the high-income economies only managed a modest 0.8% increase. China has been one of the fastest growers, even though its rate dropped in 2008 – to 9%. At the other end of the scale, some economies contracted in 2008, including those of Nauru, Micronesia (Federated States of), Samoa, Brunei Darussalam and New Zealand.

Growth is partly a response to high gross domestic investment. For many years the Asia-Pacific region has had the highest rate in the world and in 2008, it pulled even further ahead, increasing its gross fixed capital formation to 32% of GDP. For this purpose, the region continues to benefit from strong flows of foreign direct investment which, between 2007 and 2008, rose 17% to reach a record level of $474 billion. However, the flows are not distributed evenly: some countries have had a slowdown of FDI inflows, and others even a decrease. In relation to GDP, the highest FDI inflows, 8% in 2008, went to the Central Asian countries.

In 2008, almost all countries within the Asia-Pacific region experienced rising inflation – which averaged 6.7% – the highest level since the mid-1990s, largely as a result of higher prices for food and oil. This trend was reversed in mid-2008, however, as the global economic crisis reduced international and domestic demand. Moreover, the United States dollar further depreciated against a majority of Asian currencies and, in response, interest rate decisions among countries of the region varied greatly.

The crisis also affected fiscal balances, as a number of governments sought to replace falling private demand with public expenditure. Between 2007 and 2008, for the region as a whole, the aggregate fiscal deficit increased from 0.4 to 1.0% of GDP. Four out of five subregions faced deficits. Nevertheless, the region's deficit has remained modest. Aggregate debt, too, has remained fairly low: it was 37% of GDP at the height of the financial crisis in 1998, but by 2007 had fallen to 21%.

Asia remains one of the hubs of world trade

During the period 2005-2008, merchandise exports grew at 16.8% annually (in terms of current United States dollars), almost three percentage points faster than the world average – despite the collapse in the third quarter of 2008, following the global financial crisis. Asia and the Pacific contributes one-thirds of the global merchandise exports, while East and North-East Asia contributes two-thirds of that share (or around 22% of global exports). The region's second most populous economy, India, had above average growth of exports and imports between 2005 and 2008, though it remains a small trader in terms of its share in world markets. The crisis had less impact on the trade in services though some trade-related services recorded contractions in 2008. In the last quarter of 2008 Singapore, for example, recorded a 15% reduction in transportation services.

Tourism, too, suffered. Until the crisis, it had been rising steadily. Between 1995 and 2007, the Asia-Pacific region's share of total global tourism receipts from increased 19.1 to 23.5% – $242 billion. Several countries depend to a substantial extent on tourism: the Pacific island developing economies' share of tourism in their GDP ranges from around 20% in Fiji, French Polynesia and Samoa to 57% in Palau. Tourism is also responsible for almost half the GDP of the Maldives. Most international tourists came from the traditional industrialized countries of Europe and the Americas, but, with rising disposable incomes,

many Asia-Pacific emerging economies have become increasingly important tourist sources.

Tourism and trade should benefit in future from improvements in the region's transport infrastructure, particularly railways and roads. The Intergovernmental Agreement on the Trans-Asian Railway Network entered into force on 11 June 2009. The network now comprises 114,300 kilometres of rail lines of international importance. To date, 22 member countries have signed the Agreement and 11 have already become Parties. The Asian Highway network also continues to be developed: around 10,000 kilometres of routes have been upgraded.

Economic growth and trade have contributed to a reduction in poverty

In 1990, almost half the region's people lived in extreme poverty, but by 2005 the proportion living below the international $1-a-day poverty line was down to one in four. Countries making the most progress over that period include Viet Nam, Pakistan, and China. At the beginning of the 1990s, in these three countries, three in five people lived below the poverty line, but by 2005, that number was down to one in five.

Nevertheless, Asia and the Pacific was still home to 60% of the world's poor – one billion people. The problems were greatest in the region's least developed countries, where almost every other person lived in extreme poverty. And although many countries have made progress some, such as Uzbekistan and Mongolia, have seen their poverty rates rise.

Unlike the situation with poverty, there is no clear trend for income inequality. Since the early 1990s, inequality seems to have increased in some countries, as in Sri Lanka, Bangladesh, Nepal, Cambodia and Indonesia, but decreased in others – in the Islamic Republic of Iran, Malaysia and Thailand, as well as in the Russian Federation, and in most North and Central Asian countries.

Many of the region's poorest countries rely for their poverty reduction programmes to some extent on official development assistance (ODA). In 2007, Asia and the Pacific received $23 billion in grants and loans, an increase of 12% from the previous year. But, reflecting the region's rapid development, it now gets a smaller share of global ODA – down from 32% in 1999 to 22% in 2007.

Information and communications technologies are also playing a vital role in promoting inclusive development.

The Asia-Pacific region has experienced tremendous growth in information and communications technology. At the end of 2008, it had around half the world's fixed telephone lines – about 676 million. But the number of mobile subscriptions has been increasing far more rapidly – to 2.1 billion in 2008 – around 51 per 100 people. The ratio varied greatly, however, between subregions – from 106 in North and Central Asia, to 17 in the Pacific island developing economies.

The internet too has seen a dramatic expansion. Between 2001 and 2008, the number of internet users in the region increased from 160 million to 712 million – 17.4 per 100 people. Nevertheless, there was still a stark digital divide. The most connected country was the Republic of Korea with 77.8 internet users per 100 people. At the other end of the scale, a number of countries have yet to reach the figure of one person per 100 – as with Bangladesh, Cambodia, Myanmar and Timor-Leste. For the region as a whole, broadband penetration is fairly low – at 3.9 subscribers per 100 people.

While its economies have been growing, the Asia-Pacific region has been consuming increasing amounts of energy...

Since 1990, energy consumption has risen by two thirds – driven largely by China and India. In 2007, the total primary energy supply was a little over 5.4 billion tons of oil equivalent. However, most energy is still used in the high-income economies where, in 2007, per capita consumption was more than seven times that in the low-income economies. Most of these countries have shifted to less energy-intensive industries but have nevertheless increased overall consumption, as a result of urban sprawl and generally inefficient usage.

...and adding to the production of greenhouse gases.

Between 1990 and 2006, the Asia-Pacific share of global CO_2 emissions grew from 47.3 to 48.8%. In 2006, the region emitted nearly 14 billion tons of CO_2, an increase of 5.3% from the previous year. Between 1990 and 2006, the region's per capita carbon footprint increased from 2.0 to 3.4 tons – though this is still far lower than the rate in Europe, at 7.9 tons. The "leading" region, North America, produced 5.5 times more. Moreover, the Asia-Pacific region overall is reducing the carbon intensity of economic growth.

Whichever region produces the greenhouse gases, countries in Asia and the Pacific will face adverse consequences from the resulting changing weather patterns – including variability of seasonal precipitation, droughts and floods. With the majority of the population living in, or near, coastal areas, rising sea levels and storm surges will pose serious challenges for adaptation.

There are also rising concerns for water security.

Per capita water availability in Asia and the Pacific is the second-lowest in the world, at 5,224 cubic metres – way below the world average of 8,349 cubic metres – primarily as a result of its high population. If anything, the situation is likely to get worse, not just in countries that already have low levels of renewable resources, like the Maldives, India, Pakistan and Uzbekistan but also in countries, such as Afghanistan and the Philippines, which have high population growth rates.

This will also make it more difficult to extend access to safe drinking water. The Asia-Pacific region has taken significant steps towards the MDG target: between 1990 and 2006, the proportion of the region's population with access to improved drinking water sources increased from 74 to 88%. Nevertheless, this still left 688,000 people deprived. The worst situation was in conflict-stricken Afghanistan where, in 2006, access in urban areas was 37% and in rural areas was just 17%.

Coverage of safe sanitation is lower. Only around 55% of the region's population have access to improved sanitation. In principle, it should be easier to offer services in urban environments. Nevertheless, between 1990 and 2006, the region's urban coverage increased only moderately, from 69 to 74%. This unimpressive performance is largely because of the need to cover increasing numbers of urban dwellers, a high proportion of whom live in slums.

The region is also suffering from the destruction of forests and a reduction in biodiversity...

Between 1990 and 2005, of the Asia-Pacific countries for which data are available, just over half maintained their primary forest coverage. The rates of loss were fastest, for the period 2000-2005, in Indonesia, Papua New Guinea, Mongolia, Cambodia, Viet Nam and the Democratic People's Republic of Korea – which accounted for 25% of the world's total losses.

In 2008, Asia and the Pacific had world's highest number of threatened species, with almost one third of all threatened plants, and over one third of all threatened animal species. Many of the most serious problems are in South-East Asia which has six of the ten countries in the region where animal and plant species are most threatened.

...and seems to be more exposed to natural disasters.

In Asia and the Pacific, the greatest damage is caused by storms and earthquakes, and 2009 was another disastrous year. From January to September, there were 42 disasters, of which 16 were floods, following tropical storms, which killed more than 980 people. By November, these disasters had affected 6,866,181 people, left 155,850 homeless, and caused more than $227 million in economic damage.

The Asia-Pacific Region can do much more to reduce disaster risks. The Hyogo Framework for Action, 2005-2015 emphasizes the importance of proactive action. Although the region has the necessary advanced scientific and technical knowledge, this is still not widely recognized or used.

1 Demographic trends

Population growth in the Asia-Pacific region is much slower overall than in previous decades, but the situation differs from one country to another, particularly in the components of growth – fertility, mortality and migration. Moreover, while many countries still have high levels of fertility, an increasing number have started to feel the impact of population ageing.

Since 1990, the population of the Asia-Pacific region has been growing more slowly than that of the rest of the world. Between 1990 and 1995, it grew 1.5% annually but subsequently the growth rate declined steadily. By 2008, annual growth had fallen to 1.0% – the lowest rate among the world's developing regions.

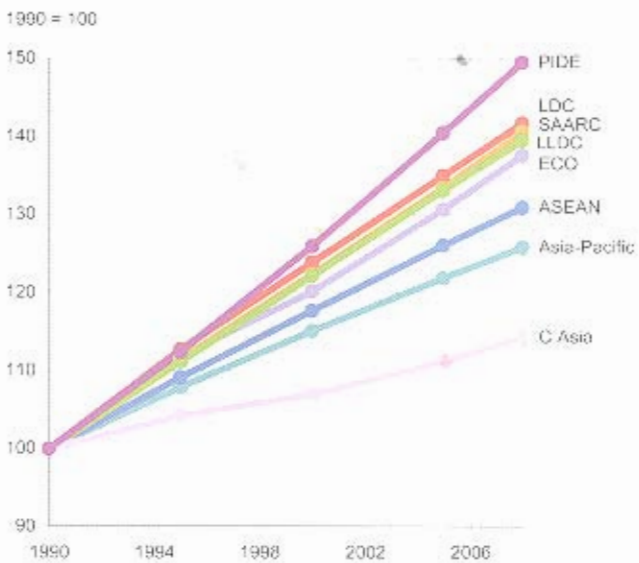
Because more than half the region's population are in China and India the region's statistical averages are largely determined by these two countries. This can mask considerable variations between other countries, or groups of countries. Thus, although in 2008 the average population growth rate for Asia and the Pacific as a whole was 1.0%, in the landlocked developing countries it was 1.7%, in the least developed countries it was 1.6%, in the high-income economies it was 0.3%, and in the low-income economies it was 1.4%.

The region's highest population growth rates in 2008 were in Afghanistan at 3.5%, and Timor-Leste at 3.2%. Both countries have high rates of natural increase (births minus deaths) and have seen their overall growth rates boosted by the return of former refugees. Other countries currently experiencing population growth rates of 2.0% or more are: Macao, China; Marshall Islands; Pakistan; Papua New Guinea; Singapore; Solomon Islands and Vanuatu.

In East and North-East Asia in 2008, the population growth rate was above 1.0% only in Mongolia and Macao, China. Countries where growth rates were positive but low – less than 1.0% a year – included: Armenia; China; DPR Korea;

Figure 1.1

Population growth for selected Asia-Pacific groupings, 1990-2008



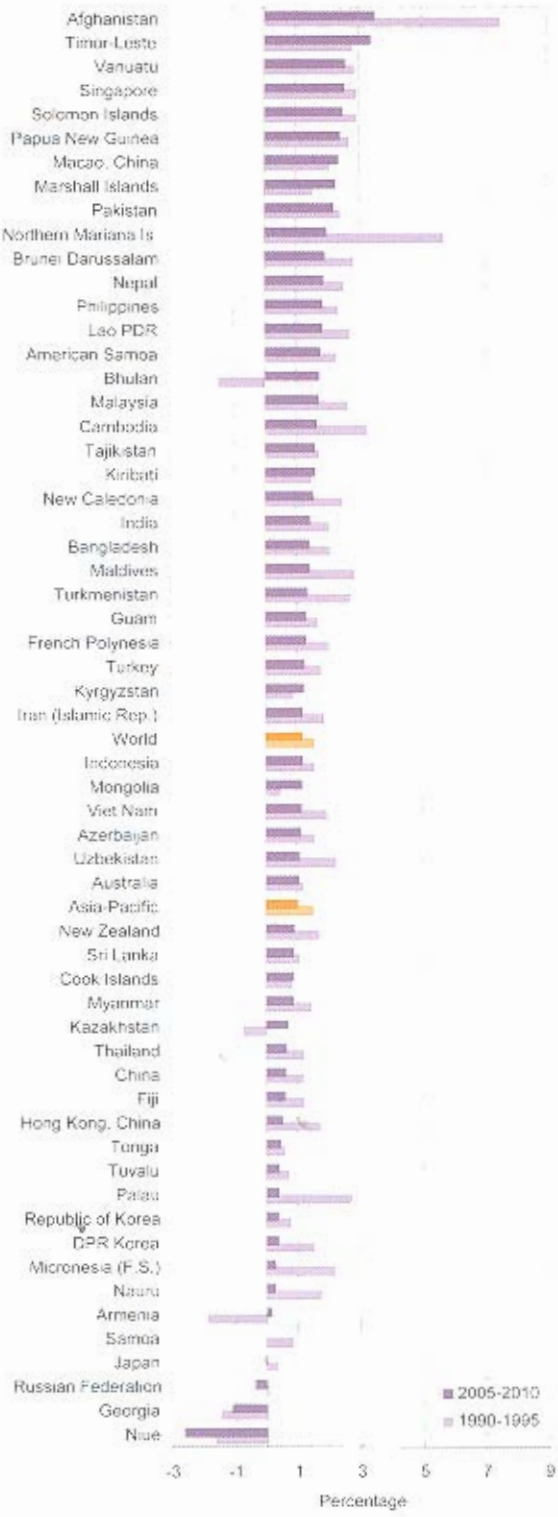
Hong Kong, China; Kazakhstan; Myanmar; Republic of Korea; Sri Lanka, Thailand; and several Pacific island developing economies whose population growth rates have been reduced by net outmigration.

In Japan the population size has become essentially stationary, while in the Russian Federation it is declining because death rates exceed birth rates. Georgia also has a negative population growth rate because it has low natural increase combined with net out-migration. In the Pacific, the population of Niue is also declining because of out-migration.

The crude birth rate is calculated as the number of births in a year per 1,000 people. This is likely to be higher when a high proportion of women are of childbearing age. The most useful indicator for this is the total fertility rate (TFR) which is the number of children that a woman would bear in her lifetime if she followed current levels of fertility. It is calculated for five-year age groups of women aged 15-49. In Asia and the Pacific, the TFR has declined steadily and is

Figure 1.2

Average annual population growth, Asia and the Pacific, 1990-1995, and 2005-2010



significantly lower than the global average: in the decade between 1990-1995 and 2005-2010, the TFR fell from 2.9 to 2.3 children per woman – a consequence of both government-supported reproductive health programmes and rapid economic and social growth.

Trends for TFRs vary widely across subregions. The steepest declines have generally been in countries that previously had the highest rates. Thus, between 1990-1995 and 2005-2010 the TFR for the Asia-Pacific region as a whole declined by 0.6 children per woman, but in the landlocked developing countries and in SAARC, the TFR fell by 1.2. In the least developed countries the decline was 1.4, and in the ASEAN countries it was 0.8.

In other countries, the TFR remained high. Over the period 2005-2010, it was above 3.0 children per woman in Afghanistan, the Lao People's Democratic Republic, Pakistan, the Philippines, Tajikistan, Timor-Leste and several Pacific island States.

Although all East and North-East Asian countries or areas have TFRs below replacement level – 2.1 children per woman – their previously high fertility levels have left them with them high proportions of young adults who are helping drive population growth. The only exception is Japan where the population is older and the total number of people is falling. Fertility is also below replacement level in Armenia, Australia, Georgia, Islamic Republic of Iran, New Zealand, Russian Federation, Singapore and Thailand.

For both mothers and children, one major contributor to premature death is early childbearing. Consequently, most reproductive health programmes attempt to raise the age at which women first give birth. For this purpose, one valuable indicator is the adolescent fertility rate, which is the average number of live births annually per 1,000 women aged 15-19 years. For Asia and the Pacific as a whole, the rate for the period 2005-2010 is estimated at 38.9. Among the least developed countries, for which the regional average is 68.0, Afghanistan and Nepal have the highest rates – more than 100 – similar to the rate for the Africa region.

As with the crude birth rate, the crude death rate is also influenced by the population's age composition. For that reason, a more useful indicator for comparing mortality levels is the expectation of life at birth. Asia and the Pacific has already had relatively high life expectancies for some time, so over the past decade the increases have been modest. Between 1990-95 and 2005-2010, female life expectancy increased from 65.8 to 70.7 years and male life expectancy from 62.5 to 66.6 years. Both are higher than the global average. Generally, life expectancies are strongly influenced by levels of economic development. Thus, in the period 2005-2010, female life expectancy in the region's low-income economies was only 66.3

Figure 1.3

Fertility rates in Asia and the Pacific, 1990-1995 and 2005-2010

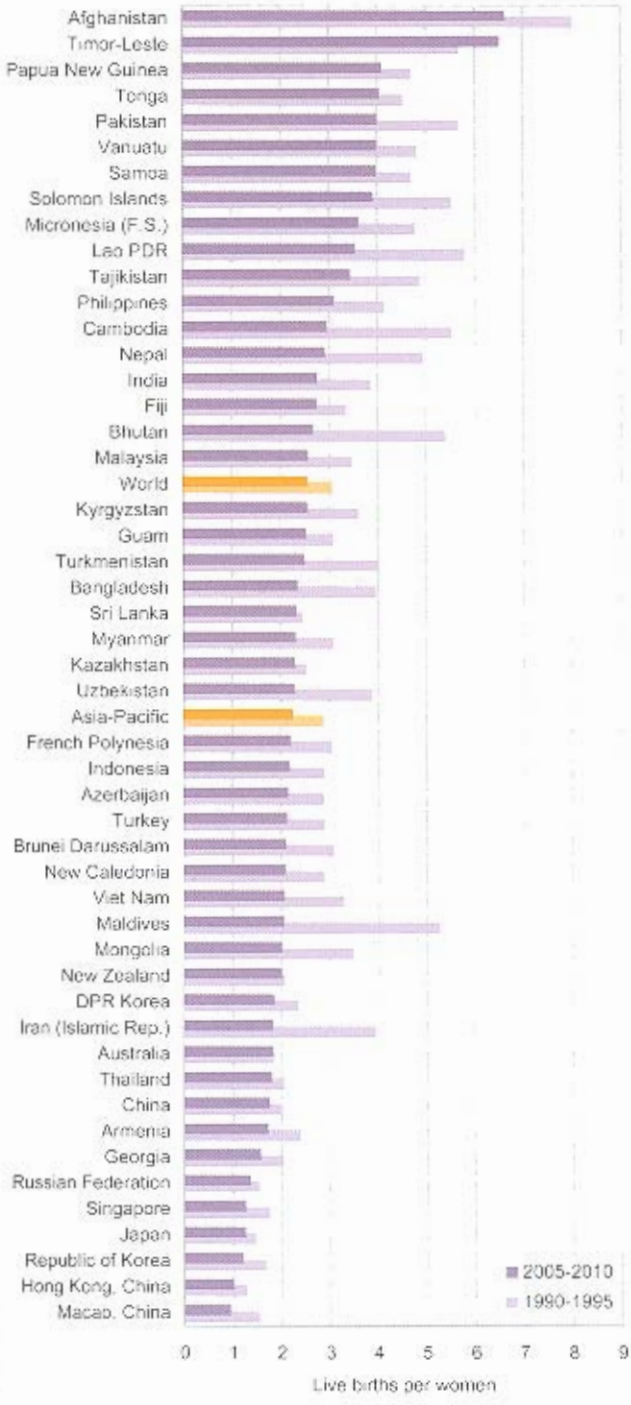
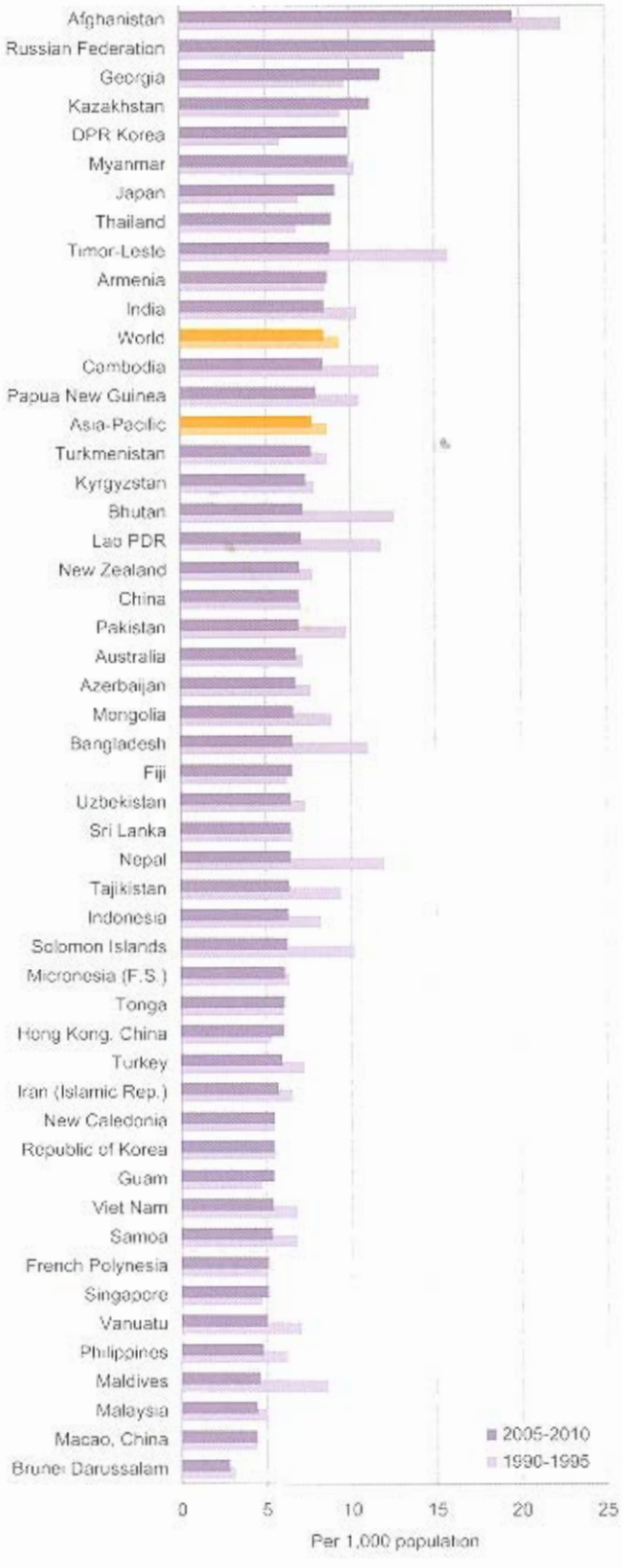


Figure 1.4

Crude death rates, Asia and the Pacific, 1990-1995 and 2005-2010



years, while in the middle-income economies it was 70.2 years, and in the high-income economies it was 85.2 years. Afghanistan has the lowest female life expectancy, at 43.8 years.

Females born today in the Asia-Pacific region are expected to live on average about four years longer than males, but the female advantage differs from one country to another. In Kazakhstan and the Russian Federation, for example, women will live more than 12 years longer than men, whose life expectancy, at 59-60 years, is on a par with that in the least developed countries. At the other end of the scale, there are a number of countries where women have a much smaller advantage – two years or less – as in Bangladesh, Micronesia (Federated States of), Nepal, Pakistan, Timor-Leste and Solomon Islands. The only country in which women and men

have the same life expectancy is Afghanistan.

A number of countries in the region are passing through their demographic transition – as fertility and mortality switch from high to low. As they do so, their population structure changes. Instead of having a high proportion of young people they acquire a higher proportion of older people. The middle stages of this transition should present an economic opportunity. This is because the proportion of younger people will have declined but the proportion of older people will not yet have increased significantly – permitting a couple of decades of high productivity and relatively low health expenditure.

As a result of the demographic transition, and reflecting lower fertility during the previous 15 years, between 1990 and 2008, the proportion of the region's population aged 0-14 years declined steadily, from 33.1 to 26.2% – slightly below the world average. But the proportion does vary according to the level of economic development. In 2008, in the low-income economies the proportion of the population aged 0-14 years was 31.2%, but in the high-income economies it was only 15.1%.

Over the same period, the proportion of the population age 65 or older in the region increased relatively slowly, from 5.1 to 6.9%. But this proportion varied greatly by country income level. Among low-income economies it was only 4.8%, and among middle-income economies it was 6.5%, but among high-income economies it was 17.3%. Japan is the most striking example. For five decades it has had low fertility – since around 1955 the TFR has been below replacement level. By 2008, the proportion of the population over 65 was 21.4%. No other country or area in the region is even close to this, although a number have reached proportions between 10 and 15% – Armenia; Australia; Georgia; Hong Kong, China; New Zealand; Republic of Korea; and the Russian Federation.

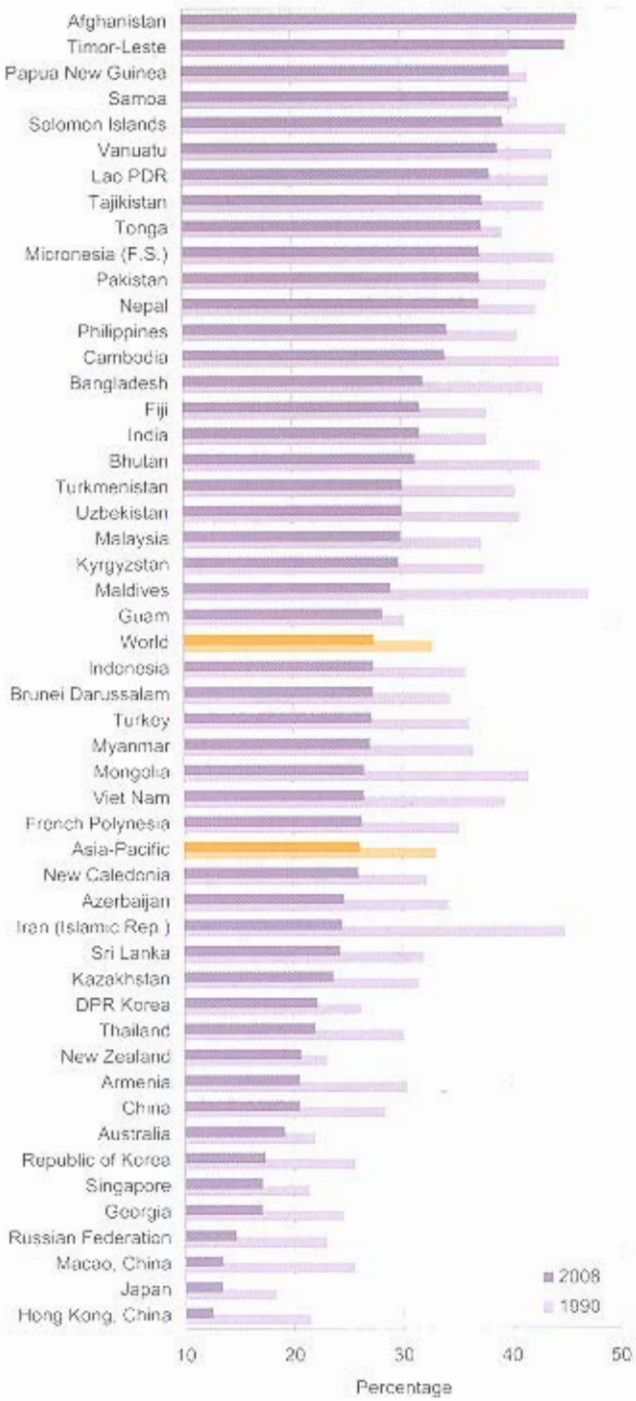
Under normal circumstances, there are likely to be roughly the same numbers of males and females. But some countries deviate from this norm – with a greater number of either males or females. This can happen for a several reasons. The balance might be disturbed, for example, by differences in male and female life expectancy, or by disproportionate shares of either males or females in in- or out-migration. In addition, some subregions have unusually low proportions of female births.

In South and South-West Asia, for example, the sex ratio – the number of females per 100 males – is considerably below 100, which is the result either of lower sex ratios at birth, or because mortality rates do not favour females. On the other hand, in most countries in North and Central Asia, the ratio is above 100, as a result of higher female life expectancies.

The sex ratios for children aged 0-14 years are determined primarily by the sex ratios at birth, and by rates of infant and child mortality. In most national populations, there are fewer girls born than

Figure 1.5

Proportion of population aged 0-14, Asia and the Pacific, 1990 and 2008



boys – 95 females per 100 males. But since boys are more likely to die, by age 20 the sex ratios generally even out at around 100. If the sex ratio for the 0-14 age group is significantly below 95 this implies that the ratio of girls to boys is unusually low at birth or that a relatively high proportion of girls are dying. In 2008, countries in which the 0-14 age group had particularly low sex ratios include Armenia, Azerbaijan, China and Georgia.

Figure 1.6

Females per hundred males, in Asia and the Pacific, 1990 and 2008

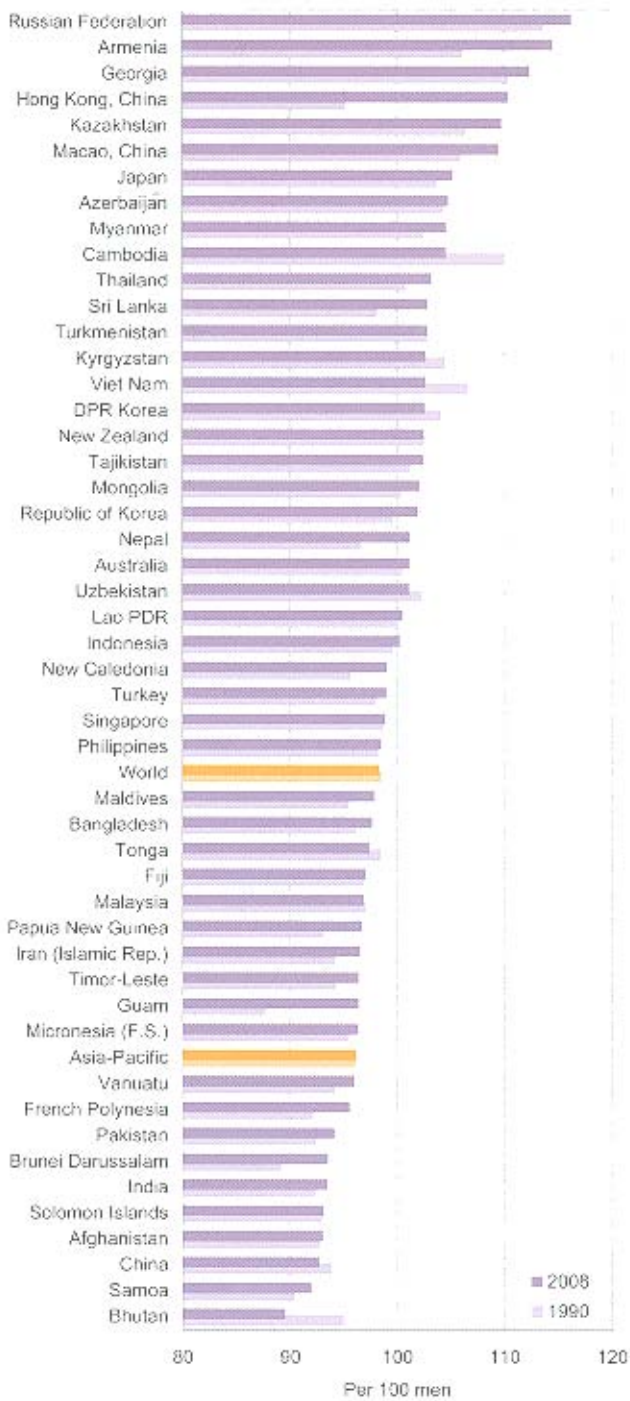
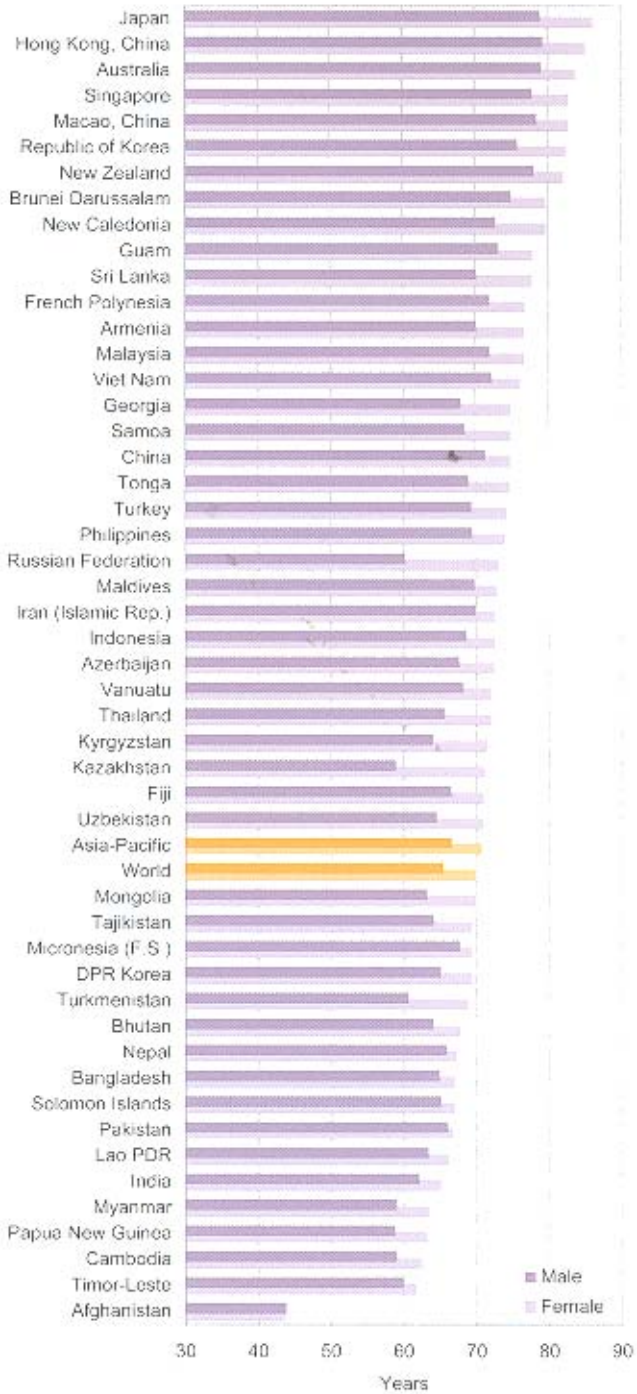


Figure 1.7

Life expectancy at birth for females and males, Asia and the Pacific, 2005-2010



Population size (thousands)
De facto mid-year population, covering all residents, regardless of legal status or citizenship, except for refugees not permanently settled in the country of asylum. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Average annual population growth (% per annum)
The average annual rate of change in the total population over a five-year period, starting and ending in the middle of the indicated years. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Crude birth rate (per 1,000 population)
The total number of births in a population during a given period divided by the total number of person-years lived by the population during that period, generally approximated by the size of the population at the mid-point of the period multiplied by the length of the period in years. Presented per 1,000 people for five-year periods. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Crude death rate (per 1,000 population)
The ratio of the number of deaths occurring during a calendar year to the number exposed to the risk of dying during the same period, equivalent to the mean population or average population for the period. Presented per 1,000 people for five-year periods. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Proportion of children in total population (% of total population)
The proportion of children aged 0-14 in the total population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Proportion of elderly in total population (% of total population)
The proportion of people aged 65 or older in the total population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Population sex ratio (women per 100 men)
The number of women divided by the number of men in the total population, expressed per 100 men. **Aggregates:** Averages are calculated as the sum of women population divided by the sum of men population. **Source:** Calculated by ESCAP using data from World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Child sex ratio (girls per 100 boys)
The number of girls divided by the number of boys in the total population aged 0-14 years. **Aggregates:** Calculated by ESCAP as the sum of girls aged 0-14 divided by the sum of boys aged 0-14. **Source:** Calculated by ESCAP using data from World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Fertility rate (live births per women)
The number of children a woman would have by the end of her reproductive period if she experienced the current prevailing age-specific fertility rates throughout her childbearing life. Reported as annual averages for five-year periods starting and ending in the middle of the indicated years. **Aggregates:** Calculated by ESCAP using women aged 15-49 as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Adolescent fertility rate (live births per 1,000 women aged 15-19)
The number of births to women aged 15-19 divided by the number of women in the same age group. Reported as average number of births per thousand women for five-year periods starting and ending in the middle of the indicated years. **Aggregates:** Calculated by ESCAP using women aged 15-19 as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Life expectancy at birth (years)
The number of years a newborn infant would live if prevailing patterns of age-specific mortality rates at the time of birth were to stay the same throughout the child's life. Data are disaggregated by sex. **Aggregates:** Calculated for ESCAP by the United Nations Population Division. **Source:** World Population Prospects: The 2008 Revision, Population Database. Online database accessed on 28 April 2009.

1.1 Population

	Total population (Thousands)					Population growth rate (Per cent per annum)			
	1990	1995	2000	2005	2008	90-95	95-00	00-05	2008
East and North-East Asia	**1 336 700**	**1 411 675**	**1 472 444**	**1 520 717**	**1 546 825**	**1.1**	**0.8**	**0.6**	**0.6**
China	1 142 090	1 210 959	1 266 964	1 312 253	1 337 411	1.2	0.9	0.7	0.6
DPR Korea	20 143	21 717	22 859	23 529	23 819	1.5	1.0	0.6	0.4
Hong Kong, China	5 704	6 214	6 667	6 883	6 982	1.7	1.4	0.6	0.5
Japan	123 191	125 442	126 706	127 449	127 293	0.4	0.2	0.1	-0.1
Macao, China	372	412	441	488	526	2.0	1.4	2.0	2.4
Mongolia	2 216	2 270	2 389	2 550	2 641	0.5	1.0	1.3	1.1
Republic of Korea	42 963	44 651	46 429	47 566	48 152	0.8	0.8	0.5	0.4
South-East Asia	**439 591**	**479 834**	**517 193**	**554 079**	**575 626**	**1.8**	**1.5**	**1.4**	**1.3**
Brunei Darussalam	257	295	333	370	392	2.8	2.5	2.1	1.9
Cambodia	9 690	11 380	12 760	13 866	14 562	3.2	2.3	1.7	1.7
Indonesia	177 385	191 601	206 280	219 210	227 345	1.5	1.4	1.3	1.2
Lao PDR	4 207	4 809	5 403	5 880	6 205	2.7	2.3	1.7	1.8
Malaysia	18 103	20 594	23 274	25 633	27 014	2.6	2.4	1.9	1.7
Myanmar	40 844	43 864	46 610	48 345	49 563	1.4	1.2	0.7	0.9
Philippines	62 427	69 965	77 689	85 496	90 348	2.3	2.1	1.9	1.8
Singapore	3 016	3 480	4 018	4 267	4 615	2.9	2.9	1.2	2.7
Thailand	56 673	60 140	62 347	65 946	67 386	1.2	0.7	1.1	0.6
Timor-Leste	740	849	815	992	1 098	2.7	-0.8	3.9	3.2
Viet Nam	66 247	72 057	78 663	84 074	87 096	1.9	1.5	1.3	1.1
South and South-West Asia	**1 256 129**	**1 393 741**	**1 529 420**	**1 663 691**	**1 742 661**	**2.1**	**1.9**	**1.7**	**1.5**
Afghanistan	12 580	18 084	20 536	24 507	27 208	7.3	2.5	3.5	3.4
Bangladesh	115 632	128 086	140 767	153 122	160 000	2.0	1.9	1.7	1.4
Bhutan	549	609	561	650	687	-1.5	2.0	2.9	1.6
India	862 162	953 148	1 042 590	1 130 618	1 181 412	2.0	1.8	1.6	1.4
Iran (Islamic Rep. of)	56 733	62 205	66 903	70 765	71 585	1.9	1.5	1.1	1.2
Maldives	216	248	272	292	305	2.8	1.9	1.4	1.4
Nepal	19 105	21 624	24 432	27 222	28 810	2.5	2.4	2.2	1.8
Pakistan	115 776	130 397	148 132	165 816	176 952	2.4	2.6	2.3	2.2
Sri Lanka	17 290	18 233	18 767	19 531	20 081	1.1	0.6	0.8	0.9
Turkey	56 086	61 206	66 460	71 169	73 914	1.7	1.6	1.4	1.2
North and Central Asia	**214 692**	**217 973**	**217 974**	**217 266**	**217 515**	**0.3**	**0.0**	**-0.1**	**0.1**
Armenia	3 545	3 223	3 076	3 065	3 077	-1.9	-0.9	-0.1	0.2
Azerbaijan	7 212	7 784	8 121	8 453	8 731	1.5	0.8	0.8	1.1
Georgia	5 460	5 069	4 745	4 465	4 307	-1.5	-1.3	-1.2	-1.2
Kazakhstan	16 530	15 926	14 957	15 194	15 521	-0.7	-1.3	0.3	0.7
Kyrgyzstan	4 395	4 592	4 955	5 221	5 414	0.9	1.5	1.0	1.3
Russian Federation	148 065	148 497	146 670	143 170	141 394	0.1	-0.2	-0.5	-0.4
Tajikistan	5 303	5 775	6 173	6 536	6 836	1.7	1.3	1.1	1.6
Turkmenistan	3 668	4 187	4 502	4 843	5 044	2.6	1.4	1.5	1.3
Uzbekistan	20 515	22 919	24 776	26 320	27 191	2.2	1.6	1.2	1.1
Pacific	**26 910**	**29 038**	**31 143**	**33 543**	**34 921**	**1.5**	**1.4**	**1.5**	**1.3**
American Samoa	47	53	58	63	66	2.2	1.8	1.7	1.8
Australia	17 091	18 118	19 171	20 395	21 074	1.2	1.1	1.2	1.0
Cook Islands	18	19	18	19	20	0.8	-1.0	1.7	-2.2
Fiji	724	768	802	828	844	1.2	0.9	0.6	0.6
French Polynesia	195	216	236	255	266	2.0	1.8	1.6	1.3
Guam	134	146	155	169	176	1.7	1.3	1.7	1.2
Kiribati	72	77	84	92	97	1.5	1.7	1.8	1.6
Marshall Islands	47	51	52	57	61	1.5	0.4	1.7	2.3
Micronesia (F.S.)	96	107	107	109	110	2.1	0.0	0.4	0.3
Nauru	9	10	10	10	10	1.7	0.1	0.1	0.2
New Caledonia	171	193	215	235	246	2.4	2.2	1.7	1.5
New Zealand	3 386	3 685	3 868	4 111	4 230	1.7	1.0	1.2	0.9
Niue	2	2	2	2	2	-1.6	-2.3	-2.7	-2.6
Northern Mariana Islands	44	58	69	80	85	5.7	3.6	3.1	1.9
Palau	15	17	19	20	20	2.7	2.4	0.9	0.4
Papua New Guinea	4 131	4 709	5 388	6 118	6 577	2.6	2.7	2.5	2.4
Samoa	161	168	177	179	179	0.8	1.0	0.3	0.0
Solomon Islands	314	362	416	474	511	2.9	2.8	2.6	2.4
Tonga	95	97	99	102	104	0.6	0.2	0.7	0.4
Tuvalu	9	9	10	10	10	0.7	0.7	0.5	0.4
Vanuatu	149	172	190	216	234	2.8	1.9	2.6	2.5
Asia and the Pacific	**3 274 022**	**3 532 261**	**3 768 175**	**3 989 297**	**4 117 547**	**1.5**	**1.3**	**1.1**	**1.0**
LLDC	99 824	111 703	119 850	130 439	137 365	2.3	1.4	1.7	1.7
LDC	204 268	230 241	253 031	275 847	289 468	2.4	1.9	1.7	1.6
ASEAN	438 851	478 986	516 378	553 088	574 528	1.8	1.5	1.4	1.2
ECO	298 798	333 076	365 514	398 823	420 123	2.2	1.9	1.8	1.7
SAARC	1 143 309	1 270 330	1 396 057	1 521 757	1 595 434	2.1	1.9	1.7	1.6
Central Asia	66 627	69 476	71 304	74 096	76 121	0.8	0.5	0.8	0.9
Pacific island dev. econ.	6 433	7 234	8 104	9 038	9 616	2.4	2.3	2.2	2.1
Low income	318 662	355 809	387 933	418 621	436 704	2.2	1.7	1.5	1.4
Middle income	2 758 777	2 973 502	3 171 894	3 358 368	3 466 764	1.5	1.3	1.1	1.0
High income	196 545	202 910	208 309	212 267	214 038	0.6	0.5	0.4	0.3
Africa	**638 729**	**726 285**	**819 462**	**921 073**	**987 092**	**2.6**	**2.4**	**2.4**	**2.3**
Europe	**572 924**	**578 864**	**579 898**	**586 251**	**590 174**	**0.2**	**0.0**	**0.2**	**0.2**
Latin America and Carib.	**442 310**	**482 265**	**521 228**	**556 512**	**576 102**	**1.7**	**1.6**	**1.3**	**1.1**
North America	**282 632**	**300 018**	**318 598**	**335 118**	**344 996**	**1.2**	**1.2**	**1.0**	**1.0**
Other countries/areas	**79 779**	**93 324**	**107 950**	**123 969**	**134 093**	**3.2**	**3.0**	**2.8**	**2.6**
World	**5 290 452**	**5 713 073**	**6 115 367**	**6 512 276**	**6 750 062**	**1.5**	**1.4**	**1.3**	**1.2**

1.2 Birth and death

	Crude birth rate				Crude death rate			
	Per 1,000 population				Per 1,000 population			
	90-95	95-00	00-05	2008	90-95	95-00	00-05	2008
East and North-East Asia	**18.0**	**15.3**	**13.4**	**13.0**	**7.0**	**6.8**	**6.7**	**7.2**
China	18.9	15.9	14.0	13.5	7.1	6.7	6.6	7.0
DPR Korea	21.0	18.1	15.1	13.7	5.9	7.9	9.3	10.0
Hong Kong, China	12.4	10.0	8.4	8.0	5.3	5.2	5.4	6.1
Japan	9.9	9.4	8.9	8.1	7.0	7.5	7.9	9.2
Macao, China	16.9	10.9	7.5	8.2	4.5	4.4	4.6	4.5
Mongolia	29.1	21.7	18.4	18.8	8.9	7.2	6.8	6.6
Republic of Korea	16.0	13.7	10.4	9.4	5.6	5.6	5.3	5.5
South-East Asia	**26.1**	**22.7**	**21.0**	**19.3**	**7.7**	**7.0**	**6.7**	**6.5**
Brunei Darussalam	28.2	25.1	21.6	19.8	3.2	2.8	2.8	2.8
Cambodia	41.0	32.0	25.8	24.7	11.7	10.4	9.4	8.3
Indonesia	24.3	22.0	20.7	18.6	8.2	7.2	6.6	6.3
Lao PDR	39.9	36.5	29.1	27.3	11.8	9.7	8.1	7.0
Malaysia	27.8	24.5	22.6	20.4	5.0	4.7	4.5	4.5
Myanmar	25.2	22.2	21.5	20.5	10.3	10.1	10.0	9.8
Philippines	31.7	28.9	26.4	24.7	6.3	5.5	5.0	4.8
Singapore	17.9	14.0	10.2	8.1	4.7	4.9	4.9	5.2
Thailand	18.8	16.5	15.3	14.5	6.8	7.8	8.5	9.0
Timor-Leste	43.1	45.8	40.0	40.0	15.8	13.0	10.1	8.7
Viet Nam	28.5	21.3	19.1	17.2	6.8	5.7	5.3	5.4
South and South-West Asia	**31.3**	**28.2**	**25.9**	**23.4**	**10.2**	**9.2**	**8.5**	**8.0**
Afghanistan	51.7	51.6	49.8	46.5	22.5	22.4	21.7	19.6
Bangladesh	32.3	28.8	25.4	21.4	11.1	9.1	7.6	6.6
Bhutan	35.7	29.6	25.7	21.5	12.6	10.0	8.0	7.1
India	30.7	27.7	25.4	22.8	10.4	9.5	8.9	8.4
Iran (Islamic Rep. of)	28.9	20.6	19.9	18.9	6.5	5.9	5.8	5.7
Maldives	36.5	25.6	19.5	18.7	8.6	6.8	5.2	4.6
Nepal	37.7	34.9	30.1	25.4	12.0	9.6	7.7	6.4
Pakistan	37.8	34.0	31.7	30.1	9.8	8.5	7.6	6.9
Sri Lanka	20.1	17.8	18.8	18.2	6.6	7.7	6.2	6.4
Turkey	24.9	22.7	19.7	18.2	7.2	6.3	5.8	6.0
North and Central Asia	**16.0**	**13.1**	**13.2**	**14.2**	**11.7**	**12.5**	**13.3**	**12.7**
Armenia	19.1	13.5	14.2	15.3	8.5	8.6	8.4	8.7
Azerbaijan	26.1	18.9	17.1	18.9	7.7	7.2	6.7	6.8
Georgia	15.5	12.7	11.9	12.1	9.7	10.0	10.7	12.0
Kazakhstan	20.6	16.2	16.7	19.6	9.5	11.7	10.9	11.2
Kyrgyzstan	28.9	24.2	20.9	22.2	7.9	7.8	7.5	7.3
Russian Federation	10.9	8.9	9.9	10.9	13.3	14.4	16.0	15.2
Tajikistan	37.2	32.7	29.4	28.1	9.4	8.2	7.1	6.4
Turkmenistan	32.6	24.5	23.3	21.9	8.6	7.7	7.7	7.7
Uzbekistan	32.6	25.6	21.6	20.3	7.3	6.6	6.4	6.5
Pacific	**19.6**	**18.7**	**17.7**	**17.2**	**7.8**	**7.6**	**7.1**	**7.0**
American Samoa								
Australia	14.7	13.4	12.7	12.7	7.2	7.1	6.8	6.9
Cook Islands								
Fiji	27.5	25.5	23.1	20.9	6.3	6.2	6.4	6.6
French Polynesia	25.4	21.4	19.2	18.0	5.0	4.9	4.9	5.1
Guam	26.0	23.9	20.7	18.3	4.7	4.7	5.1	5.5
Kiribati								
Marshall Islands								
Micronesia (F.S.)	32.2	31.5	28.5	25.3	6.4	6.3	6.3	6.1
Nauru								
New Caledonia	23.8	21.7	18.4	16.3	5.5	5.5	5.2	5.5
New Zealand	16.7	15.0	14.1	13.8	7.8	7.5	7.1	7.0
Niue								
Northern Mariana Islands								
Palau								
Papua New Guinea	36.7	36.9	34.1	31.4	10.6	10.0	8.7	7.9
Samoa	31.1	32.1	29.2	23.5	6.8	6.2	5.7	5.3
Solomon Islands	38.7	36.3	33.5	30.4	10.2	8.7	7.3	6.2
Tonga	29.9	28.0	28.6	27.7	6.1	6.1	6.1	6.1
Tuvalu								
Vanuatu	36.5	33.9	32.1	30.2	7.1	6.7	5.7	5.0
Asia and the Pacific	**24.2**	**21.4**	**19.6**	**18.4**	**8.7**	**8.1**	**7.8**	**7.7**
LLDC	33.9	30.4	28.1	27.1	11.2	11.0	10.2	9.8
LDC	33.4	30.3	27.4	24.4	11.9	10.5	9.3	8.4
ASEAN	26.0	22.7	21.0	19.3	7.7	7.0	6.7	6.5
ECO	32.7	28.5	26.6	25.6	9.0	8.3	7.8	7.5
SAARC	31.8	28.8	26.5	23.8	10.5	9.5	8.8	8.2
Central Asia	27.2	21.8	19.9	20.3	8.4	8.4	7.9	8.0
Pacific island dev. econ.	34.5	34.1	31.6	29.1	9.3	8.9	7.9	7.4
Low income	31.6	27.4	24.6	22.1	10.1	9.0	8.3	7.8
Middle income	24.2	21.3	19.6	18.5	8.6	8.1	7.8	7.7
High income	12.1	11.0	9.8	9.0	6.6	6.9	7.0	7.9
Africa	**40.5**	**38.5**	**37.2**	**35.8**	**14.4**	**13.8**	**13.3**	**12.4**
Europe	**11.7**	**10.5**	**10.2**	**10.4**	**10.7**	**10.8**	**10.6**	**10.5**
Latin America and Carib.	**25.3**	**23.2**	**21.2**	**18.8**	**6.6**	**6.2**	**6.0**	**6.0**
North America	**15.5**	**14.2**	**13.8**	**13.8**	**8.5**	**7.8**	**7.9**	**7.8**
Other countries/areas	**35.5**	**32.7**	**29.8**	**27.5**	**6.4**	**5.5**	**5.0**	**4.8**
World	**24.7**	**22.5**	**21.2**	**20.2**	**9.4**	**8.9**	**8.6**	**8.5**

1.3 Children and elderly

	Proportion of children in total population					Proportion of elderly in total population				
	% of total population					% of total population				
	1990	1995	2000	2005	2008	1990	1995	2000	2005	2008
East and North-East Asia	**27.3**	**26.4**	**24.6**	**21.2**	**19.8**	**6.1**	**6.8**	**7.7**	**8.7**	**9.2**
China	28.4	27.6	25.7	22.0	20.5	5.5	6.0	6.8	7.6	7.9
DPR Korea	26.2	26.8	25.6	23.8	22.2	4.7	5.8	7.0	8.5	9.4
Hong Kong, China	21.5	19.4	16.9	14.4	12.6	8.5	9.7	11.0	12.2	12.5
Japan	18.3	16.0	14.6	13.8	13.4	12.0	14.4	17.2	19.9	21.4
Macao, China	25.7	26.1	22.4	16.1	13.5	6.5	7.0	7.4	7.2	7.1
Mongolia	41.7	38.9	34.8	28.8	26.5	4.0	3.7	3.4	3.7	3.9
Republic of Korea	25.6	23.0	20.8	19.1	17.4	5.0	5.9	7.3	9.3	10.4
South-East Asia	**36.6**	**34.4**	**31.8**	**29.4**	**28.0**	**4.0**	**4.4**	**4.9**	**5.4**	**5.7**
Brunei Darussalam	34.5	33.0	31.3	28.9	27.3	2.7	2.7	2.9	3.2	3.3
Cambodia	44.6	46.3	41.9	37.0	34.1	2.7	2.8	3.0	3.1	3.4
Indonesia	35.8	33.0	30.3	28.4	27.4	3.8	4.3	4.9	5.5	5.9
Lao PDR	43.7	43.6	43.1	40.2	38.2	3.5	3.5	3.6	3.6	3.6
Malaysia	37.4	36.1	33.5	31.3	30.0	3.7	3.7	3.9	4.4	4.6
Myanmar	36.6	33.6	30.1	28.0	27.1	4.9	5.2	5.4	5.4	5.5
Philippines	40.7	39.5	37.6	35.6	34.3	3.2	3.2	3.5	3.9	4.1
Singapore	21.5	22.3	21.8	19.6	17.1	5.6	6.3	7.2	8.5	9.4
Thailand	30.0	27.3	25.1	22.9	22.0	4.6	5.4	6.3	7.1	7.4
Timor-Leste	39.9	41.7	49.4	46.2	45.2	2.0	2.3	2.5	2.8	2.9
Viet Nam	39.4	37.3	33.5	29.2	26.5	4.7	5.0	5.6	6.2	6.3
South and South-West Asia	**39.2**	**37.8**	**35.6**	**33.4**	**32.1**	**3.7**	**3.9**	**4.2**	**4.5**	**4.6**
Afghanistan	46.1	46.7	47.0	46.8	46.3	2.3	2.3	2.2	2.2	2.2
Bangladesh	43.1	40.1	36.8	33.8	32.0	3.0	3.2	3.4	3.6	3.8
Bhutan	42.7	43.8	40.4	34.1	31.3	3.3	3.8	4.4	4.6	4.7
India	37.9	36.7	35.0	33.1	31.7	3.8	4.0	4.3	4.6	4.8
Iran (Islamic Rep. of)	45.0	40.1	32.0	26.4	24.4	3.2	4.1	4.7	5.0	4.9
Maldives	47.2	45.7	39.9	32.8	29.0	2.6	3.1	3.4	4.0	4.3
Nepal	42.4	42.0	41.0	39.0	37.2	3.2	3.3	3.5	3.8	4.0
Pakistan	43.4	43.3	41.3	38.5	37.3	3.7	3.6	3.7	3.8	4.0
Sri Lanka	31.9	29.4	26.6	24.6	24.3	5.5	6.1	6.4	6.8	7.3
Turkey	36.1	33.3	30.6	28.5	27.2	4.1	4.6	5.3	5.7	5.8
North and Central Asia	**27.0**	**25.9**	**23.1**	**20.0**	**19.3**	**8.5**	**10.0**	**10.2**	**11.3**	**10.8**
Armenia	30.4	29.5	25.9	21.9	20.5	5.6	8.4	10.0	12.0	11.6
Azerbaijan	34.3	34.0	31.1	26.6	24.6	4.2	4.9	5.7	6.8	6.8
Georgia	24.6	24.2	22.0	18.4	17.1	9.3	11.3	12.4	14.4	14.5
Kazakhstan	31.5	29.7	27.6	24.3	23.7	5.9	7.2	6.8	7.9	7.4
Kyrgyzstan	37.6	37.6	35.0	31.3	29.7	5.0	5.4	5.5	5.9	6.4
Russian Federation	23.0	21.4	18.2	15.1	14.7	10.1	11.9	12.4	13.8	13.3
Tajikistan	43.2	43.6	42.4	39.4	37.5	3.8	3.8	3.6	3.9	3.7
Turkmenistan	40.5	39.5	36.3	32.3	30.1	3.8	4.1	4.3	4.6	4.3
Uzbekistan	40.9	40.4	37.4	32.8	30.1	4.0	4.3	4.3	4.7	4.6
Pacific	**26.2**	**25.9**	**25.5**	**24.7**	**24.2**	**9.1**	**9.7**	**9.9**	**10.1**	**10.4**
American Samoa										
Australia	22.0	21.5	20.7	19.7	19.2	11.2	12.1	12.5	12.9	13.4
Cook Islands										
Fiji	37.9	35.7	34.0	32.9	31.8	3.1	3.1	3.5	4.2	4.6
French Polynesia	35.3	33.9	31.5	27.4	26.3	3.2	3.7	4.3	5.2	5.7
Guam	30.2	30.9	30.5	29.4	28.2	3.9	4.7	5.4	6.5	6.8
Kiribati										
Marshall Islands										
Micronesia (F.S.)	44.1	43.4	40.1	38.2	37.3	3.6	3.5	3.7	3.9	3.7
Nauru										
New Caledonia	32.3	30.9	29.8	27.3	26.0	4.6	4.8	5.6	6.6	7.2
New Zealand	23.1	23.0	22.7	21.5	20.7	11.1	11.6	11.8	12.1	12.5
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea	41.7	41.4	41.3	40.7	40.1	2.2	2.2	2.2	2.4	2.4
Samoa	40.9	39.3	40.5	41.1	40.0	3.9	4.3	4.4	4.7	4.8
Solomon Islands	45.3	43.6	42.0	40.5	39.5	3.0	3.0	2.9	3.0	3.1
Tonga	39.3	40.0	38.8	37.8	37.5	4.5	5.0	5.5	5.8	5.8
Tuvalu										
Vanuatu	43.9	43.4	42.1	40.1	39.0	3.6	3.5	3.3	3.3	3.3
Asia and the Pacific	**33.1**	**31.9**	**30.0**	**27.4**	**26.2**	**5.1**	**5.5**	**6.1**	**6.6**	**6.9**
LLDC	39.5	39.5	38.2	35.6	34.2	4.0	4.3	4.3	4.7	4.5
LDC	42.0	40.0	37.3	34.8	33.3	3.4	3.5	3.6	3.8	3.9
ASEAN	36.6	34.4	31.8	29.4	28.0	4.0	4.4	4.9	5.4	5.7
ECO	41.3	39.9	36.8	33.8	32.4	3.8	4.1	4.3	4.6	4.6
SAARC	39.0	37.9	36.0	34.0	32.6	3.7	3.9	4.1	4.4	4.6
Central Asia	35.9	35.6	33.3	29.5	27.7	5.1	5.7	5.8	6.5	6.2
Pacific island dev. econ.	39.1	38.5	38.1	37.4	36.7	2.5	2.5	2.6	2.9	3.0
Low income	40.3	38.7	35.8	33.0	31.2	3.8	4.0	4.3	4.6	4.8
Middle income	33.1	32.0	30.1	27.4	26.2	4.9	5.3	5.7	6.3	6.5
High income	20.5	18.5	17.0	15.9	15.1	10.1	11.9	14.0	16.1	17.3
Africa	**44.7**	**43.6**	**42.4**	**41.2**	**40.6**	**3.1**	**3.2**	**3.3**	**3.4**	**3.4**
Europe	**19.8**	**18.7**	**17.4**	**16.1**	**15.6**	**13.4**	**14.5**	**15.4**	**16.4**	**16.8**
Latin America and Carib.	**36.1**	**34.0**	**31.8**	**29.7**	**28.5**	**4.9**	**5.3**	**5.8**	**6.3**	**6.6**
North America	**21.6**	**21.9**	**21.3**	**20.5**	**20.1**	**12.2**	**12.4**	**12.4**	**12.4**	**12.7**
Other countries/areas	**44.1**	**42.1**	**39.8**	**37.3**	**36.1**	**3.1**	**3.3**	**3.4**	**3.5**	**3.4**
World	**32.9**	**31.9**	**30.3**	**28.4**	**27.4**	**6.1**	**6.5**	**6.8**	**7.3**	**7.4**

1.4 Women and girls

	Population sex ratio					Child sex ratio				
	Women per 100 men					Girls per 100 boys				
	1990	1995	2000	2005	2008	1990	1995	2000	2005	2008
East and North-East Asia	**95**	**95**	**95**	**94**	**94**	**93**	**90**	**88**	**85**	**84**
China	94	93	93	93	93	92	90	87	84	83
DPR Korea	104	104	104	103	103	96	96	96	96	95
Hong Kong, China	95	101	107	109	110	92	95	96	93	91
Japan	104	104	104	105	105	95	95	95	95	95
Macao, China	106	107	108	109	110	94	95	95	96	96
Mongolia	100	100	102	102	102	98	97	98	97	97
Republic of Korea	100	100	101	102	102	92	91	91	92	92
South-East Asia	**101**	**101**	**101**	**101**	**101**	**97**	**97**	**96**	**96**	**96**
Brunei Darussalam	89	91	92	93	94	94	93	92	93	93
Cambodia	110	108	106	105	105	98	97	97	96	96
Indonesia	100	100	100	100	100	97	97	97	96	96
Lao PDR	100	100	100	101	101	97	97	96	96	96
Malaysia	97	97	97	97	97	95	95	95	95	95
Myanmar	103	103	103	104	105	99	99	99	99	99
Philippines	98	98	98	98	99	96	96	96	96	96
Singapore	99	99	99	99	99	93	93	93	93	93
Thailand	101	102	103	103	103	96	96	96	96	96
Timor-Leste	94	95	96	96	96	92	94	95	96	96
Viet Nam	107	105	104	103	103	96	96	96	95	94
South and South-West Asia	**93**	**94**	**94**	**94**	**95**	**94**	**93**	**93**	**93**	**93**
Afghanistan	93	93	93	93	93	93	94	94	94	94
Bangladesh	96	97	97	98	98	97	97	97	97	97
Bhutan	95	97	97	90	90	98	98	98	98	98
India	92	93	93	93	93	93	92	92	92	92
Iran (Islamic Rep. of)	94	97	96	96	97	95	96	96	95	95
Maldives	96	96	97	98	98	96	96	96	97	97
Nepal	97	100	100	101	101	94	94	94	95	95
Pakistan	92	93	94	94	94	94	94	95	95	95
Sri Lanka	98	99	101	102	103	97	97	97	96	96
Turkey	98	98	99	99	99	96	96	97	96	96
North and Central Asia	**111**	**110**	**111**	**112**	**112**	**97**	**96**	**96**	**95**	**95**
Armenia	106	111	113	114	115	97	98	94	89	87
Azerbaijan	104	105	105	105	105	95	95	94	92	89
Georgia	110	111	111	112	112	96	96	96	93	90
Kazakhstan	107	107	109	109	110	97	96	96	95	95
Kyrgyzstan	104	103	103	103	103	98	97	97	96	96
Russian Federation	114	113	114	116	116	97	96	96	95	95
Tajikistan	101	100	100	102	102	98	97	97	96	96
Turkmenistan	103	103	103	103	103	98	98	97	97	97
Uzbekistan	102	102	101	101	101	97	97	97	97	97
Pacific	**99**	**100**	**100**	**100**	**100**	**95**	**95**	**95**	**94**	**94**
American Samoa										
Australia	101	101	102	101	101	95	95	95	95	95
Cook Islands										
Fiji	97	97	97	97	97	95	94	94	94	94
French Polynesia	92	92	94	95	96	95	95	94	94	95
Guam	88	92	96	96	96	96	96	95	93	93
Kiribati										
Marshall Islands										
Micronesia (F.S.)	96	96	98	97	96	93	93	93	94	94
Nauru										
New Caledonia	96	95	97	98	99	95	93	94	95	95
New Zealand	103	103	103	103	103	96	95	95	94	95
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea	93	95	96	97	97	95	94	95	94	94
Samoa	90	92	92	92	92	91	91	92	93	93
Solomon Islands	93	93	93	93	93	92	92	91	91	92
Tonga	98	98	97	97	97	93	92	91	92	92
Tuvalu										
Vanuatu	94	95	95	96	96	92	92	93	94	94
Asia and the Pacific	**96**	**96**	**96**	**96**	**96**	**94**	**93**	**92**	**91**	**91**
LLDC	101	101	101	101	101	96	96	95	95	95
LDC	98	98	99	99	99	97	97	96	96	96
ASEAN	101	101	101	101	101	97	97	96	96	96
ECO	96	96	97	97	97	95	95	95	95	95
SAARC	93	93	94	94	94	93	93	93	93	93
Central Asia	105	104	104	105	105	97	97	96	95	95
Pacific island dev. econ.	94	95	96	96	96	95	94	94	94	94
Low income	101	100	100	100	100	97	97	96	96	96
Middle income	95	95	95	95	95	93	92	91	90	90
High income	102	103	103	104	104	94	94	94	94	94
Africa	**101**	**101**	**101**	**101**	**101**	**98**	**98**	**98**	**98**	**98**
Europe	**106**	**106**	**106**	**106**	**106**	**95**	**95**	**95**	**95**	**95**
Latin America and Carib.	**101**	**102**	**102**	**102**	**102**	**97**	**97**	**97**	**96**	**96**
North America	**104**	**104**	**103**	**103**	**103**	**95**	**95**	**95**	**95**	**95**
Other countries/areas	**91**	**91**	**91**	**90**	**91**	**96**	**96**	**96**	**96**	**96**
World	**99**	**98**	**98**	**98**	**98**	**95**	**94**	**94**	**93**	**93**

1.5 Fertility

	Fertility rate					Adolescent fertility rate		
	Live births per women					Live births per 1,000 girls aged 15-19		
	90-95	95-00	00-05	05-10	2008	95-00	00-05	05-10
East and North-East Asia	**2.0**	**1.8**	**1.7**	**1.7**	**1.7**	**9.3**	**9.2**	**9.2**
China	2.0	1.8	1.8	1.8	1.8	10.1	9.8	9.7
DPR Korea	2.4	2.1	1.9	1.9	1.9	0.0	0.0	0.0
Hong Kong, China	1.3	1.1	1.0	1.0	1.0	6.0	5.5	5.7
Japan	1.5	1.4	1.3	1.3	1.3	4.4	5.8	4.7
Macao, China	1.6	1.1	0.8	1.0	0.9	6.1	4.6	5.2
Mongolia	3.5	2.4	2.1	2.0	2.0	10.7	9.2	16.6
Republic of Korea	1.7	1.5	1.2	1.2	1.2	3.0	2.2	5.5
South-East Asia	**3.1**	**2.7**	**2.5**	**2.3**	**2.3**	**42.7**	**38.6**	**33.3**
Brunei Darussalam	3.1	2.7	2.3	2.1	2.1	34.2	28.0	25.0
Cambodia	5.5	4.5	3.4	3.0	2.9	57.7	46.2	39.2
Indonesia	2.9	2.6	2.4	2.2	2.2	52.3	47.4	39.8
Lao PDR	5.8	5.2	3.9	3.5	3.5	54.1	49.3	37.4
Malaysia	3.5	3.1	2.9	2.6	2.6	16.1	14.4	12.6
Myanmar	3.1	2.7	2.4	2.3	2.3	24.0	20.6	18.4
Philippines	4.1	3.7	3.3	3.1	3.1	46.9	48.6	45.0
Singapore	1.8	1.6	1.4	1.3	1.3	7.4	5.6	4.5
Thailand	2.1	1.9	1.8	1.8	1.8	49.4	44.2	37.3
Timor-Leste	5.7	7.0	7.0	6.5	6.5	114.3	64.3	53.8
Viet Nam	3.3	2.5	2.3	2.1	2.1	24.9	19.7	16.6
South and South-West Asia	**4.0**	**3.5**	**3.2**	**2.8**	**2.8**	**90.3**	**73.9**	**63.5**
Afghanistan	8.0	8.0	7.3	6.6	6.6	150.1	141.1	121.3
Bangladesh	4.0	3.3	2.8	2.4	2.3	116.3	94.4	71.6
Bhutan	5.4	4.2	3.4	2.7	2.6	74.7	62.2	38.3
India	3.9	3.5	3.1	2.8	2.7	96.4	79.4	68.1
Iran (Islamic Rep. of)	4.0	2.5	2.1	1.8	1.8	45.5	24.2	18.3
Maldives	5.3	3.4	2.4	2.1	2.0	40.7	16.2	13.4
Nepal	4.9	4.4	3.6	2.9	2.9	127.4	115.5	101.4
Pakistan	5.7	5.0	4.4	4.0	4.0	57.2	48.3	45.7
Sri Lanka	2.5	2.2	2.3	2.3	2.3	27.9	29.7	29.8
Turkey	2.9	2.6	2.2	2.1	2.1	52.0	42.8	38.8
North and Central Asia	**2.1**	**1.7**	**1.7**	**1.7**	**1.7**	**37.4**	**26.9**	**24.6**
Armenia	2.4	1.8	1.7	1.7	1.7	53.0	37.9	35.7
Azerbaijan	2.9	2.2	2.0	2.2	2.1	41.0	33.6	33.8
Georgia	2.1	1.7	1.6	1.6	1.6	60.5	48.5	44.7
Kazakhstan	2.6	2.0	2.0	2.3	2.3	40.0	28.4	30.7
Kyrgyzstan	3.6	3.0	2.5	2.6	2.5	37.6	31.5	32.3
Russian Federation	1.5	1.2	1.3	1.4	1.4	35.7	27.9	25.1
Tajikistan	4.9	4.3	3.8	3.5	3.4	35.8	31.5	28.4
Turkmenistan	4.0	3.0	2.8	2.5	2.5	17.8	23.0	19.5
Uzbekistan	3.9	3.1	2.6	2.3	2.3	41.5	14.3	12.9
Pacific	**2.5**	**2.4**	**2.4**	**2.4**	**2.4**	**40.1**	**33.5**	**28.0**
American Samoa								
Australia	1.9	1.8	1.8	1.8	1.8	19.2	16.7	14.9
Cook Islands								
Fiji	3.4	3.2	3.0	2.8	2.7	52.9	41.7	31.5
French Polynesia	3.1	2.6	2.4	2.2	2.2	61.3	55.6	52.2
Guam	3.1	3.0	2.7	2.5	2.5	78.2	54.5	51.5
Kiribati								
Marshall Islands								
Micronesia (F.S.)	4.8	4.5	4.1	3.6	3.6	44.8	34.3	25.4
Nauru								
New Caledonia	2.9	2.6	2.3	2.1	2.1	33.0	28.7	25.4
New Zealand	2.1	2.0	1.9	2.0	2.0	31.5	27.1	22.6
Niue								
Northern Mariana Islands								
Palau								
Papua New Guinea	4.7	4.6	4.4	4.1	4.1	89.8	70.7	55.0
Samoa	4.7	4.5	4.5	4.0	4.0	43.9	37.3	27.6
Solomon Islands	5.5	4.9	4.4	3.9	3.9	63.0	51.2	41.8
Tonga	4.5	4.2	4.2	4.0	4.0	20.1	22.0	22.8
Tuvalu								
Vanuatu	4.6	4.6	4.3	4.0	4.0	62.0	54.4	47.0
Asia and the Pacific	**2.9**	**2.6**	**2.4**	**2.3**	**2.2**	**53.0**	**43.8**	**38.9**
LLDC	4.4	3.9	3.5	3.2	3.2	76.1	63.6	58.6
LDC	4.2	3.7	3.2	2.8	2.8	98.5	83.3	68.0
ASEAN	3.1	2.7	2.5	2.3	2.3	42.6	38.6	33.3
ECO	4.4	3.7	3.3	3.1	3.1	55.5	43.1	40.5
SAARC	4.1	3.6	3.3	2.9	2.9	94.9	78.4	66.9
Central Asia	3.3	2.6	2.4	2.3	2.3	40.3	25.3	24.1
Pacific island dev. econ.	4.4	4.3	4.0	3.8	3.8	78.3	62.7	49.8
Low income	3.9	3.3	2.9	2.6	2.5	74.5	61.1	50.0
Middle income	2.9	2.6	2.4	2.3	2.3	52.3	42.9	38.5
High income	1.6	1.5	1.3	1.3	1.3	6.2	6.7	6.9
Africa	**5.7**	**5.2**	**4.9**	**4.6**	**4.6**	**115.2**	**109.9**	**102.8**
Europe	**1.6**	**1.4**	**1.4**	**1.5**	**1.5**	**20.3**	**17.1**	**15.0**
Latin America and Carib.	**3.0**	**2.7**	**2.5**	**2.3**	**2.2**	**85.6**	**80.4**	**72.3**
North America	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**49.2**	**40.5**	**33.8**
Other countries/areas	**5.4**	**4.8**	**4.1**	**3.6**	**3.6**	**59.3**	**56.2**	**54.2**
World	**3.1**	**2.8**	**2.7**	**2.6**	**2.6**	**63.3**	**56.6**	**52.0**

1.6 Life expectancy

	Female life expectancy at birth				Male life expectancy at birth			
	Years				Years			
	90-95	95-00	00-05	05-10	90-95	95-00	00-05	05-10
East and North-East Asia	**71.9**	**73.6**	**75.3**	**76.3**	**68.3**	**69.7**	**71.3**	**72.1**
China	70.3	72.0	73.7	74.8	67.4	69.0	70.5	71.3
DPR Korea	73.6	71.0	68.8	69.3	66.1	64.0	64.2	65.1
Hong Kong, China	81.0	83.0	84.5	85.1	75.5	77.2	78.6	79.4
Japan	82.5	83.9	85.7	86.2	76.3	77.1	78.3	79.0
Macao, China	79.8	80.9	81.6	82.8	75.2	76.5	77.0	78.5
Mongolia	63.2	66.3	67.7	69.8	59.4	61.1	61.7	63.2
Republic of Korea	76.6	78.2	80.9	82.5	68.7	70.5	73.9	75.9
South-East Asia	**66.6**	**68.9**	**70.8**	**72.3**	**62.4**	**64.3**	**66.2**	**67.8**
Brunei Darussalam	77.1	78.1	78.9	79.7	72.4	73.4	74.2	75.0
Cambodia	57.2	58.3	60.0	62.6	53.7	54.3	55.8	59.0
Indonesia	64.5	67.9	70.5	72.7	61.1	64.2	66.7	68.7
Lao PDR	57.6	60.9	63.5	66.2	55.1	58.4	61.1	63.4
Malaysia	73.1	74.5	75.5	76.7	68.7	69.6	70.8	72.0
Myanmar	61.0	61.5	62.5	63.4	57.4	57.7	58.3	59.0
Philippines	68.7	70.7	72.5	74.0	64.5	66.5	68.2	69.5
Singapore	78.3	79.3	80.8	82.8	73.9	75.1	76.8	77.9
Thailand	73.0	73.1	72.8	72.0	64.6	63.6	64.0	65.7
Timor-Leste	49.4	54.7	59.0	61.7	47.8	53.1	57.5	60.0
Viet Nam	69.6	72.4	74.9	76.2	66.1	69.0	71.2	72.3
South and South-West Asia	**59.8**	**61.8**	**63.8**	**65.6**	**58.5**	**60.0**	**61.5**	**62.9**
Afghanistan	41.7	41.8	42.1	43.8	41.7	41.8	42.2	43.9
Bangladesh	56.5	60.4	63.9	67.0	55.0	58.7	62.1	65.0
Bhutan	56.3	60.6	65.2	67.7	53.0	57.3	61.8	64.1
India	59.4	61.3	63.3	65.0	58.3	59.7	60.9	62.1
Iran (Islamic Rep. of)	67.1	69.3	71.2	72.7	64.7	66.9	68.7	70.0
Maldives	61.3	65.1	69.7	72.9	60.7	62.7	67.2	69.8
Nepal	55.4	59.9	64.0	67.2	55.6	59.4	63.1	65.9
Pakistan	61.8	63.6	65.1	66.7	60.9	62.6	64.4	66.0
Sri Lanka	73.4	72.8	77.2	77.8	67.1	65.9	69.2	70.2
Turkey	68.5	71.2	73.3	74.3	64.0	66.6	68.5	69.4
North and Central Asia	**70.7**	**70.6**	**70.8**	**72.1**	**59.8**	**59.2**	**58.9**	**60.6**
Armenia	71.5	73.1	75.6	76.7	64.5	66.6	68.9	70.2
Azerbaijan	69.7	69.7	71.2	72.5	60.7	62.2	65.6	67.7
Georgia	74.3	74.7	75.0	75.0	66.5	67.3	68.0	68.0
Kazakhstan	70.3	68.9	70.4	71.2	60.5	57.5	59.1	59.0
Kyrgyzstan	70.1	70.0	70.6	71.6	62.1	62.0	62.7	64.1
Russian Federation	72.5	72.2	71.8	73.1	60.5	59.6	58.5	60.3
Tajikistan	65.9	67.0	68.6	69.4	58.6	59.3	60.9	64.1
Turkmenistan	66.6	67.5	68.2	68.9	58.9	59.7	60.4	60.6
Uzbekistan	69.4	70.0	70.4	70.9	63.0	63.6	64.1	64.6
Pacific	**75.7**	**76.7**	**77.9**	**78.9**	**69.2**	**70.4**	**72.6**	**74.1**
American Samoa								
Australia	80.7	81.8	83.0	83.8	74.7	76.2	78.0	79.1
Cook Islands								
Fiji	68.8	69.1	70.1	71.1	64.6	64.8	65.7	66.6
French Polynesia	72.8	74.2	76.0	76.9	67.9	69.0	70.6	72.0
Guam	75.0	76.0	77.0	77.9	70.4	71.4	72.4	73.3
Kiribati								
Marshall Islands								
Micronesia (F.S.)	67.0	67.6	68.2	69.3	65.9	66.5	66.9	67.7
Nauru								
New Caledonia	74.5	76.1	78.7	79.7	69.2	69.8	71.9	72.8
New Zealand	79.1	80.2	81.4	82.2	73.3	75.0	77.0	78.2
Niue								
Northern Mariana Islands								
Palau								
Papua New Guinea	58.6	60.3	61.6	63.2	53.0	53.8	57.0	58.8
Samoa	69.7	71.9	73.5	74.9	63.1	65.4	67.1	68.5
Solomon Islands	58.8	61.4	64.2	67.0	57.9	60.4	62.9	65.1
Tonga	71.4	72.1	73.5	74.7	68.4	68.8	68.8	69.1
Tuvalu								
Vanuatu	65.9	68.3	70.4	72.1	62.9	65.0	66.8	68.3
Asia and the Pacific	**65.8**	**67.5**	**69.2**	**70.7**	**62.5**	**63.9**	**65.3**	**66.6**
LLDC	60.7	60.4	61.3	62.5	55.9	55.5	56.7	57.9
LDC	56.0	58.4	60.8	63.0	54.2	56.5	58.7	60.7
ASEAN	66.7	69.0	70.8	72.3	62.4	64.4	66.2	67.9
ECO	63.9	64.7	65.9	67.0	60.7	61.5	62.9	64.1
SAARC	59.1	61.1	63.2	65.0	58.0	59.5	61.0	62.4
Central Asia	69.5	69.4	70.5	71.2	61.5	61.1	62.5	63.3
Pacific island dev. econ	62.0	63.4	64.7	66.2	56.5	57.4	60.0	61.7
Low income	60.8	62.6	64.5	66.3	57.7	59.5	61.4	63.1
Middle income	65.5	67.2	68.8	70.2	62.5	63.8	65.1	66.4
High income	81.2	82.6	84.6	85.2	74.6	75.7	77.5	78.4
Africa	**53.2**	**53.7**	**54.1**	**55.5**	**50.1**	**50.7**	**51.6**	**53.1**
Europe	**78.0**	**78.8**	**79.8**	**80.8**	**70.5**	**71.6**	**73.0**	**74.3**
Latin America and Carib.	**72.3**	**74.1**	**75.5**	**76.7**	**65.6**	**67.4**	**68.9**	**70.2**
North America	**79.1**	**80.0**	**80.8**	**81.5**	**72.6**	**75.2**	**75.9**	**77.0**
Other countries/areas	**69.5**	**71.1**	**72.2**	**73.1**	**64.2**	**67.2**	**68.4**	**68.4**
World	**66.2**	**67.4**	**68.6**	**69.8**	**61.9**	**63.0**	**64.2**	**65.4**

2 Urbanization

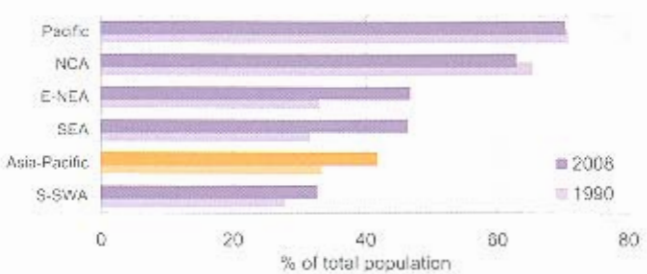
The Asia-Pacific region is urbanizing rapidly. While for the world as a whole the urban population growth rate is 2.0%, in Asia and the Pacific it is 2.3%. By 2008, almost 43% of the region's population lived in urban areas.

Within Asia and the Pacific, the most urbanized subregion is the Pacific where in 2008 over 70% of the population lived in cities and towns. However, within this subregion the level of urbanization differed significantly between countries. The highest levels were in Guam at 94.5%, Australia at 88.8% and New Zealand at 86.5%. The lowest levels – less than 25% – were in Micronesia (Federated States of), Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu. After the Pacific, the subregion with the highest levels of urbanization was North and Central Asia.

The least urbanized subregion – at 33.5% – was South and South West Asia, though the Islamic Republic of Iran and Turkey had levels similar to those in North and Central Asia, at 68%.

Figure 2.1

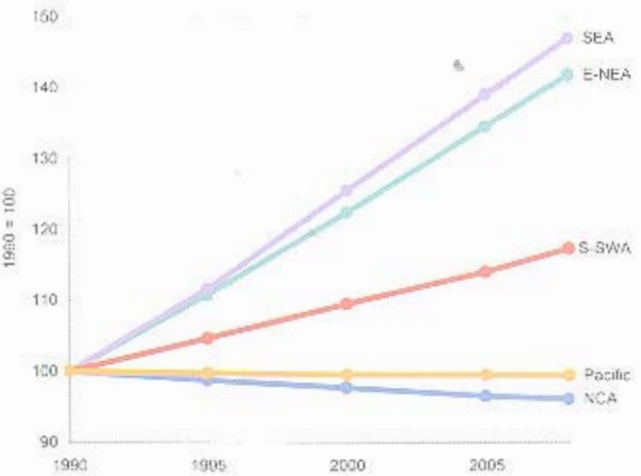
Level of urbanization, by Asia-Pacific subregion, 1990 and 2008



As urbanization has increased, however, the average urban population growth rate has been slowing. Between 1990-1995 and 2008-2009, the rate fell from 2.8 to 2.3% per year. Among the subregions, the growth rate was highest in South East Asia, at 3.1%. In North and Central Asia, the rate had been declining, but now seems to have levelled off because greater economic opportunities at home are reducing the need to migrate from the urban areas to other countries.

Figure 2.2

Urbanization growth rates, by subregion, indexed to 100, 1990-2008



Levels of urbanization are closely linked to rates of economic growth. By and large, the higher levels of urbanization are among the more developed countries, where better economic opportunities and access to services in the cities attract migrants from rural areas.

The Asia-Pacific urban population is growing more than twice as fast as the population as a whole – 2.3% per annum compared with 1%. This indicates that most urban population growth is due to rural-urban migration, along with reclassification of rural areas into urban areas, while a smaller proportion is due to natural population growth.

Urbanization in Asia and the Pacific has also resulted in the growth of megacities – those with more than 10 million people. Of the world's 19 megacities, the Asia-Pacific region has 11, including 6 of the 10 largest.

Another emerging trend is the growth, around large cities, of extended urban regions. These mega agglomerations can encompass a number of urban

World megacities, 2007

Urban agglomeration	Population (millions)			Average annual rate of change (Percentage) 1975-2007
	1975	2007	2025	
1. Tokyo, Japan	26.6	35.7	36.4	0.9
2. New York-Newark, United States	15.9	19.0	20.6	0.5
3. Mexico City, Mexico	10.7	19.0	21.0	1.8
4. Mumbai, India	7.1	19.0	26.4	3.1
5. São Paulo, Brazil	9.6	18.8	21.4	2.1
6. New Delhi, India	4.4	15.9	22.5	4.0
7. Shanghai, China	7.3	15.0	19.4	2.2
8. Kolkata, India	7.9	14.8	20.6	1.9
9. Dhaka, Bangladesh	2.2	13.5	22.0	5.6
10. Buenos Aires, Argentina	8.7	12.8	13.8	1.2
11. Los Angeles-Long Beach-Santa Ana, United States	8.9	12.5	13.7	1.1
12. Karachi, Pakistan	4.0	12.1	19.1	3.5
13. Cairo, Egypt	6.4	11.9	15.6	1.9
14. Rio de Janeiro, Brazil	7.6	11.7	13.4	1.4
15. Osaka-Kobe, Japan	9.8	11.3	11.4	0.4
16. Beijing, China	6.0	11.1	14.5	1.9
17. Manila, Philippines	5.0	11.1	14.8	2.5
18. Moscow, Russian Federation	7.6	10.5	10.5	1.0
19. Istanbul, Turkey	3.6	10.1	12.1	3.2

NOTE: Urban agglomerations are ordered according to their population size in 2007.
Source: United Nations Department of Economic and Social Affairs/Population Division *World Urbanization Prospects: The 2007 Revision*

and rural local governments and transcend metropolitan or provincial boundaries. Examples include New Delhi, Tokyo, Beijing, Manila, Bangkok, Shanghai and Jakarta. The Beijing regional agglomeration, for example, occupies an area of 16,870 square kilometres, while the Bangkok metropolitan area covers 7,761 square kilometres, with a population of over 10 million spread over the jurisdiction of the Bangkok Metropolitan Administration and five surrounding provinces.

These urban regions grow along infrastructure corridors, often radiating from city cores to reach considerable distances. The fact that they transcend administrative boundaries is creating new economic, social and environmental problems – requiring governments to rethink mechanisms and institutions of urban planning, management and governance. One issue, for example, is that these settlements are occupying rural areas that have lower planning and building standards, and more lax environmental regulations, resulting in haphazard development that closely intermingles different forms of land use – industrial, residential, commercial and agricultural. Moreover, as they radiate along transport corridors, they take the form of "ribbon" or "strip" development that ignores large tracts of land further away from the main arteries. This results in development, that is environmentally unsustainable, and resource intensive.

Unplanned urban development also fails to provide adequate infrastructure and services to rapidly growing populations. Rapid urbanization in many developing and least developed countries is creating a backlog of housing and physical infrastructure, and of economic, social and environmental services. This is manifest in the growth of slums and other settlements which are either unserviced or underserviced. ESCAP estimates that Asia and the Pacific now has around 571 million slum dwellers, though ADB has estimated that the region only has around 400 million urban poor. This indicates that shortages in the formal housing market are forcing higher-income groups to live in slums.

As of 2005, the proportion of Asia-Pacific urban residents living in slums was around 35%. This did not differ greatly between subregions: in East and North-East Asia it was 33%; in South-East Asia it was 34% and in South and South-West Asia it was 37%. However in some countries it was much higher. In Bangladesh, Cambodia, the Lao People's Democratic Republic, Mongolia and Nepal, a majority of the urban populations live in slums.

Extended urban regions grow only around mega cities, but also around smaller towns and cities. Similar urban development patterns are evident, for example, in the Kathmandu Valley in Nepal, around Rawalpindi-Islamabad in Pakistan,

around Colombo in Sri Lanka, and around Honiara in the Solomon Islands. While in these cases the populations may be lower than in the mega-urban regions, the problems are similar.

The overflow of urban populations, land uses and functions beyond municipal administrative boundaries has major implications for the measurement of urbanization levels and growth rates. A recent survey of 26 major countries in Asia and the Pacific indicated that most base their definition of "urban" on administrative criteria. But since in many countries much of the growth is taking place outside such administrative boundaries, the urbanization levels and growth rates may be underrepresented in official statistics.

Defining urban
There is no common definition in the region of what is "urban". In fact, there is a bewildering variety of definitions. Of the 26 countries and territories surveyed by ESCAP, 15 defined urban areas based on administrative criteria, four on population size and/or density, and two on economic functions or availability of certain infrastructure and services, while the rest used a mixture of administrative criteria and population size and density. Because most countries define urban based on administrative criteria, urbanization levels and urban population growth rates may be underreported. Most growth occurs in the urban periphery, which may be beyond municipal or city boundaries and therefore may not be reflected in official statistics.

Urbanization rate (% of total population)
Population living in areas classified as urban according to the administrative criteria used by each country or area, as a percentage of the total population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Average annual urban population growth rate (% per annum)
The rate of change of the urban population. Reported for five-year periods starting and ending in the middle of the indicated years. **Aggregates:** Calculated by ESCAP using urban population as weight. **Source:** Calculated by ESCAP using data from World Population Prospects: The 2008 Revision, Population Database. Online database accessed on 28 April 2009.

Slum population as a percentage of urban (% of urban population)
Number of people in households living in slum dwellings, reported as a share of the urban population. A slum household is a group of individuals living under the same roof who lack one or more (in some cities, two or more) of the following conditions: security of tenure, structural quality and durability of dwellings, access to safe water, access to sanitation facilities and sufficient living area. **Aggregates:** Calculated by ESCAP using the urban population as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 25 August 2009.

Population density (population per km²)
Number of people per square kilometre of the surface area. Total surface area comprises total land area, inland and tidal water area. **Aggregates:** Calculated by ESCAP as the total population divided by the total surface area. **Source:** Calculated by ESCAP using data from World Population Prospects: The 2008 Revision and Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture. Online database accessed on 28 April 2009.

Population of urban agglomerations by size of agglomeration (thousands)
Population living in an urban agglomeration defined as agglomeration comprising a city or town proper and also the suburban fringe or thickly settled territory lying outside of, but adjacent to, the city boundaries. Data are presented for the following agglomeration size ranges: 750,000 to 1 million inhabitants, 1 to 5 millions inhabitants, 5 to 10 million inhabitants, and over 10 million inhabitants. **Aggregates:** Sum of individual country values. **Source:** World Urbanization Prospects The 2007 Revision. Online database accessed on 8 October 2008.

2.1 Urbanization

	Urbanization rate					Urban population growth rate				Slum population		
	% of total population					Per cent per annum				% of urban population		
	1990	1995	2000	2005	2008	90-95	95-00	00-05	2008	1990	2001	2005
East and North-East Asia	**33.0**	**36.6**	**40.4**	**44.5**	**46.9**	**3.1**	**2.9**	**2.6**	**2.3**	**46.0**	**37.8**	**32.5**
China	27.4	31.4	35.8	40.4	43.1	3.9	3.6	3.2	2.7	43.6	37.8	32.9
DPR Korea	58.4	59.1	60.2	61.6	62.6	1.8	1.5	1.0	0.9			
Hong Kong, China	99.5	100.0	100.0	100.0	100.0	1.8	1.4	1.2	1.0			
Japan	63.1	64.6	65.2	65.8	66.4	0.8	0.4	0.3	0.3			
Macao, China	99.8	99.9	100.0	100.0	100.0	2.1	1.4	1.4	0.6			
Mongolia	57.0	56.8	56.6	56.7	57.1	1.4	0.6	0.9	1.2	68.5	64.9	57.9
Republic of Korea	73.8	78.2	79.6	80.8	81.5	2.2	1.1	0.8	0.6	68.5	37.0	
South-East Asia	**31.6**	**35.3**	**39.7**	**44.0**	**46.5**	**4.0**	**4.0**	**3.5**	**3.1**	**39.4**	**30.6**	**34.3**
Brunei Darussalam	65.8	68.6	71.1	73.5	74.8	3.7	3.2	3.0	2.7			
Cambodia	12.6	14.2	16.9	19.7	21.5	5.7	6.0	5.0	4.7	71.7	72.2	78.9
Indonesia	30.6	35.6	42.0	48.1	51.5	4.6	4.8	4.1	3.4	32.2	23.1	26.3
Lao PDR	15.4	17.2	18.9	20.6	21.8	5.1	4.1	3.5	3.7	66.1	66.1	79.3
Malaysia	49.8	55.6	61.8	67.3	70.2	4.9	4.7	3.7	3.0			
Myanmar	24.9	26.1	28.0	30.6	32.6	2.4	2.7	2.7	2.9	31.1	26.4	45.6
Philippines	48.8	54.0	58.5	62.7	65.0	4.4	3.8	3.5	3.1	54.9	44.1	43.7
Singapore	100.0	100.0	100.0	100.0	100.0	2.9	2.9	1.5	1.2			
Thailand	29.4	30.3	31.1	32.3	33.2	1.7	1.6	1.5	1.7	19.5	12.0	26.0
Timor-Leste	20.8	22.7	24.5	26.5	27.8	4.5	0.8	7.1	4.9			
Viet Nam	20.3	22.2	24.3	26.4	27.8	4.0	3.4	3.2	3.1	60.5	47.4	41.3
South and South-West Asia	**28.0**	**29.2**	**30.5**	**31.8**	**32.7**	**3.1**	**2.8**	**2.5**	**2.6**	**60.1**	**55.4**	**37.5**
Afghanistan	18.3	19.7	21.3	22.9	24.0	9.2	4.1	5.4	5.6	98.5	98.5	
Bangladesh	19.8	21.5	23.2	25.1	26.4	4.0	3.6	3.5	3.4	87.3	84.7	70.8
Bhutan	7.2	8.3	9.6	11.1	12.1	1.4	5.0	5.7	4.2	70.0	44.1	
India	25.5	26.6	27.7	28.7	29.5	2.9	2.7	2.4	2.4	60.8	55.5	34.8
Iran (Islamic Rep. of)	56.3	60.2	64.2	66.9	68.5	3.3	2.5	1.8	2.2	51.9	44.2	30.3
Maldives	25.8	25.6	27.5	29.6	31.0	2.7	3.4	3.1	3.4			
Nepal	8.9	10.9	13.4	15.8	17.2	6.9	6.6	5.4	5.0	96.9	92.4	60.7
Pakistan	30.6	31.8	33.1	34.9	36.1	3.3	3.3	2.9	3.1	78.7	73.6	47.5
Sri Lanka	17.2	16.4	15.7	15.1	15.1	0.2	-0.2	-0.3	0.5	24.8	13.6	
Turkey	59.2	62.1	64.7	67.3	68.7	2.8	2.5	2.2	2.0	23.3	17.9	15.5
North and Central Asia	**65.4**	**64.6**	**63.9**	**63.2**	**62.7**	**0.0**	**-0.2**	**-0.3**	**-0.2**			
Armenia	67.5	66.3	65.1	64.1	63.8	-2.2	-1.3	-0.7	-0.3			
Azerbaijan	53.7	52.2	50.9	51.5	51.6	1.0	0.4	0.7	0.9			
Georgia	55.2	54.0	52.7	52.2	52.4	-2.1	-1.7	-1.2	-0.6			
Kazakhstan	56.3	55.9	56.3	57.3	58.1	-0.9	-1.1	0.7	1.2			
Kyrgyzstan	37.8	36.3	35.4	35.8	36.2	0.1	1.0	1.2	1.6			
Russian Federation	73.4	73.4	73.4	73.0	72.7	0.1	-0.2	-0.6	-0.6			
Tajikistan	31.5	28.0	25.9	24.7	24.3	-0.7	-0.2	0.2	1.2			
Turkmenistan	45.1	44.7	45.1	46.2	47.3	2.6	1.6	1.9	2.1			
Uzbekistan	40.1	38.4	37.3	36.7	36.7	1.4	0.9	1.2	1.6			
Pacific	**70.4**	**70.4**	**70.4**	**70.6**	**70.8**	**1.6**	**1.4**	**1.5**	**1.3**			
American Samoa												
Australia	85.4	86.1	87.2	88.2	88.8	1.5	1.4	1.4	1.2			
Cook Islands												
Fiji	41.6	45.5	48.3	50.8	52.4	3.0	2.1	1.7	1.6			
French Polynesia	55.9	53.5	52.4	51.7	51.5	1.1	1.4	1.3	1.3			
Guam	90.8	92.1	93.2	94.0	94.5	2.0	1.5	1.9	1.4			
Kiribati												
Marshall Islands												
Micronesia (F.S.)	25.8	25.1	22.3	22.3	22.5	1.6	-2.3	0.5	0.7			
Nauru												
New Caledonia	59.6	60.3	61.9	63.7	64.8	2.7	2.7	2.3	2.1			
New Zealand	84.7	85.3	85.7	86.2	86.5	1.6	1.0	1.4	1.0			
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea	13.1	13.2	13.2	13.4	13.7	2.7	2.7	2.7	2.9			
Samoa	21.2	21.5	21.9	22.4	22.9	1.1	1.4	1.2	1.6			
Solomon Islands	13.7	14.7	15.7	17.0	17.9	4.3	4.2	4.2	4.2			
Tonga	22.7	22.9	23.2	24.0	24.7	0.7	0.4	0.9	1.7			
Tuvalu												
Vanuatu	18.7	20.2	21.7	23.5	24.7	4.4	3.5	4.2	4.2			
Asia and the Pacific	**33.3**	**35.5**	**37.9**	**40.4**	**41.9**	**2.8**	**2.7**	**2.4**	**2.3**	**51.0**	**43.8**	**34.8**
LLDC	34.8	33.3	32.8	33.0	33.4	1.4	1.1	1.9	2.4			
LDC	19.2	20.7	22.5	24.5	25.9	4.1	3.7	3.7	3.7	72.9	72.1	67.4
ASEAN	31.6	35.3	39.7	44.0	46.5	4.0	4.0	3.5	3.1	39.4	30.6	34.3
ECO	43.4	44.4	45.8	47.1	48.1	2.7	2.4	2.2	2.4	52.9	48.3	34.5
SAARC	25.0	26.1	27.3	28.5	29.4	3.1	2.8	2.6	2.7	65.3	60.9	40.7
Central Asia	47.7	45.8	44.4	44.1	44.2	0.0	-0.1	0.7	1.1			
Pacific island dev. econ.	21.5	21.7	21.7	21.9	22.2	2.6	2.3	2.3	2.4			
Low income	25.4	26.6	28.0	29.6	30.8				3.0	69.7	66.0	61.1
Middle income	31.9	34.5	37.3	40.1	41.8				2.4	48.9	42.4	33.1
High income	69.4	71.7	72.7	73.6	74.3				0.6			
Africa	**32.0**	**34.2**	**36.3**	**38.4**	**39.7**	**4.0**	**3.7**	**3.5**	**3.4**	**63.0**	**61.3**	**52.0**
Europe	**70.2**	**71.0**	**71.6**	**72.4**	**72.9**	**0.5**	**0.2**	**0.4**	**0.4**			
Latin America and Carib.	**70.9**	**73.2**	**75.4**	**77.4**	**78.5**	**2.4**	**2.2**	**1.8**	**1.7**	**37.1**	**33.3**	**25.4**
North America	**75.4**	**77.3**	**79.1**	**80.7**	**81.6**	**1.6**	**1.5**	**1.4**	**1.3**			
Other countries/areas	**63.1**	**63.8**	**64.2**	**64.6**	**64.9**	**3.4**	**3.0**	**2.7**	**2.5**	**36.8**	**37.1**	**35.8**
World	**43.0**	**44.8**	**46.7**	**48.7**	**49.9**	**2.4**	**2.2**	**2.1**	**2.0**	**49.2**	**44.2**	**36.4**

2.2 Population density

	Population density		Population of urban agglomerations							
			with 750 000 to 1 million inhabitants		with 1 to 5 million inhabitants		with 5 to 10 million inhabitants		with 10 million inhabitants or more	
	Population per km²		Thousands		Thousands		Thousands		Thousands	
	1990	2008	1990	2005	1990	2005	1990	2005	1990	2005
East and North-East Asia	**114**	**132**								
China	120	139	19 349	37 845	102 825	167 748	21 371	36 154		25 220
DPR Korea	167	198		762	2 526	4 375				
Hong Kong, China	5 282	6 617					5 677	7 057		
Japan	327	339			13 520	14 585			43 565	46 585
Macao, China	21 388	17 290								
Mongolia	1	2		856						
Republic of Korea	432	487		2 626	9 936	13 461		9 825	10 544	
South-East Asia	**98**	**129**								
Brunei Darussalam	45	69								
Cambodia	54	81				1 363				
Indonesia	96	123	816	3 282	8 593	11 332	8 175	8 843		
Lao PDR	17	25								
Malaysia	55	82		1 646	1 120	1 405				
Myanmar	59	73		915	2 907	3 928				
Philippines	204	299	854	787		1 325	7 973			10 761
Singapore	4 436	6 424			3 016	4 327				
Thailand	106	125					5 888	6 582		
Timor-Leste	50	80								
Viet Nam	200	269			8 596	6 046		5 072		
South and South-West Asia	**163**	**227**								
Afghanistan	19	43			1 306	2 994				
Bangladesh	785	1 120	985	766	2 023	5 653	6 621			12 576
Bhutan	12	14								
India	262	361	7 491	14 814	32 730	55 030	13 544	24 622	23 198	47 537
Iran (Islamic Rep. of)	32	41	7 056	8 613						
Maldives	719	1 037								
Nepal	130	195		815						
Pakistan	142	210	3 520		6 577	9 743	7 147	6 259		11 553
Sri Lanka	261	296								
Turkey	73	97	1 726	1 863	4 302	8 717	6 552	9 709		
North and Central Asia	**10**	**10**								
Armenia	118	101			1 175	1 103				
Azerbaijan	83	99			1 733	1 867				
Georgia	78	63			1 224	1 093				
Kazakhstan	6	6			1 080	1 190				
Kyrgyzstan	22	27		817						
Russian Federation	9	8	3 690	4 606	16 974	15 165	8 987			10 416
Tajikistan	37	46								
Turkmenistan	7	10								
Uzbekistan	46	62			2 100	2 158				
Pacific	**3**	**4**								
American Samoa	236	341								
Australia	2	3			10 284	12 298				
Cook Islands	74	54								
Fiji	40	46								
French Polynesia	49	67								
Guam	248	325								
Kiribati	89	119								
Marshall Islands	263	337								
Micronesia (F.S.)	209	159								
Nauru	458	509								
New Caledonia	9	13								
New Zealand	13	16	870			1 189				
Niue	9	6								
Northern Mariana Islands	150	186								
Palau	32	44								
Papua New Guinea	9	14								
Samoa	57	66								
Solomon Islands	11	18								
Tonga	126	135								
Tuvalu	314	352								
Vanuatu	12	19								
Asia and the Pacific	**61**	**77**	**10 106**	**19 607**	**44 482**	**74 621**	**14 400**	**25 620**	**26 800**	**29 841**
LLDC	15	20								
LDC	94	136								
ASEAN	98	129								
ECO	37									
SAARC	221	310								
Central Asia	16	18								
Pacific island dev. econ.	12	17								
Low income	95	135								
Middle income	65	81								
High income	23	25								
Africa	**21**	**33**								
Europe	**97**	**100**								
Latin America and Carib.	**22**	**28**								
North America	**14**	**17**								
Other countries/areas	**21**	**34**								
World	**39**	**50**								

3 International migration

Over the last decade there has been a steady rise in international migration within Asia and the Pacific. By 2010, the region will have almost 53 million international migrants – around 1.3% of its total population, and one quarter of all the world's migrants.

Most Asia-Pacific migrants stay within the region, moving in many cases just to a neighbouring country. But there is also migration between Asia and the Pacific and other global regions, in which the Asia-Pacific region as a whole sends more people that it receives – it has outmigration of three per 10,000 people. Of the subregions, the Pacific has the highest proportion of foreign-born people – nearly 17%.

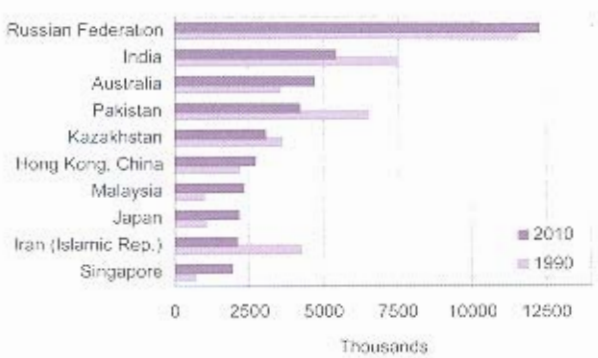
There is no single standard definition of who is an international migrant. The United Nations Population Division bases its estimates on the number of people living in a country other than that of their birth. This definition, when used for population censuses, has the merit of simplicity, but it does mean that even people have arrived the host country decades previously, and may have become citizens, would still be counted as migrants. On the other hand, it would not include as migrants people who had returned to their country of birth after a long period abroad – since they are not foreign born. Generally, migrant numbers in censuses are underestimates. By focusing on permanent or long-term residents, they miss many short-term arrivals for labour migration; in fact, temporary labour migration has become the most prevalent form of international migration from and within the Asia-Pacific region, for which the Philippines, Bangladesh and India are the largest suppliers. Another issue is that many migrants may be reluctant to reply to census questions. Moreover, these stock figures do not keep track of people who leave, so do not indicate how many people from that country are living abroad.

Among the subregions, the largest number of Asia-Pacific migrants are in North and Central Asia, where there are nearly 18 million. Here, the country hosting the largest stock – 12.3 million – is the Russian Federation whose recent economic boom has attracted many labour migrants. The Russian Federation also has significant outmigration, mainly highly skilled workers going to OECD countries; nevertheless net migration is positive.

While the *Yearbook* uses the most authoritative internationally comparable data sources, the figures on migrant stocks in countries of the former Soviet Union have to be treated with caution. Many of the international migrants in the Russian Federation are ethnic Russians who were born in other republics within the Union of Soviet Socialist Republics and would previously have been classified as "internal" migrants. Similarly, many of the international migrants in Kazakhstan are ethnic Kazakhs who moved to the country when it became independent, primarily from Mongolia. Given Kazakhstan's recent oil wealth, it has also become a destination for labour migrants, though this may not have been captured by data on stocks.

Figure 3.1

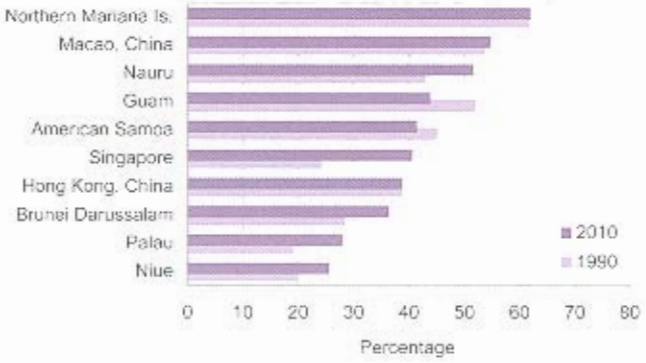
Stock of foreign population, selected Asia-Pacific countries, 1990 and 2010



Except for the Russian Federation and Kazakhstan, most North and Central Asian countries have seen a drop in their stock of foreign-born population – especially in Armenia, Kyrgyzstan and Uzbekistan, where since 1990 the stock has shrunk by more than half, as people have returned to Russia

Figure 3.2

Foreign population as a share of the total population, selected Asia-Pacific countries, 1990 and 2010



following the break-up of the former Soviet Union. In addition, workers have recently started to migrate to countries of the Gulf Cooperation Council.

Bangladesh, India and Pakistan have large numbers of international migrants. Partly this is a legacy of the population exchanges when India was partitioned in 1947 and when Bangladesh became independent in 1972. Since 1990, however, as this generation has grown older, the foreign-born population in India and Pakistan has decreased significantly: in India by 27% and in Pakistan by 34%. In Pakistan, the decrease in migrant stock can also be attributed to the return of refugees from Afghanistan.

The most significant country of permanent immigration within the region is Australia. Australia has a deliberate policy of attracting certain kinds of immigrants and has the region's third-highest migration stock, which between 1990 and 2005 grew by more than 20%. In 2010, Australia is expected to be host to 4.7 million migrants.

Thailand has turned from a country of net out-migration to a country with net immigration. Between 1990 and 2005 its migrant stock increased from 387,000 to 982,000, and this does not include the large number of irregular migrants. Most migrants into Thailand are labour migrants from neighbouring countries. Afghanistan and Timor-Leste have also switched from being countries of net out-migration to countries of net immigration, which in both cases is due to the return of refugees or exiles.

The proportion of immigrants appears to be highest in areas that have small populations: Northern Mariana Islands, with 62 % migrants; Macao, China, with 54%; Nauru, with 52%; Guam, with 44%; and Singapore, with 41%.

Although as a whole the Pacific subregion – including Australia and New Zealand – has the largest net immigration, the Pacific developing countries have the largest net out-migration rate with 8.7 per 1,000 people.

Overall, migrants in the region tend to move to richer countries. Consequently, low- and middle-income countries have net out-migration, while the high-income countries have net immigration. The economies with the highest net immigration rates are small, high-income ones such as Singapore with 22.0, and Macau, China, with 19.3. Those with the highest net out-migration rates are small, low-income countries, such as Samoa with -18.4, and Tonga with -17.5.

Stock of foreign population (thousands)
Estimated number of international immigrants, male and female, in the middle of the indicated year. Generally this represents the number of persons born in a country other than where they live. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** World Migrant Stock The 2008 Revision Population database. Online database accessed on 25 August 2009.

Stock of foreign population as share of total population (percentage)
The number of international immigrants divided by the total population. Expressed as a percentage in the middle of the year indicated. Where data on the place of birth was unavailable, the number of non-citizens was used as a proxy for the number of international immigrants. In either case, the migrant stock includes refugees, some of whom may not be foreign-born. **Aggregates:** Calculated by ESCAP using the total population as weight. **Source:** World migrant stock The 2008 Revision Population database. Online database accessed on 25 August 2009.

Net migration rate (per 1,000 population)
The number of international immigrants minus the number of emigrants over a period, divided by the average population of the receiving country over that period. Expressed as the net number of migrants per 1,000 population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

3.1 International migration

	Stock of foreign population				Stock of foreign population as share of total population				Net migration rate			
	Thousands				Percentage				Per 1,000 population			
	1990	1995	2000	2005	1990	1995	2000	2005	90-95	95-00	00-05	05-10
East and North-East Asia	**4 484**	**5 083**	**5 716**	**6 185**	**0.34**	**0.36**	**0.39**	**0.41**	**-0.1**	**-0.1**	**-0.3**	**-0.2**
China	376	437	506	590	0.03	0.04	0.04	0.04	-0.1	-0.1	-0.3	-0.3
DPR Korea	34	35	36	37	0.17	0.16	0.16	0.16				
Hong Kong, China	2 218	2 431	2 669	2 721	38.89	39.13	40.04	39.54	10.1	9.3	3.3	3.3
Japan	1 076	1 363	1 687	1 999	0.87	1.09	1.33	1.57	0.8	0.1	0.1	0.2
Macao, China	200	224	240	278	53.87	54.61	54.61	57.02	7.8	7.1	17.2	19.3
Mongolia	7	7	8	9	0.30	0.33	0.34	0.36	-15.4	-4.3	1.4	-0.8
Republic of Korea	572	584	568	551	1.33	1.31	1.22	1.16	-2.9	-0.3	-0.3	-0.1
South-East Asia	**3 060**	**3 552**	**4 838**	**5 624**	**0.70**	**0.74**	**0.94**	**1.01**	**-0.9**	**-0.7**	**-0.5**	**-0.5**
Brunei Darussalam	73	87	104	124	28.48	29.60	31.23	33.56	2.6	2.2	2.0	1.8
Cambodia	38	116	237	304	0.40	1.02	1.85	2.19	2.8	1.3	0.2	-0.1
Indonesia	466	219	292	136	0.26	0.11	0.14	0.06	-0.8	-0.9	-0.9	-0.6
Lao PDR	23	23	22	20	0.54	0.49	0.40	0.34	-1.3	-3.4	-4.1	-2.4
Malaysia	1 014	1 193	1 554	2 029	5.60	5.79	6.68	7.92	3.0	4.5	1.2	1.0
Myanmar	134	114	98	93	0.33	0.26	0.21	0.19	-0.6	0.0	-4.2	-2.0
Philippines	159	210	323	375	0.26	0.30	0.42	0.44	-2.7	-2.4	-2.2	-2.0
Singapore	727	992	1 352	1 494	24.11	28.49	33.64	35.01	15.4	19.6	6.7	22.0
Thailand	387	549	792	982	0.68	0.91	1.27	1.49	-0.1	-1.5	4.4	0.9
Timor-Leste	9	10	9	12	1.21	1.14	1.14	1.20		-40.9	9.1	1.8
Viet Nam	29	39	56	55	0.04	0.05	0.07	0.06	-2.4	-0.5	-0.5	-0.5
South and South-West Asia	**21 346**	**17 484**	**16 933**	**15 181**	**1.70**	**1.25**	**1.11**	**0.91**	**-0.4**	**-0.4**	**-0.5**	**-0.3**
Afghanistan	58	70	76	86	0.46	0.39	0.37	0.35	42.6	-3.8	7.2	7.5
Bangladesh	882	1 006	988	1 032	0.76	0.79	0.70	0.67	-0.8	-0.8	-1.0	-0.7
Bhutan	24	28	32	37	4.34	5.44	5.73	5.75	-38.2	0.1	11.6	2.9
India	7 493	7 022	6 411	5 887	0.87	0.74	0.61	0.52	-0.2	-0.3	-0.3	-0.2
Iran (Islamic Rep. of)	4 292	3 016	2 804	2 062	7.66	4.85	4.19	2.91	-3.9	-0.2	-2.9	-1.4
Maldives	3	3	3	3	1.23	1.16	1.11	1.08				
Nepal	431	625	716	819	2.25	2.89	2.94	3.01	-1.0	-0.9	-0.8	-0.7
Pakistan	6 556	4 077	4 243	3 554	5.66	3.13	2.86	2.14	-4.2	-0.1	-1.6	-1.6
Sri Lanka	459	426	395	366	2.65	2.33	2.10	1.88	-2.9	-4.3	-4.6	-3.0
Turkey	1 150	1 212	1 263	1 334	2.05	1.98	1.90	1.87	-0.2	0.0	-0.2	-0.1
North and Central Asia	**19 510**	**18 978**	**18 214**	**18 078**	**9.09**	**8.71**	**8.36**	**8.32**	**-1.2**	**-0.6**	**-0.5**	**-0.8**
Armenia	559	682	574	493	18.59	21.15	18.67	16.07	-29.6	-14.3	-6.5	-4.9
Azerbaijan	361	525	348	255	5.00	6.74	4.28	3.01	-3.1	-3.2	-2.4	-1.2
Georgia	338	250	219	191	6.20	4.93	4.61	4.28	-20.7	-15.9	-13.4	-11.5
Kazakhstan	3 619	3 295	2 871	2 974	21.89	20.69	19.20	19.57	-18.6	-17.1	-2.7	-1.3
Kyrgyzstan	623	482	373	288	14.18	10.49	7.52	5.52	-12.2	-1.1	-2.9	-2.8
Russian Federation	11 525	11 707	11 892	12 080	7.78	7.88	8.11	8.44	3.0	3.0	1.3	0.4
Tajikistan	426	305	330	306	8.03	5.28	5.36	4.69	-10.7	-11.2	-10.9	-5.9
Turkmenistan	307	260	241	224	8.36	6.20	5.35	4.62	2.5	-2.3	-1.1	-1.0
Uzbekistan	1 653	1 474	1 367	1 268	8.06	6.43	5.52	4.82	-3.1	-3.4	-3.1	-3.0
Pacific	**4 363**	**4 731**	**5 014**	**5 514**	**16.21**	**16.29**	**16.10**	**16.44**	**4.0**	**3.5**	**5.3**	**3.6**
American Samoa	21	23	25	27	45.18	43.73	43.17	42.35				
Australia	3 581	3 854	4 027	4 336	20.95	21.27	21.01	21.26	4.2	5.0	6.5	4.8
Cook Islands	3	3	3	3	14.55	14.77	15.86	14.65				
Fiji	14	15	16	17	1.89	1.92	1.99	2.07	-9.3	-10.7	-10.3	-8.3
French Polynesia	26	28	30	32	13.22	13.06	12.85	12.73	-0.5	1.4	1.5	
Guam	70	72	74	76	52.09	49.42	47.81	45.38	-4.6	-6.4	1.0	
Kiribati	2	2	2	2	3.01	2.62	2.39	2.17				
Marshall Islands	2	2	2	2	3.27	3.11	3.12	2.94				
Micronesia (F.S.)	4	3	3	3	3.84	3.12	2.90	2.63	-4.4	-25.4	-17.9	-16.3
Nauru	4	4	5	5	42.93	42.48	45.45	48.67				
New Caledonia	38	45	50	54	22.02	23.16	23.07	23.19	5.8	5.5	4.3	4.5
New Zealand	523	594	685	858	15.45	16.12	17.71	20.86	8.07	2.25	5.14	2.377
Niue	0	0	0	0	20.04	20.59	21.85	23.66				
Northern Mariana Islands	27	36	45	51	61.64	62.76	65.02	63.39				
Palau	3	5	6	6	19.22	27.33	32.67	29.97				
Papua New Guinea	33	31	26	25	0.80	0.66	0.47	0.42				
Samoa	3	5	6	7	1.98	2.70	3.23	4.00	-15.8	-16.3	-20.8	-18.4
Solomon Islands	5	5	6	6	1.49	1.46	1.44	1.37				
Tonga	3	2	2	1	3.19	2.25	1.62	1.14	-18.0	-19.5	-15.9	-17.5
Tuvalu	0	0	0	0	3.63	2.90	2.32	1.87				
Vanuatu	2	2	1	1	1.44	0.98	0.70	0.48	-1.1	-7.9		
Asia and the Pacific	**52 764**	**49 828**	**50 715**	**50 581**	**1.61**	**1.41**	**1.35**	**1.27**	**-0.4**	**-0.3**	**-0.4**	**-0.3**
LLDC	8 189	7 775	6 960	6 779	8.20	6.96	5.61	5.20	-0.3	-5.3	-1.0	-0.1
LDC	1 613	2 009	2 198	2 424	0.79	0.87	0.87	0.88	2.3	-1.0	-0.8	-0.2
ASEAN	3 051	3 542	4 829	5 612	0.70	0.74	0.94	1.01	-0.9	-0.6	-0.6	-0.5
ECO	19 044	14 714	13 915	12 351	6.37	4.42	3.81	3.10	-2.0	-1.5	-1.4	-0.9
SAARC	15 904	13 257	12 866	11 785	1.39	1.04	0.92	0.77	-0.2	-0.4	-0.4	-0.3
Central Asia	7 985	7 271	6 322	5 998	11.99	10.47	8.87	8.09	-10.4	-8.2	-4.3	-3.1
Pacific island dev. econ.	259	283	301	320	4.02	3.91	3.71	3.54	-6.4	-8.7	-7.7	-8.7
Low income	4 330	4 290	4 300	4 308	1.36	1.21	1.11	1.03	0.6	-1.1	-1.1	-0.5
Middle income	39 295	35 220	34 875	33 690	1.42	1.18	1.10	1.00	-0.6	-0.3	-0.4	-0.4
High income	9 132	10 311	11 532	12 575	4.65	5.08	5.54	5.92	0.9	1.1	1.0	1.3
Africa									**-0.5**	**-0.6**	**-0.6**	**-0.5**
Europe									**1.1**	**0.7**	**2.5**	**2.3**
Latin America and Carib.									**-1.5**	**-1.5**	**-2.1**	**-1.8**
North America									**4.9**	**5.6**	**4.1**	**3.6**
Other countries/areas									**2.2**	**1.9**	**2.8**	**2.5**
World	**155 518**	**165 969**	**178 499**	**195 245**	**2.94**	**2.91**	**2.92**	**3.00**				

4 Child health

Children in the Asia-Pacific region now have a much better chance of surviving the first year of life. Between 1990 and 2007, the infant mortality rate fell from 63 to 41 deaths per thousand live births. This is only half the rate in Africa, but still twice that in Latin America and the Caribbean.

In Asia and the Pacific the high-income countries have infant mortality rates (IMRs) of 4 deaths per thousand live births – which is lower than the average in Europe at 6, or North America at 7. But the region's poorer countries fare far worse. The low-income economies and the landlocked developing countries have rates similar to the overall rate for Africa.

Within Asia and the Pacific, there are also considerable subregional differences. The lowest subregional rate is 18, for East and North-East Asia, followed by South-East Asia and North and Central Asia and the Pacific, where the figures are close to 25. The highest rate is in South and South-West Asia at 57.

Within the subregions there are also significant variations at the country level. The smallest intra-subregional differences are in North and Central Asia, ranging from a low of 13 in the Russian Federation to highs of 45 in Turkmenistan and 57 in Tajikistan. In relative terms, the greatest differences are found in South-East Asia – ranging from 2 in Singapore to 77 in Timor-Leste. In East and North-East Asia, the range is from 3 or 4 in Japan and the Republic of Korea to 42 in the Democratic People's Republic of Korea. The variations are similar in the Pacific, although with higher absolute numbers at both ends of the range. In absolute terms, however, the greatest difference is in South and South-West Asia, from 17 in Sri Lanka to 165 in Afghanistan.

The good news is that since 1990 the IMR has fallen significantly in most subregions. East and North-East Asia, South-East Asia, and North and Central Asia have seen rates fall by almost half. In South and South-West Asia, the rate has fallen by around one third, which is also the largest absolute decline – from 87 to 57 – though this still leaves this subregion with a rate higher than those with which other subregions started in 1990. In the Pacific, the IMR has fallen by more than one fifth, from 30 to 23. Countries that stand out as having more than halved their IMR between 1990 and 2007 include: Armenia, from 48 to 22; Azerbaijan, from 78 to 34; Bangladesh, from 105 to 47; Indonesia, from 60 to 25; Maldives, from 79 to 26; and Turkey, from 67 to 21.

Children also have a better chance of surviving beyond age five, as reflected in the under-five, mortality rate, also referred to as the child mortality rate; indeed this has fallen faster than the infant mortality rate. Between 1990 and 2007, the under-five mortality rate fell from 86 to 53, a fall steeper than the global average. In Africa, progress was slower and child mortality remains well over 100 deaths per thousand live births. Latin America and the Caribbean made the fastest progress over this period, from 54 to 24 deaths per thousand live births.

Of the Asia-Pacific subregions, East and North-East Asia and South-East Asia have, both between 1990 and 2007, experienced reductions of 50%, from 43 to 21, and from 77 to 34 respectively. As with infant mortality, South and South-West Asia had the highest absolute fall, in this case from 121 to 75. The smallest absolute and relative declines were in the Pacific, from 39 to 30 deaths per thousand live births.

Among individual countries, some of the most impressive gains have been in South-East Asia. Between 1990 and 2007 the fall in Indonesia was from 91 to 31, in Thailand from 31 to 7, and in Viet Nam from 56 to 15. In South and South-West Asia, a number of countries have come down from levels around 100: in Bangladesh to 61; in Maldives to 30; in Nepal to 55; and in Turkey to 23.

Other countries in the subregion, despite some improvements, still have high levels: India at 72;

Figure 4.1

Infant mortality, Asia and the Pacific, 1990 and 2007

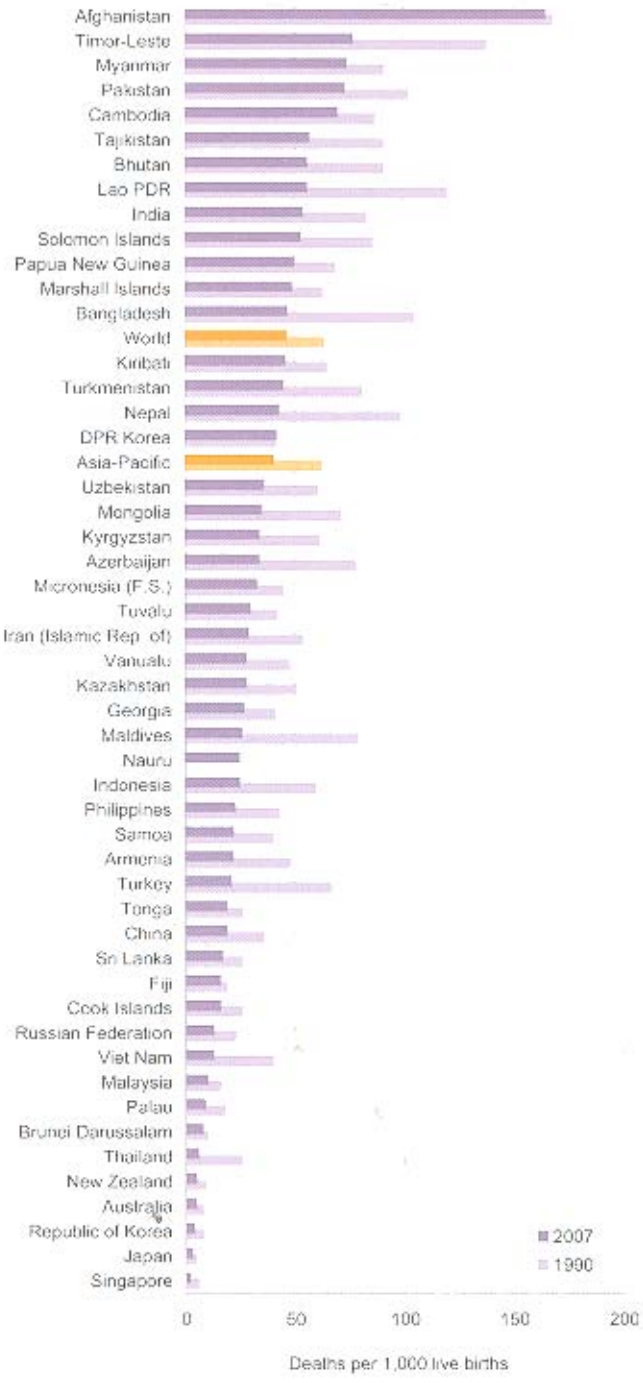
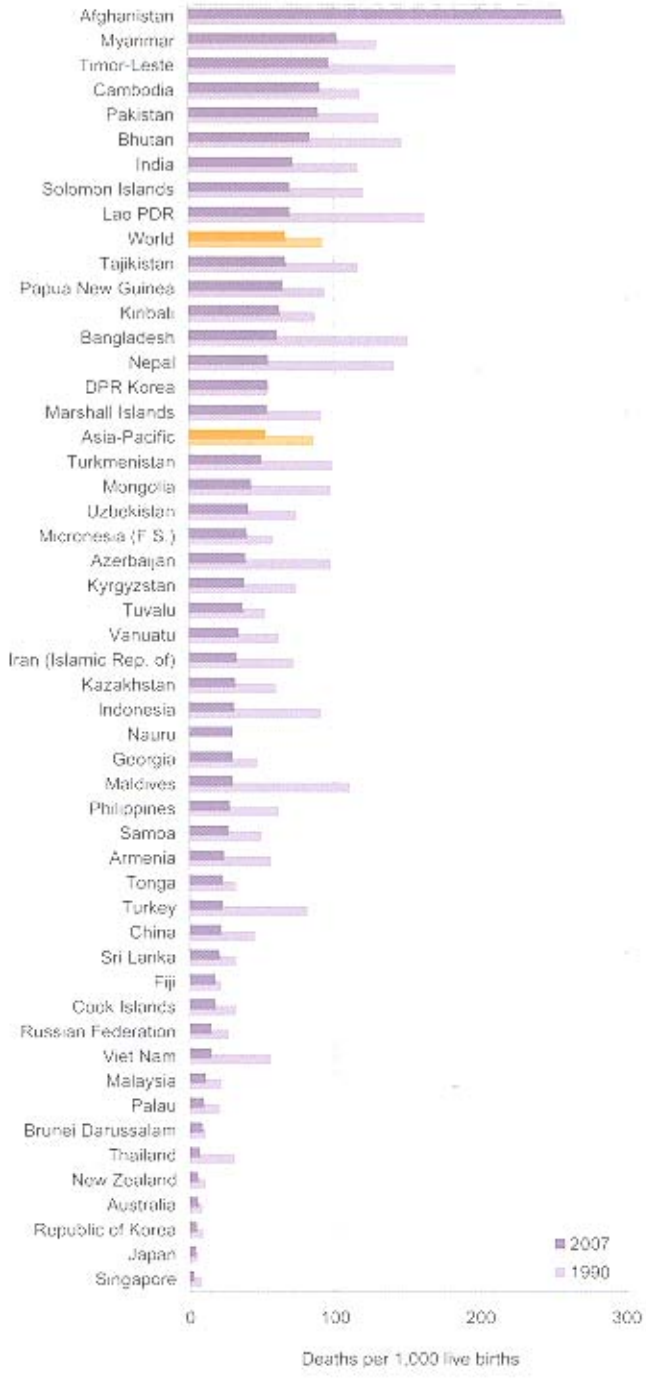


Figure 4.2

Under-five mortality, Asia and the Pacific, 1990 and 2007



Pakistan at 90; and, highest of all, Afghanistan at 257.

In the remaining subregions – East and North-East Asia, North and Central Asia and the Pacific – declines have generally been slower. Though there are some exceptions – such as Armenia from 56 to 24, and Azerbaijan from 98 to 39. Moreover, there are notable disparities in the rates for different income groups.

The reductions in infant and child mortality have been achieved partly through better standards of nutrition – as reflected in a falling proportion of children underweight. Nevertheless the levels of malnutrition remain relatively high – particularly in South and South-West Asia, which is home to more than half the world's chronically undernourished under-five children. Within South and South-West Asia, Afghanistan, Bangladesh, India, Nepal and Pakistan all have close to, or over, 40% of children underweight. Even in the Maldives and Sri Lanka, which have made greater progress in infant and child mortality, around 30% of children are underweight. The causes of malnutrition in this subregion include persistent poverty, high levels of

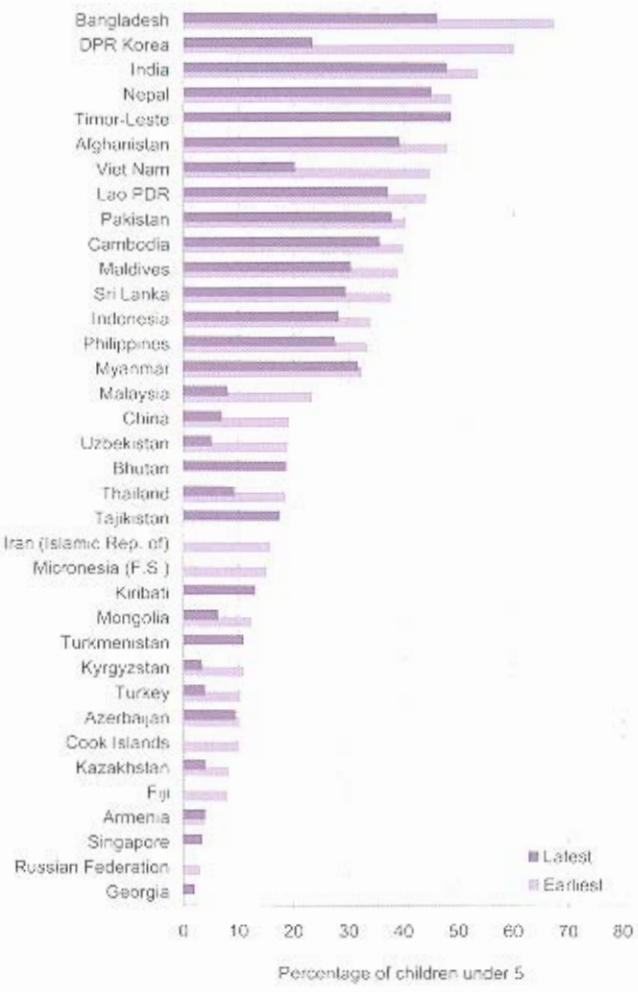
teenage pregnancy, and low levels of breast feeding. Child malnutrition has serious consequences, not just slowing the growth of children, and undermining their health and chances of survival, but also reducing their capacity to learn in school.

The only other subregion with significant levels of child malnutrition is South-East Asia. Cambodia, the Lao People's Democratic Republic and Timor-Leste all have levels of over 35%, the highest being in Timor-Leste at 49%, which is similar to levels found in South and South-West Asia.

Malnutrition is less of a problem in the remaining subregions, though, because of a lack of data, it is difficult in some cases to follow trends. It is notable, however, that in the last 10 to 15 years China, Democratic People's Republic of Korea, Kazakhstan, Malaysia, Turkey and Uzbekistan have all more than halved their proportions of children underweight.

Figure 4.3

Prevalence of moderately or severely underweight children, Asia and the Pacific, 1990 and 2007



Another important contribution to child health is effective immunization against the commonest childhood diseases, including measles, diphtheria, pertussis and tetanus. For immunization, Asia and the Pacific, with an immunization rate in 2007 of 81%, has generally tracked the global average – behind Latin America and the Caribbean at 93%, but ahead of Africa at 75%, though the latter region has been catching up.

Within Asia and the Pacific, however, there are significant subregional and country variations. In East and North-East Asia, for measles the latest rate is 94%, slightly lower than the 1990 level of 97%. This largely reflects the situation in China, whose slow progress has not been outweighed by the better performance of Japan where the rate rose from 73 to 98%. In South-East Asia, one of the best results has been in Cambodia, from 34 to 79% in 2007. In the Lao People's Democratic Republic, however, while in the mid-1990s the rate appeared to be improving it has now fallen back to 40%, by far the lowest level in Asia and the Pacific.

In South and South-West Asia, the measles immunization coverage is lower than in other subregions. This largely reflects the low rate in India, which between 1990 and 2007 only managed to increase it from 56 to 67%. Elsewhere in the subregion, there have been significant increases – especially in Afghanistan, from 20 to 70%. North and Central Asia has had a steady increase over the years, and by 2007 had reached almost full coverage, at 98%. In the Pacific, the measles immunization rate has changed very little. Indeed, since 1990 it has fallen slightly, from 81 to 78%.

Vaccination rates also tend to be higher for better-off households. In South-East Asia and South and South-West Asia, the rates are considerably higher for those in the richest quintiles. But this is not always the case. In Armenia and Turkmenistan, for example, immunization coverage in the poorest quintile of households is slightly higher than in the richest quintile.

The trends for DPT3 (diphtheria, pertussis and tetanus) vaccination are similar to those for measles immunization.

Infant mortality rate (deaths per 1,000 live births)
The infant mortality rate is the probability (expressed as a rate per 1,000 live births) of a child born in a specified year dying before reaching the age of one if subject to current age-specific mortality rates. **Aggregates:** Calculated by ESCAP using the number of live births (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 4 August 2009.

Under-five mortality rate (deaths per 1,000 live births)
The under-five mortality rate (U5MR) is the probability (expressed as a rate per 1,000 live births) of a child born in a specified year dying before reaching the age of five if subject to current age-specific mortality rates. **Aggregates:** Calculated by ESCAP using the number of live births (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 4 August 2009.

Prevalence of underweight children (% of children under 5)
Percentage of children aged 0-59 months who fall below minus 2 standard deviations from the median weight for age of the international reference population. The international reference population, often referred to as the NCHS/WHO reference population, was formulated by the National Center for Health Statistics (NCHS) as a reference for the United States and later adopted by the World Health Organization (WHO). **Aggregates:** Calculated by ESCAP using the population of children 0-59 months (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 4 August 2009.

Children immunized against measles (percentage)
Proportion of 1 year old children immunized against measles is the percentage of children under one year of age who have received at least one dose of a measles vaccine. It is generally recommended for children to be immunized against measles at the age of 9 months. **Aggregates:** Calculated by ESCAP using the population of children aged one (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 4 August 2009.

Children immunized against measles: poorest and richest quintiles (percentage)
See ***Children immunized against measles.*** Data are disaggregated for the poorest and richest quintiles of the population. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 4 August 2009.

Children immunized against DPT3 (percentage)
DTP3 immunization coverage is the percentage of one-year-olds who have received three doses of the combined diphtheria, tetanus toxoid and pertussis vaccine in a given year. **Aggregates:** Calculated by ESCAP using the population of children aged one (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 24 August 2009.

4.1 Child health

	Infant mortality rate Deaths per 1,000 live births					Under-five mortality rate Deaths per 1,000 live births					Prevalence of underweight children % of children under 5			
	1990	1995	2000	2005	2007	1990	1995	2000	2005	2007	Earliest		Latest	
East and North-East Asia	**34**	**33**	**28**	**20**	**18**	**43**	**41**	**35**	**24**	**21**	**20.0**	**(90)**	**7.1**	**(05)**
China	35	35	30	21	19	45	44	37	25	22	19.1	(90)	6.9	(05)
DPR Korea	42	42	42	42	42	55	55	55	55	55	60.0	(98)	23.4	(04)
Hong Kong, China														
Japan	5	4	3	3	3	6	6	5	4	4				
Macao, China														
Mongolia	71	61	49	39	35	98	82	63	48	43	12.3	(92)	6.3	(05)
Republic of Korea	8	6	5	5	4	9	6	5	5	5				
South-East Asia	**53**	**44**	**35**	**29**	**27**	**77**	**60**	**47**	**38**	**34**	**37.6**	**(90)**	**23.1**	**(07)**
Brunei Darussalam	10	8	8	8	8	11	9	9	9	9				
Cambodia	87	87	80	73	70	119	119	107	95	91	39.8	(93)	35.6	(05)
Indonesia	60	48	36	28	25	91	66	48	36	31	34.0	(95)	26.2	(03)
Lao PDR	120	99	77	62	56	163	131	101	79	70	44.0	(93)	37.1	(06)
Malaysia	16	13	11	10	10	22	17	14	12	11	23.3	(93)	8.1	(05)
Myanmar	91	83	78	75	74	130	117	110	105	103	32.4	(90)	31.8	(03)
Philippines	43	33	29	24	23	62	44	37	30	28	33.5	(90)	27.6	(03)
Singapore	6	4	3	2	2	8	5	4	3	3			3.4	(00)
Thailand	26	17	11	8	8	31	20	13	8	7	18.6	(93)	9.3	(05)
Timor-Leste	138	116	100	83	77	184	153	129	105	97			48.6	(07)
Viet Nam	40	33	23	15	13	56	45	30	18	15	44.9	(94)	20.2	(06)
South and South-West Asia	**87**	**78**	**69**	**60**	**57**	**121**	**107**	**93**	**80**	**75**	**49.9**	**(91)**	**41.2**	**(07)**
Afghanistan	168	165	165	165	165	260	257	257	257	257	48.0	(97)	39.3	(04)
Bangladesh	105	86	66	52	47	151	122	91	68	61	67.4	(92)	46.0	(07)
Bhutan	91	79	68	60	56	148	125	106	90	84			18.7	(99)
India	83	75	67	58	54	117	104	91	77	72	53.4	(93)	47.8	(05)
Iran (Islamic Rep. of)	54	43	36	31	29	72	55	44	36	33	15.7	(95)		
Maldives	79	62	43	30	26	111	83	55	36	30	38.9	(94)	30.4	(01)
Nepal	99	83	63	48	43	142	117	85	62	55	48.7	(95)	45.0	(06)
Pakistan	102	93	84	76	73	132	119	106	95	90	40.4	(91)	37.8	(02)
Sri Lanka	26	20	18	17	17	32	26	23	21	21	37.7	(93)	29.4	(00)
Turkey	67	52	38	26	21	82	63	44	29	23	10.4	(93)	3.9	(03)
North and Central Asia	**43**	**43**	**37**	**28**	**25**	**52**	**52**	**44**	**32**	**28**	**9.0**	**(95)**	**5.0**	**(06)**
Armenia	48	42	32	24	22	56	48	36	27	24	3.9	(98)	4.0	(05)
Azerbaijan	78	75	58	40	34	98	93	69	46	39	10.1	(98)	9.5	(06)
Georgia	41	35	31	28	27	47	40	35	32	30			2.1	(05)
Kazakhstan	51	48	38	31	28	60	56	44	35	32	8.3	(95)	4.0	(06)
Kyrgyzstan	62	52	43	36	34	74	61	50	42	38	11.0	(97)	3.4	(06)
Russian Federation	23	23	20	15	13	27	27	24	17	15	3.0	(95)		
Tajikistan	91	89	75	62	57	117	114	94	74	67			17.4	(05)
Turkmenistan	81	70	59	49	45	99	87	71	55	50			11.0	(05)
Uzbekistan	61	57	53	40	35	74	68	62	46	41	18.6	(96)	5.1	(06)
Pacific	**30**	**27**	**26**	**24**	**23**	**39**	**36**	**34**	**31**	**30**				
American Samoa														
Australia	8	6	5	5	5	9	7	6	6	6				
Cook Islands	26	24	20	17	16	32	29	24	20	18	10.0	(97)		
Fiji	19	17	16	16	16	22	19	18	18	18	7.9	(93)		
French Polynesia														
Guam														
Kiribati	65	57	52	48	46	88	77	70	65	63			13.0	(99)
Marshall Islands	63	59	55	51	49	92	81	68	58	54				
Micronesia (F.S.)	45	41	38	34	33	58	52	47	42	40	15.0	(87)		
Nauru		25	25	25	25		30	30	30	30				
New Caledonia														
New Zealand	9	7	6	5	5	11	9	7	6	6				
Niue														
Northern Mariana Islands														
Palau	18	15	13	10	9	21	18	14	11	10				
Papua New Guinea	69	62	57	52	50	94	84	76	68	65				
Samoa	40	33	28	24	22	50	41	34	29	27				
Solomon Islands	86	75	65	56	53	121	103	88	75	70				
Tonga	26	24	22	20	19	32	29	26	24	23				
Tuvalu	42	38	35	31	30	53	47	42	38	37				
Vanuatu	48	40	38	31	28	62	50	48	38	34				
Asia and the Pacific	**63**	**58**	**51**	**44**	**41**	**86**	**78**	**68**	**57**	**53**	**36.1**	**(90)**	**27.9**	**(07)**
LLDC	95	94	91	84	82	133	133	129	121	118	31.9	(92)	25.7	(06)
LDC	108	95	83	75	73	156	137	118	106	103	56.9	(90)	42.0	(07)
ASEAN	53	44	35	29	27	77	59	47	37	34	37.6	(90)	23.3	(06)
ECO	87	81	76	69	67	114	107	99	91	87	31.0	(91)	23.6	(06)
SAARC	89	80	71	63	59	125	111	97	83	79	52.7	(91)	44.0	(07)
Central Asia	64	60	52	41	37	78	73	62	47	42	14.8	(95)	7.0	(06)
Pacific island dev. econ	63	57	52	48	45	85	76	69	62	60				
Low income	88	79	70	62	60	125	112	98	86	83	55.0	(90)	34.5	(07)
Middle income	61	57	50	42	39	83	76	66	54	50	33.5	(90)	27.0	(07)
High income	6	5	4	4	4	7	6	5	5	5				
Africa	**101**	**98**	**91**	**84**	**81**	**167**	**163**	**150**	**137**	**132**	**28.4**	**(90)**	**25.4**	**(08)**
Europe	**11**	**9**	**7**	**6**	**6**	**14**	**11**	**9**	**7**	**6**				
Latin America and Carib.	**43**	**35**	**28**	**23**	**21**	**54**	**43**	**34**	**26**	**24**	**10.7**	**(90)**	**5.9**	**(06)**
North America	**9**	**8**	**7**	**7**	**7**	**11**	**10**	**8**	**8**	**8**	**1.4**	**(91)**	**1.6**	**(02)**
Other countries/areas	**46**	**41**	**36**	**32**	**30**	**60**	**54**	**46**	**40**	**38**	**17.5**	**(90)**	**18.9**	**(06)**
World	**64**	**61**	**55**	**49**	**47**	**93**	**88**	**80**	**71**	**68**	**30.6**	**(90)**	**23.7**	**(08)**

4.2 Child immunization, one-year-olds

	Immunized against measles										Immunized against DPT3				
	Total					Poorest quintile		Richest quintile							
	Percentage					Percentage		Percentage			Percentage				
	1990	1995	2000	2005	2007	Earliest	Latest	Earliest	Latest		1990	1995	2000	2005	2007
East and North-East Asia	**97**	**81**	**86**	**87**	**94**						**96**	**80**	**85**	**88**	**93**
China	98	80	85	86	94						97	80	85	87	93
DPR Korea	98	67	78	96	99						98	64	56	79	92
Hong Kong, China															
Japan	73	93	96	99	98						90	74	85	99	98
Macao, China															
Mongolia	92	85	92	97	98						84	88	95	99	95
Republic of Korea	93	93	95	99	92						74	99	97	96	91
South-East Asia	**70**	**75**	**80**	**84**	**84**						**75**	**77**	**81**	**81**	**84**
Brunei Darussalam	99	99	99	97	97						93	99	99	99	99
Cambodia	34	62	65	79	79		70 (05)		82 (05)		38	39	50	82	82
Indonesia	58	63	72	78	80		80 (03)		85 (03)		60	69	75	70	75
Lao PDR	32	68	42	41	40						18	54	53	49	50
Malaysia	70	86	88	90	90						90	94	95	95	96
Myanmar	68	82	84	72	81						88	84	82	73	86
Philippines	85	72	80	92	92		70 (03)		89 (03)		88	70	80	88	87
Singapore	84	97	96	96	95						85	98	98	96	96
Thailand	80	91	94	96	96						92	96	97	98	98
Timor-Leste				48	63									55	70
Viet Nam	88	95	97	95	83		64 (02)		98 (02)		88	93	96	96	92
South and South-West Asia	**58**	**70**	**59**	**70**	**73**						**69**	**69**	**62**	**65**	**71**
Afghanistan	20	41	35	64	70						25	20	31	76	83
Bangladesh	65	79	76	88	88		60 (04)		91 (04)		69	69	83	88	90
Bhutan	93	85	76	93	95						96	87	92	95	95
India	56	72	54	64	67		40 (06)		85 (06)		70	71	56	55	62
Iran (Islamic Rep. of)	85	95	99	94	97						91	98	99	95	99
Maldives	96	96	99	97	97						94	94	97	98	98
Nepal	57	56	71	74	81		73 (05)		95 (06)		43	54	72	75	82
Pakistan	50	47	56	78	80	28 (91)		75 (91)			54	58	61	80	83
Sri Lanka	80	87	99	99	98						86	93	99	99	98
Turkey	78	65	86	91	96						84	67	85	90	96
North and Central Asia		**87**	**96**	**98**	**98**							**84**	**96**	**97**	**96**
Armenia		96	92	94	92		72 (05)		61 (05)			98	93	90	88
Azerbaijan		97	99	98	97							96	99	93	95
Georgia		61	73	92	97							79	80	64	98
Kazakhstan		95	99	99	99		74 (99)		76 (99)			93	97	98	93
Kyrgyzstan		97	98	99	99	82 (97)		81 (97)				93	99	98	94
Russian Federation		85	97	99	99							78	97	98	98
Tajikistan		70	67	86	85							80	83	85	86
Turkmenistan		92	97	99	99		91 (00)		80 (00)			93	97	99	98
Uzbekistan		91	99	99	99							89	96	99	96
Pacific	**80**	**72**	**80**	**79**	**78**						**86**	**79**	**79**	**80**	**80**
American Samoa															
Australia	86	87	91	94	94						95	86	90	92	92
Cook Islands	67	96	76	99	98						93	93	97	99	99
Fiji	84	94	85	70	81						97	97	89	75	83
French Polynesia															
Guam															
Kiribati	75	47	80	85	93						97	60	90	79	94
Marshall Islands	52	57	94	86	94						92	70	39	77	93
Micronesia (F.S.)	81	90	85	96	92						85	83	85	94	79
Nauru			8	80	99						74	56	44	80	99
New Caledonia															
New Zealand	90	84	85	82	79						90	89	90	89	88
Niue	99	34	99	99	99						99	99	99	85	99
Northern Mariana Islands															
Palau	98	99	83	98	91						99	99	96	98	94
Papua New Guinea	67	42	62	60	58						68	62	59	61	60
Samoa	89	96	93	57	63						90	94	99	64	71
Solomon Islands	70	68	87	70	78						77	69	82	78	79
Tonga	86	94	95	99	99						94	95	95	99	99
Tuvalu	95	94	81	62	95						99	87	82	93	97
Vanuatu	66	60	94	70	65						76	73	90	66	76
Asia and the Pacific	**73**	**74**	**71**	**78**	**81**						**80**	**74**	**73**	**75**	**80**
LLDC	63	69	69	79	82						37	65	70	83	86
LDC	58	71	69	78	81						63	62	73	81	86
ASEAN	70	75	80	84	84						75	77	81	81	84
ECO	64	63	69	83	85						66	68	72	85	88
SAARC	56	69	57	69	71						67	68	60	63	69
Central Asia		89	96	97	97							90	94	96	94
Pacific island dev. econ.	70	51	68	62	62						73	68	65	64	64
Low income	67	76	76	83	84						70	70	78	85	88
Middle income	74	73	69	76	81						81	74	71	73	78
High income	81	92	95	98	95						86	84	89	97	95
Africa	**60**	**58**	**59**	**71**	**75**						**62**	**57**	**58**	**74**	**76**
Europe	**83**	**87**	**90**	**91**	**92**						**88**	**92**	**94**	**95**	**96**
Latin America and Carib.	**76**	**86**	**92**	**93**	**93**						**68**	**84**	**88**	**91**	**91**
North America	**90**	**89**	**91**	**93**	**93**						**90**	**95**	**94**	**96**	**96**
Other countries/areas	**79**	**79**	**87**	**84**	**84**						**87**	**78**	**86**	**85**	**85**
World	**72**	**73**	**71**	**78**	**81**						**76**	**74**	**73**	**78**	**81**

5 Maternal and reproductive health

In many Asia-Pacific countries, maternal mortality remains a very serious concern especially in South and South-West Asia which has very high maternal mortality ratios – and is responsible for one-third of the world's maternal deaths.

The maternal mortality ratio (MMR) is the number of maternal deaths per 100,000 live births. For Asia and the Pacific as a whole, the MMR in 2005 was 313, which was three quarters of the world average of 399 – over twice as high as in Latin America and the Caribbean at 134, but less than the ratio for Africa at 812.

Maternal mortality was highest in the poorest countries: while in the region's high-income economies as a group the MMR was only 8 per 100,000 live births; in the low-income economies the average was 604. The middle income economies were positioned roughly halfway between, at 277. The situation was especially severe in landlocked developing countries, with an average MMR of 835, higher than in Africa.

Among the subregions, the lowest MMR was in East and North-East Asia, at 48, which largely reflects China's success in reducing the ratio to 45. However in the neighbouring Democratic People's Republic of Korea the rate remained high at 370 per 100,000 live births. North and Central Asia, on the other hand, although it had a higher average, at 59 had a lower variation between countries, ranging from 27 to 170.

The most surprising result was in South-East Asia. Despite the region's successes with other health indicators, including infant and child mortality, the average MMR was high at 303. This reflects high rates in Cambodia and the Lao People's Democratic Republic – well over 500 – and also in Indonesia, where the ratio was over 400.

The highest ratios, however, and also the largest inter-country variations – were in South and South-West Asia. The average was 463, ranging from 44 in Turkey to 830 in Nepal and 1,800 in Afghanistan. Some remote regions of Afghanistan had reported MMRs of over 6,000 – ten times higher than in Kabul. The situation in the developing countries of the Pacific is more difficult to monitor, since data are scarce. Nevertheless, the available data are worrying, with estimates ranging from 210 in Fiji to 470 in Papua New Guinea.

One of the most critical interventions for reducing maternal mortality is to ensure that the mother gives birth in the presence of a skilled birth attendant. In South and South-West Asia, access to skilled birth attendants as well as to post-natal care varies considerably between urban and rural households and income groups. The same could be said for certain other countries where the MMR is very high, such as Cambodia and the Lao People's Democratic Republic. Even in the Philippines, where the MMR is not very high, there are considerable differences between different areas.

The highest levels of skilled attendance at birth – close to, or over, 90% – are in East and

Figure 5.1

Maternal mortality ratios in selected groups of Asia-Pacific countries or areas, 2005

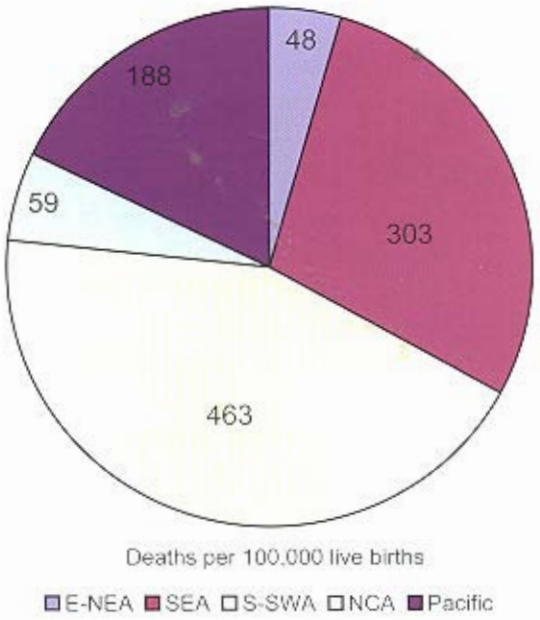
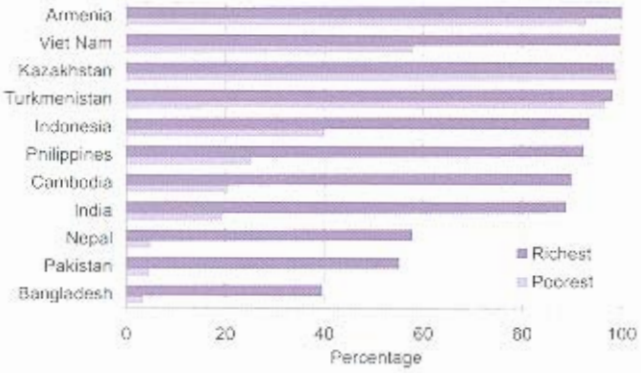


Figure 5.2

Proportion of births attended by skilled health personnel in the poorest and richest household income quintiles, 2000-2006



North-East Asia, North and Central Asia, and most of the Pacific. In the remaining subregions there are wide variations between countries. For example, in South-East Asia, over the period 2000-2006, coverage ranged from 100% in Singapore to 20% in the Lao People's Democratic Republic. In South and South-West Asia it ranged from 99% in Sri Lanka to 14% in Afghanistan.

The extent to which women have access to antenatal care is another important determinant of maternal and reproductive health, as well as of the health of the baby. Pregnant women have poor access to antenatal care in most countries of South and South-West Asia and in some countries of South-East Asia. Countries that have both high MMR figures and low rates of antenatal care – less than 50% of pregnant women making at least one visit – include Afghanistan, the Lao People's Democratic Republic and Nepal. In another group of countries Bhutan, Cambodia and India – a relatively high proportion of pregnant women, close to, or more than, 70%, make at least one antenatal care visit. Nevertheless, they still have a high maternal mortality ratio, indicating the importance not just of the availability of services but also their quality.

Maternal mortality can be reduced by offering better services for family planning. In South and South-West Asia, for example, where there is an unmet need for birth control, fertility remains high. This is also the case in Timor-Leste and some Pacific countries. Contraceptive prevalence, however, is not necessarily related to income – and can vary considerably. For example: in Japan it is 54%; in Mongolia, 66%; in Palau, 33%; in the Russian Federation, 73%; in Singapore, 62%; and Sri Lanka, 68%. By contrast, in all of these countries, 99% or more of births are attended by skilled personnel.

Another issue is the age of the mother when she first gives birth, which in South and South-West Asia is often very low. If the mother is still an adolescent this increases the mortality risks for both mother and child.

Maternal mortality ratio (number; deaths per 100,000 live births)
Number of maternal deaths per 100,000 live births during a specified time period, usually 1 year. Maternal death is the death of a woman while pregnant or within 42 days after termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. **Aggregates:** Calculated by ESCAP as the sum of individual country values (number of maternal deaths) and using the number of births (from the World Population Prospects: The 2008 Revision Population Database) as weight for the maternal mortality ratio (per 100,000 live births). **Source:** Calculated by ESCAP using the data from United Nations Millennium Development Goals Indicators (number of maternal deaths) and United Nations Millennium Development Goals Indicators (per 100,000 live births). Online database accessed on 4 August 2008 – No data updates since Statistical Yearbook 2008 Edition.

Proportion of births attended by skilled health personnel (percentage)
Percentage of births attended by skilled health personnel (doctors, nurses or midwives) is the percentage of deliveries attended by personnel trained in providing life saving obstetric care, including giving the necessary supervision, care and advice to women during pregnancy, labour and the post-partum period; to conduct deliveries on their own; and to care for newborns. Traditional birth attendants, even if they receive a short training course, are not included. **Aggregates:** Calculated by ESCAP using the number of live births (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 5 August 2009.

Proportion of births attended by skilled health personnel: poorest and richest quintiles (percentage)
See ***proportion of births attended by skilled health personnel.*** Data are disaggregated for the poorest and richest quintiles **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 25 August 2009.

Proportion of births attended by skilled health personnel, rural and urban (percentage)
See ***proportion of births attended by skilled health personnel.*** Data are disaggregated for rural and urban areas. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 24 August 2009.

Contraceptive prevalence rate (percentage)
Contraceptive prevalence rate is the proportion of women currently using, or whose sexual partner is using, a method of contraception among women of reproductive age (usually aged 15-49) who are married or in union. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 6 August 2009.

Pregnant women receiving antenatal care coverage, at least four visits (percentage)
Antenatal care coverage (at least four visits) is the percentage of women aged 15-49 with a live birth in a given time period that received antenatal care four or more times with ANY provider (whether skilled or unskilled), as a percentage of women age 15-49 years with a live birth in a given time period. **Aggregates:** Calculated by ESCAP using the number of live births (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 6 August 2009.

Pregnant women receiving antenatal care coverage, at least one visit (MDG 5.B)
Antenatal care coverage (at least one visit) is the percentage of women aged 15-49 with a live birth in a given time period that received antenatal care provided by skilled health personnel (doctors, nurses, or midwives) at least once during pregnancy, as a percentage of women age 15-49 years with a live birth in a given time period. A skilled health worker/attendant is an accredited health professional - such as a midwife, doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns. Both trained and untrained traditional birth attendants (TBA) are excluded. **Aggregates:** Calculated by ESCAP using the number of live births (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 6 August 2009.

5.1 Maternal mortality and antenatal care

	Maternal mortality		Proportions of births attended by skilled health personnel							
	Number	Deaths per 100,000 live births	Total		Poorest quintile	Richest quintile	Rural	Urban
					Percentage			
	2005	2005	Earliest	Latest	Latest	Latest	Latest	Latest
East and North-East Asia	**9 149**	**48**	**94 (90)**	**98 (06)**				
China	7 786	45	94 (90)	96 (06)				
DPR Korea	1 209	370	98 (90)	97 (04)				
Hong Kong, China								
Japan	66	6	100 (90)					
Macao, China								
Mongolia	22	46		99 (06)				
Republic of Korea	65	14						
South-East Asia	**34 503**	**303**	**52 (90)**	**73 (07)**				
Brunei Darussalam	1	13	98 (94)	99 (99)				
Cambodia	2 014	540		44 (05)	21 (05)	90 (05)	39 (05)	70 (05)
Indonesia	18 738	420	41 (93)	73 (07)	40 (03)	94 (03)	55 (03)	79 (03)
Lao PDR	1 024	660		20 (06)				
Malaysia	345	62	93 (90)	98 (05)				
Myanmar	3 428	380	46 (91)	57 (01)				
Philippines	5 266	230	53 (93)	60 (03)	25 (03)	92 (03)	41 (03)	79 (03)
Singapore	5	14		100 (98)				
Thailand	1 034	110		97 (06)				
Timor-Leste	167	380		18 (03)				
Viet Nam	2 480	150		88 (06)	58 (02)	100 (02)	82 (02)	99 (02)
South and South-West Asia	**190 816**	**463**	**32 (91)**	**47 (07)**				
Afghanistan	22 160	1 800		14 (03)				
Bangladesh	22 966	570	10 (94)	18 (07)	3 (04)	40 (04)	9 (04)	30 (04)
Bhutan	55	440	15 (94)	56 (03)				
India	122 686	450	34 (93)	47 (06)	19 (06)	89 (06)	38 (06)	74 (06)
Iran (Islamic Rep. of)	1 917	140		97 (05)				
Maldives	8	120	90 (94)	84 (04)				
Nepal	6 527	830	7 (91)	19 (06)	5 (06)	58 (06)	19 (06)	52 (06)
Pakistan	13 699	320	19 (91)	39 (07)	5 (91)	55 (91)	8 (91)	42 (91)
Sri Lanka	173	58	94 (93)	99 (07)				
Turkey	605	44	76 (93)	83 (03)			69 (03)	90 (03)
North and Central Asia	**1 739**	**59**	**95 (90)**	**98 (06)**				
Armenia	27	76		98 (05)	93 (05)	100 (05)	98 (05)	99 (05)
Azerbaijan	103	82		88 (06)				
Georgia	32	66	97 (90)	96 (05)				
Kazakhstan	390	140	100 (95)	100 (06)	99 (99)	99 (99)	100 (99)	98 (99)
Kyrgyzstan	160	150		98 (05)	96 (97)	100 (97)	98 (97)	99 (97)
Russian Federation	418	28	99 (90)	100 (06)				
Tajikistan	315	170	79 (96)	83 (05)				
Turkmenistan	140	130	96 (96)	100 (06)	97 (00)	98 (00)	97 (00)	98 (00)
Uzbekistan	148	24	98 (96)	100 (06)				
Pacific	**992**	**188**	**90 (90)**	**76 (02)**				
American Samoa								
Australia	10	4	100 (91)	100 (99)				
Cook Islands			99 (91)	98 (01)				
Fiji	38	210		99 (00)				
French Polynesia								
Guam								
Kiribati			72 (94)	85 (98)				
Marshall Islands				95 (98)				
Micronesia (F.S.)				88 (01)				
Nauru								
New Caledonia								
New Zealand	5	9	95 (94)					
Niue			99 (90)	100 (02)				
Northern Mariana Islands								
Palau			99 (90)	100 (02)				
Papua New Guinea	905	470	53 (96)	41 (00)				
Samoa			76 (90)	100 (98)				
Solomon Islands	33	220	85 (94)	85 (99)				
Tonga			92 (91)	95 (00)				
Tuvalu			100 (90)	100 (02)				
Vanuatu			87 (94)	88 (99)				
Asia and the Pacific	**237 199**	**313**	**57 (90)**	**66 (07)**				
LLDC	31 097	835	52 (91)	60 (06)				
LDC	58 403	773	14 (90)	27 (07)				
ASEAN	34 337	303	52 (93)	74 (07)				
ECO	39 663	398	46 (91)	58 (07)				
SAARC	188 294	489	28 (91)	43 (07)				
Central Asia	1 321	91	90 (90)	96 (06)				
Pacific island dev. econ	977	434	76 (90)	47 (02)				
Low income	62 457	604	33 (90)	45 (07)				
Middle income	174 589	277	60 (90)	69 (07)				
High income	153	8	100 (90)	100 (99)				
Africa	**282 428**	**812**	**38 (90)**	**51 (08)**				
Europe	**520**	**8**	**99 (90)**					
Latin America and Carib.	**15 301**	**134**	**75 (90)**	**90 (08)**				
North America	**487**	**11**	**99 (95)**	**99 (01)**				
Other countries/areas	**7 408**	**213**	**56 (90)**	**79 (07)**				
World	**543 342**	**406**	**58 (90)**	**66 (08)**				

5.2 Reproductive health

	Contraceptive prevalence rate				Pregnant women receiving antenatal care coverage							
					Four visits				One visit			
	Percentage				Percentage				Percentage			
	Earliest		Latest		Earliest		Latest		Earliest		Latest	
East and North-East Asia									**78.7**	**(95)**	**89.7**	**(06)**
China	85	(92)	87	(01)					78.7	(95)	89.7	(05)
DPR Korea	62	(92)	69	(02)								
Hong Kong, China	86	(92)	84	(02)								
Japan	58	(90)	54	(05)								
Macao, China												
Mongolia	57	(94)	66	(05)							98.9	(08)
Republic of Korea	79	(91)	80	(05)								
South-East Asia							**66.4**	**(05)**	**65.7**	**(91)**	**88.9**	**(07)**
Brunei Darussalam									100.0	(94)		
Cambodia	13	(95)	40	(05)			27.0	(05)			69.3	(05)
Indonesia	50	(91)	61	(07)			81.0	(02)	76.2	(91)	93.3	(07)
Lao PDR	19	(93)	32	(00)							35.1	(06)
Malaysia	55	(94)									78.6	(05)
Myanmar	17	(91)	37	(01)							75.6	(01)
Philippines	40	(93)	51	(06)			70.4	(03)	83.1	(93)	87.6	(03)
Singapore	65	(92)										
Thailand	74	(83)	81	(06)					85.9	(96)	97.8	(06)
Timor-Leste	25	(91)	10	(03)			29.6	(03)			60.5	(03)
Viet Nam	65	(94)	79	(07)			29.3	(02)			90.6	(06)
South and South-West Asia							**46.3**	**(07)**	**41.6**	**(91)**	**69.3**	**(07)**
Afghanistan			19	(06)							16.1	(03)
Bangladesh	40	(91)	56	(07)			20.6	(07)	25.7	(94)	51.2	(07)
Bhutan	19	(94)	31	(00)							88.0	(07)
India	41	(93)	56	(06)			50.7	(06)	49.1	(93)	74.2	(06)
Iran (Islamic Rep. of)	65	(82)	73	(02)			94.3	(05)				
Maldives	23	(91)	39	(04)							81.0	(01)
Nepal	23	(91)	48	(06)			29.4	(06)	15.4	(91)	43.7	(05)
Pakistan	12	(91)	30	(07)	14.2	(91)	28.4	(07)	25.6	(91)	60.9	(07)
Sri Lanka	66	(93)	68	(07)					80.2	(93)	99.4	(07)
Turkey	63	(93)	71	(03)			53.9	(03)	62.3	(93)	80.9	(03)
North and Central Asia												
Armenia	50	(91)	53	(05)			70.9	(05)			93.0	(05)
Azerbaijan			51	(06)			45.2	(06)			76.6	(06)
Georgia			47	(05)			75.0	(05)			94.3	(05)
Kazakhstan	59	(95)	51	(06)			70.0	(99)	92.5	(95)	99.9	(06)
Kyrgyzstan			48	(06)							96.9	(06)
Russian Federation	63	(93)	73	(99)								
Tajikistan			38	(05)							77.1	(05)
Turkmenistan			62	(00)			82.8	(00)			99.1	(06)
Uzbekistan	56	(96)	65	(06)	78.5	(96)			94.9	(96)	99.0	(05)
Pacific									**91.9**	**(91)**		
American Samoa												
Australia	67	(95)	71	(02)					100.0	(91)		
Cook Islands	63	(96)	43	(99)								
Fiji												
French Polynesia												
Guam			67	(02)								
Kiribati			36	(00)					88.0	(94)		
Marshall Islands												
Micronesia (F.S.)												
Nauru			36	(07)								
New Caledonia												
New Zealand	74	(95)							95.0	(94)		
Niue												
Northern Mariana Islands												
Palau			33	(03)								
Papua New Guinea	26	(96)							77.5	(96)		
Samoa			25	(96)								
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu	39	(95)										
Asia and the Pacific									**58.1**	**(91)**	**78.6**	**(07)**
LLDC									62.1	(91)	83.0	(07)
LDC							20.1	(05)	32.5	(91)	47.5	(07)
ASEAN							66.6	(05)	65.6	(91)	89.1	(07)
ECO					44.7	(91)	48.0	(07)	51.5	(91)	64.5	(07)
SAARC					40.7	(91)	44.2	(07)	39.4	(91)	68.5	(07)
Central Asia					70.8	(96)	72.8	(06)	86.6	(95)	93.8	(06)
Pacific island dev. econ.									77.5	(94)		
Low income					23.0	(96)	29.6	(07)	39.8	(91)	59.0	(07)
Middle income							53.8	(07)	80.6	(91)	81.4	(07)
High income												
Africa					41.8	(95)	42.9	(08)	55.2	(90)	72.3	(08)
Europe												
Latin America and Carib.									75.2	(90)	93.3	(08)
North America												
Other countries/areas									61.8	(90)	79.0	(07)
World									59.0	(90)	78.7	(08)

6 Gender equality

Gender equality is crucial for equitable and sustainable development. The 2009 Bangkok Declaration for Beijing +15 affirms that "gender equality and the promotion and protection of the full enjoyment of all human rights and fundamental freedoms for all are essential to advance development, peace and security."

This chapter cross-references gender data from other chapters, highlighting progress and concerns brought to the fore by the 2009 Bangkok Declaration adapted by the *2009 Asia-Pacific High-level Intergovernmental Meeting to Review Regional Implementation of the Beijing Platform for Action and Its Regional and Global Outcomes.*

Demographics

In Asia and the Pacific, in 2008, the aggregate female:male sex ratio approached natural gender parity – with 96 females for every 100 males. However, some subregions have overrepresentation of either sex. In South and South-West Asia, for example, several countries have ratios considerably below 100, while, in North and Central Asia, most countries have ratios above 100. In East and North-East Asia nearly all countries and areas have more women than men; the main exception is China where men outnumber women.

The sex ratio can deviate from a near-equal distribution for a number of reasons; the balance may be disturbed by a lower life-expectancy of one sex over the other, by disproportionate in- or out-migration, or by an unusually low proportion of female births. For example, the low sex ratios in South and South-West Asia result from either lower sex ratios at birth or from mortality rates that do not favour females. In North and Central Asia, on the other hand, the high sex ratios reflect higher female life expectancies. In 2008, countries with particularly low numbers of females per 100 males aged 0-14 years include Armenia, Azerbaijan, China and Georgia.

Significant shifts in fertility and mortality patterns have affected female and male populations in different ways. As populations age, for example, they tend to have more women in the senior age cohorts, raising important social policy concerns for the coming decades.

Health

Maternal mortality remains a very serious concern in Asia and the Pacific – especially in South and South-West Asia, which has one third of the world's maternal deaths. The risks of dying from childbirth vary enormously from one country to another. In 2005, maternal mortality ratios (MMRs) ranged from 4 in Australia to 1,800 in Afghanistan.

Some of the most effective ways of reducing maternal mortality are through interventions targeting the poor, including enhancing family planning and increasing the number and quality of skilled birth attendants. In South and South-West Asia, access to skilled birth attendance and as well as post-natal care varies considerably between urban and rural households and income groups. The same can be said for certain other countries where the MMR is very high, such as Cambodia and The Lao People's Democratic Republic. In Cambodia in 2005, 39% of rural women had births attended by skilled health workers, compared with 70% of women in urban areas. Even in the Philippines, where the MMR is not very high, there are considerable differences between different areas.

The women least likely to have births attended by skilled personnel are generally the poorest. In Nepal in 2006, for example, among the poorest quintile of the population, only 5% of births were attended by skilled personnel, while for the richest quintile the proportion was 58%. Similarly, in India in 2006, the proportion of births attended by skilled personnel was 19% in the poorest quintile, compared with 89% in the richest quintile.

Education

For the 30 countries in the Asia-Pacific region for which data are available for the 2005-2007 period, two-thirds of the countries have achieved gender parity in primary education. For the 9 countries where there are still disparities between the sexes, 7 of them show disparities in favour of boys. In Afghanistan, only 6 girls of primary-school age are enrolled in primary school for every 10 boys of the same age group.

There have also been major achievements in gender equality in secondary education. In 2007, in Mongolia, the Philippines, Thailand, Nauru and Fiji the gender parity ratios – the ratios of females to males – ranged from 1.10 to 1.19. On the other hand, there have been setbacks for girls in some of the transition economies. For example, between 1999 and 2007, the gender parity ratio for secondary education in Azerbaijan fell from 1.01 to 0.96. Some countries had low ratios in secondary schools: Afghanistan (0.38), Pakistan (0.76), Turkey (0.82), Cambodia (0.82), and Tajikistan (0.84). It should be noted, however, that even among those countries with weaker ratios, there has been steady progress in the past decade. Cambodia, for example, has experienced a rise in its secondary school gender parity ratio, from 0.43 in 1991 to 0.82 in 2007.

At the tertiary level, however, equal access to education is still not achieved in some countries. In 2007, among the countries for which data were available, the following countries had gender parity ratios for tertiary level enrolment of less than 0.70 – Tajikistan (0.38), Bhutan (0.51), Cambodia (0.56), Bangladesh (0.57), and Republic of Korea (0.67).

On the other hand, 2007 data show that in a number of countries women in tertiary education substantially outnumber men. In Brunei Darussalam, for example, the ratio was 1.88. Women also substantially outnumbered men in a number of other countries: Mongolia (1.56), New Zealand (1.49), Kazakhstan (1.44), Russian Federation (1.35), Kyrgyzstan (1.30), Australia (1.29), Thailand (1.23) and Armenia (1.20).

One of the key measures for educational attainment is school life expectancy (SLE). In 2007, the Asia-Pacific region had an average SLE of 11.0 years for males, and 10.4 for females, indicating that most young people were not reaching the tertiary level. SLEs show considerable variation between income groups. In 2007 the SLE for girls was 9.0 years in the low-income economies but 15.8 years in the high-income economies.

One of the consequences of better education for women has been higher levels of literacy. In 2007, in East and North-East Asia, South-East Asia and North and Central Asia, literacy rates were at parity or approaching parity – though women were less literate than men in South and South-West Asia, where India and Nepal had gender parity ratios lower than 0.90.

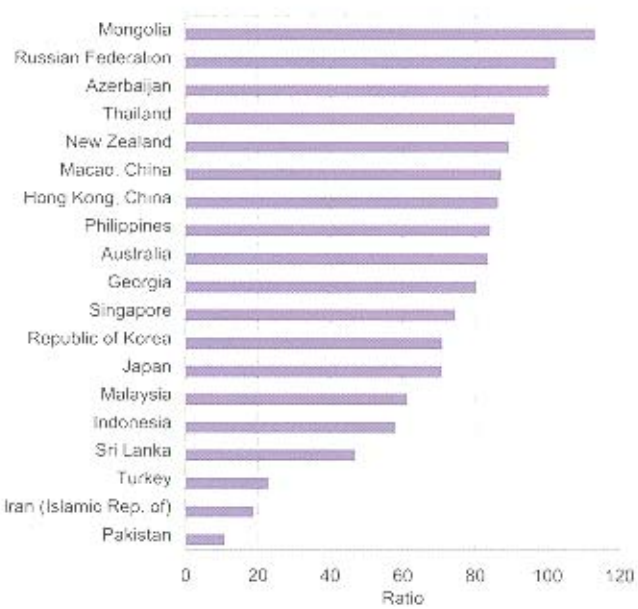
Employment

The 2009 Bangkok Declaration expressed concern that "while the region has established itself as an economic powerhouse and experienced rapid economic growth, inequalities have grown in many countries and women have disproportionate representation among the poor".

Advances in education for girls and women have not necessarily been translated into greater economic opportunities. Women of working age are less likely to be employed than their male counterparts. This is especially so in the South and South-West Asia sub-region where in 2008 only 33 % of working-age women worked, compared with 77 % of men. When women work, they usually have fewer opportunities than men to work in the industry and services sectors. This is particularly true in Pakistan, the Islamic Republic of Iran and Turkey, where less than a quarter of the workers in non-agricultural employment are women.

Figure 6.1

Women to men ratio in non-agricultural employment in Asia and the Pacific, 2007

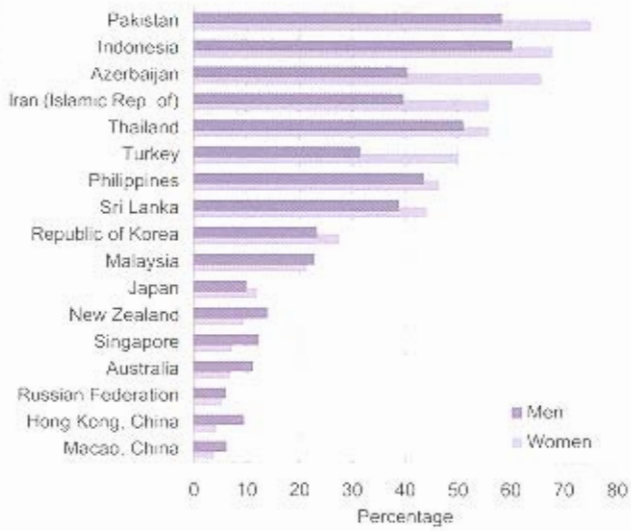


Most employed people in Asia and the Pacific are own-account or contributing family workers.

These workers are often in "vulnerable employment", which means they earn low incomes and lack social protection. Except in the region's more developed countries, women workers are more likely than men to be in vulnerable employment.

Figure 6.2

Percentage of employed persons in vulnerable employment in Asia and the Pacific, 2007



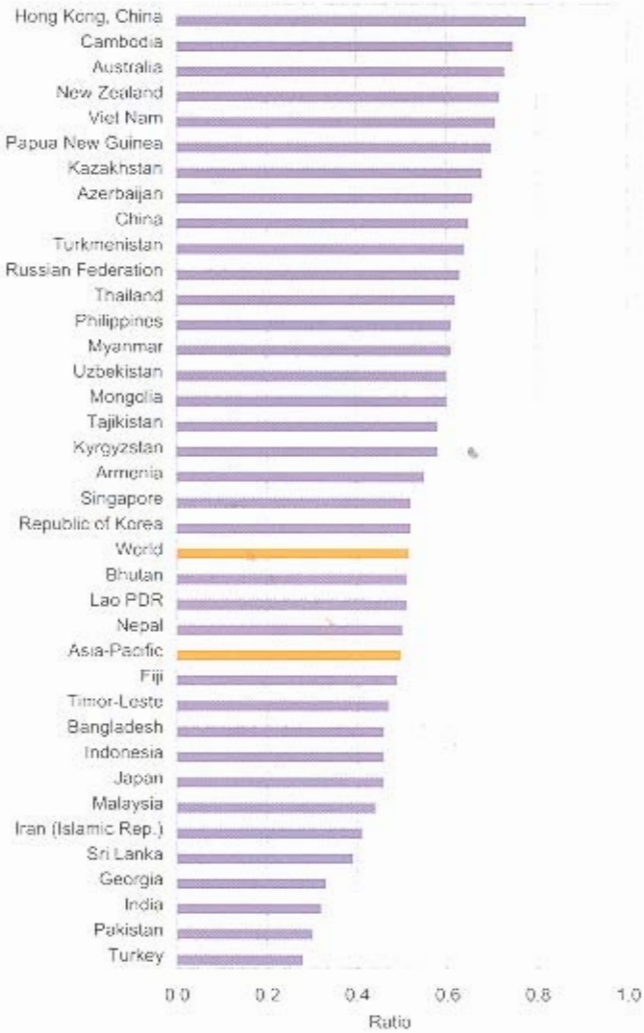
Women are paid considerably less than men. According to the OECD in 2006, women earn 50% of what men earn for the same work. The gap was smallest in Hong Kong, China (where women's earnings were 78% of those of men) and Cambodia (75%). The greatest disparity in wages was in the South and South-West Asia subregion, where the average was 34%. In the following four countries, women also earned considerably less than men: Turkey (28%), Pakistan (30%), India (32%) and Georgia (33%).

Women's reproductive work

Most of the sex-disaggregated data on the economic activities of men and women concerns paid work and those productive activities which contribute to a country's GDP. However, this misses out a large part of women's work which is devoted to "reproductive" tasks – such as securing and cooking food, collecting fuel and water and caring for children, older persons, sick persons and persons with disabilities. The 2009 Bangkok Declaration expressed concern that "women continue to bear major responsibility for unpaid work, particularly care-giving work and this contributed to weaker labour market attachment for women, weaker access to social security benefits and less time for education/training, leisure and self-care and political activities".

Figure 6.3

Female-to-male earned income ratio in Asia and the Pacific, 2006



Women's representation in politics

It has become a global consensus that a "critical mass" of 30 per cent female representation in key decision-making positions is needed for women to bring about significant and meaningful change. According to the Inter-Parliamentary Union, however, women are still underrepresented and in almost every country, national and local politics are dominated by men. Nevertheless, there has been some progress. Two countries in the region have at least 30% women in the lower or upper house of the national parliament – Nepal and New Zealand. And to ensure representation, a number of countries have reserved seats for women in legislative bodies.

Still, many countries in the region are far from the target. In the 47 lower- or single-chamber parliaments for which data were available for 2009, women held on average just 12.8% of the seats. Of the 46 countries in Asia and the Pacific for which data were available, women representatives

comprised less than 10% in 21 countries: Armenia, Georgia, Kiribati, India, the Islamic Republic of Iran, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Tonga, Turkey, Tuvalu and Vanuatu. Five of the 12 Pacific countries for which data were available had no women members of parliament at all.

Violence against women

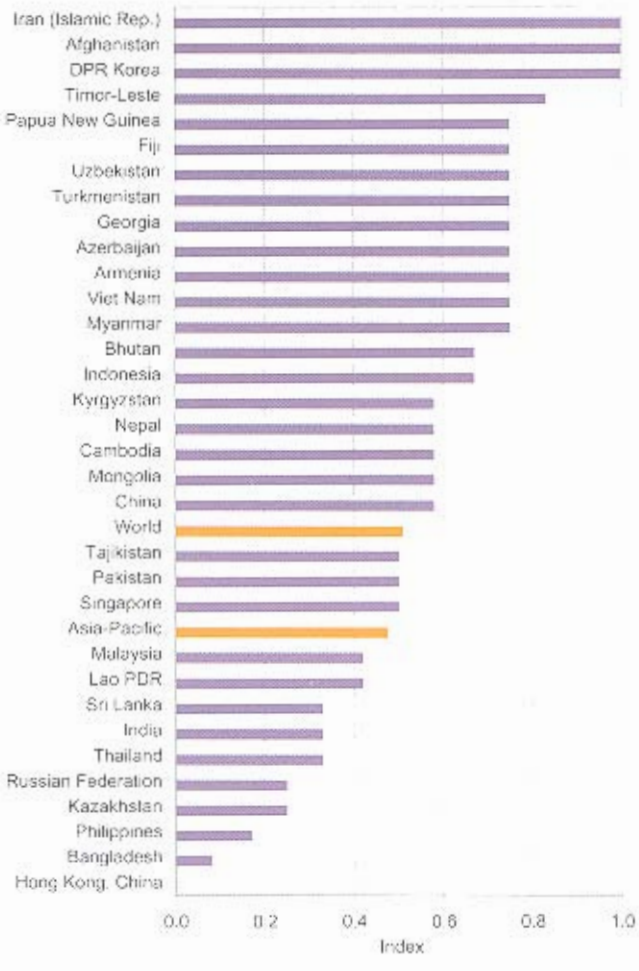
One of the most widespread violations of human rights is violence against women and girls. Although its prevalence is difficult to measure, and there is a dearth of reliable internationally comparable statistics, studies cited by UNIFEM show that violence against women and girls is a major cause of death and disability. Violence also has many other far-reaching consequences, harming families and communities – as well as hampering productivity, reducing human capital and undermining economic growth. A 2005 WHO multi-country study on women's health and domestic violence showed that violence against women was widespread and demanded a public health response.

CEDAW requires that countries party to the Convention take all appropriate steps to end violence. Yet, the 2009 Bangkok Declaration expressed concern that "impunity – especially with regard to violence – persist in countries of the region, and enactment and implementation of domestic laws to address discrimination and violence against women should remain a priority".

The OECD index on legislation on violence against women provides an indication of the extent to which countries have instituted laws against (a) domestic violence, (b) sexual assault or rape, and (c) sexual harassment. The index values range from 0 to 1; a value close to 0 indicates that specific legislation is in place, while a value close to 1 indicates the absence of any legislation concerning violence against women. On the basis of available data, Hong Kong, China is the only economy with full legislation for all three areas of gender-based violence while DPR Korea, the Islamic Republic of Iran, and Afghanistan have no legislation in place. Countries where some legislation is being planned, drafted or reviewed are: Myanmar, Viet Nam, Armenia, Azerbaijan, Georgia, Turkmenistan, Uzbekistan, Fiji, and Papua New Guinea.

Figure 6.4

Index of legislation on the violence against women, 2009



Seats held by women in national parliament (percentage of women; number of seats)
This indicator shows the percentage of seats held by women members in single or lower chambers of national parliaments. National parliaments: can be bicameral or unicameral. This indicator covers the single chamber in unicameral parliaments and the lower chamber in bicameral parliaments. It does not cover the upper chamber of bicameral parliaments. Seats are usually won by members in general parliamentary elections. Seats may also be filled by nomination, appointment, indirect election, rotation of members and by-election. Number of seats: The total number of seats in single or lower house national parliaments. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 11 August 2009.

Seats held by women in the upper house or senate (percentage of women; number of seats)
The proportion of seats held by women in the upper house or senate is the number of seats held by women members in the senate or the upper chambers of national parliaments, expressed as a percentage of all occupied seats of the senate or upper chamber/house of the bicameral parliaments. Number of seats: the total number of seats in the senate or the upper chamber/house of bicameral parliaments. **Source:** Inter-Parliamentary Union, Women in National Parliaments. Online database accessed on 14 October 2009.

Women to men ratio in employment (percentage)
The number of employed women divided by the number of employed men, expressed as a percentage. **Aggregates:** Calculated by ESCAP as a ratio of the total number of employed women and the total number of empoyed men in the subregion/country grouping. **Source:** Calculated by ESCAP using data from the International Labour Organization, Key Indicators of the Labour Market, Sixth Edition. Online database accessed on 14 September 2009.

Women to men ratio in non-agricultural employment (percentage)
The number of employed women divided by the number of employed men in sectors other than agriculture, expressed as a percentage. **Source:** Calculated by ESCAP using data from the International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Women to men employers (percentage)
The number of female employers divided by the number the male employers, expressed as a percentage. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment by sector: Agriculture, female and male (percentage)
The proportion of employment in agriculture, hunting, forestry and fishing of total employment, expressed as a percentage. Data are disaggregated by sex. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment by sector: Industry, female and male (percentage)
The proportion of employment in mining and quarrying, manufacturing, construction and public utilities (electricity, gas and water) of total employment, expressed as a percentage. Data are disaggregated by sex. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment by sector: Services, female and male (percentage)
The proportion of employment in wholesale and retail trade, restaurants and hotels, transport, storage and communications, finance, insurance, real estate and business services, and community, social and personal services, of total employment, expressed as a percentage. Data are disaggregated by sex. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market, Sixth Edition (online database). Online database accessed on 14 September 2009.

Employment by status: Employees, female and male (percentage)
The number of employees divided by the total employment by status, expressed as a percentage. Employees are all those workers who hold the type of job defined as "paid employment jobs". Paid employment jobs are those jobs where the incumbents hold explicit (written or oral) or implicit employment contracts which give them a basic remuneration which is not directly dependent upon the revenue of the unit for which they work (this unit can be a corporation, a non-profit institution, a government unit or a household). Some or all of the tools, capital equipment, information systems and/or premises used by the incumbents may be owned by others, and the incumbents may work under direct supervision of, or according to strict guidelines set by the owner(s) or persons in the owners' employment. (Persons in "paid employment jobs" are typically remunerated by wages and salaries, but, may be paid by commission from sales, by piece-rates, bonuses or in-kind payments such as food, housing or training.). Data are disaggregated by sex. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment by status: Employers, female and male (percentage)
The number of employers divided by the total employment by status, expressed as a percentage. Employers are those workers who, working on their own account or with one or a few partners, and that on a continuous basis (including the reference period) have engaged one or more persons to work for them in their business as "employee(s)". Data are disggregated by sex. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment by status: Own account workers, female and male (percentage)
Own-account workers are those workers who, working on their own account or with one or more partners, hold the type of job defined as "a self-employment job", and have not engaged on a continuous basis any "employees" to work for them during the reference period. Self-employment jobs are those jobs where the remuneration is directly dependent upon the profits (or the potential for profits) derived from the goods and services produced (where own consumption is considered to be part of profits). The incumbents make the operational decisions affecting the enterprise, or delegate such decisions while retaining responsibility for the welfare of the enterprise. In this context "enterprise" includes one-person operations. Data are disaggregated by sex. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment by status: Contributing family workers, female and male (percentage)
Contributing family workers are those workers who hold a "self-employment" job in a market-oriented establishment operated by a related person living in the same household, who cannot be regarded as a partner, because their degree of commitment to the operation of the establishment, in terms of working time or other factors to be determined by national circumstances, is not at a level comparable to that of the head of the establishment. Data are disaggregated by sex. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Female-to-male earned income ratio (in figure 6.3)
Female earned income divided by male earned income, estimated on the basis of data on the ratio of the female non-agricultural wage to the male non-agricultural wage, the female and male shares of the economically active population, the total female and male population and GDP per capita in purchasing power parity terms in US dollars. For detailed methodology, see Technical Note 1 in the UNDP *Human Development Report 2006*. **Source:** The Gender, Institutions and Development database. OECD Development Centre. Accessed on 3 November 2009.

Legislation against violence against women (index; in figure 6.4)
Reflects the existence of laws against (a) domestic violence, (ii) sexual assault or rape, and (iii) sexual harassment as follows: 0 if specific legislation is in place, 0.25 if legislation is in place but of general nature, 0.5 if specific legislation is being planned, drafted or reviewed, and 0.75 if this planned legislation is of general nature; 1 captures the absence of any legislation concerning violence against women. The data are averaged across the three legal categories. **Source:** The Gender, Institutions and Development database. OECD Development Centre. Accessed on 3 November 2009.

6.1 Women in national parliament

	Single or lower house						Senate or upper house			
	Percentage of women				Number of Seats		Percentage of women		Number of Seats	
	1990	2000	2005	2009	Latest		Latest		Latest	
East and North-East Asia										
China	21.3	21.8	20.2	21.3	2 987	(08)				
DPR Korea	21.1	20.1	20.1	20.1	687	(09)				
Hong Kong, China										
Japan	1.4	4.6	7.1	9.4	480	(09)	18.2	(07)	242	(07)
Macao, China										
Mongolia	24.9	7.9	6.8	4.1	75	(08)				
Republic of Korea	2.0	3.7	13.0	13.7	299	(08)				
South-East Asia										
Brunei Darussalam										
Cambodia		8.2	9.8	16.3	123	(08)	14.8	(06)	61	(06)
Indonesia	12.4		11.3	11.6	560	(09)				
Lao PDR	6.3	21.2	22.9	25.2	115	(06)				
Malaysia	5.1		9.1	10.8	222	(08)	31.3	(08)	64	(08)
Myanmar										
Philippines	9.1	12.4	15.3	20.5	239	(07)	17.4	(07)	23	(07)
Singapore	4.9	4.3	16.0	24.5	94	(06)				
Thailand	2.8	5.6	6.8	11.7	480	(07)	16.0	(08)	150	(08)
Timor-Leste			25.3	29.2	65	(07)				
Viet Nam	17.7	26.0	27.3	25.8	493	(07)				
South and South-West Asia										
Afghanistan	3.7			27.7	242	(05)	21.6	(05)	102	(05)
Bangladesh	10.3	9.1	2.0	6.3	345	(08)				
Bhutan	2.0	2.0	9.3	8.5	47	(08)	24.0	(07)	25	(07)
India	5.0	9.0	8.3	9.1	543	(09)	9.5	(08)	243	(08)
Iran (Islamic Rep. of)	1.5	4.9	4.1	2.8	290	(08)				
Maldives	6.3		12.0	12.0	77	(09)				
Nepal	6.1	5.9		33.2	594	(08)				
Pakistan	10.1		21.3	22.5	338	(08)	17.0	(09)	100	(09)
Sri Lanka	4.9	4.9	4.9	5.8	225	(04)				
Turkey	1.3	4.2	4.4	9.1	549	(07)				
North and Central Asia										
Armenia	35.6	3.1	5.3	8.4	131	(07)				
Azerbaijan		12.0	10.5	11.4	123	(05)				
Georgia		7.2	9.4	6.0	137	(08)				
Kazakhstan		10.4	10.4	15.9	107	(07)	4.3	(08)	47	(08)
Kyrgyzstan		1.4	10.0	25.6	90	(07)				
Russian Federation		7.7	9.8	14.0	450	(07)	4.7	(07)	169	(07)
Tajikistan		2.8	12.7	17.5	63	(05)	23.5	(05)	34	(05)
Turkmenistan	26.0	26.0		16.8	125	(08)				
Uzbekistan		6.8	17.5	17.5	120	(04)	15.0	(05)	100	(05)
Pacific										
American Samoa										
Australia	6.1	22.4	24.7	26.7	150	(07)	35.5	(07)	76	(07)
Cook Islands										
Fiji		11.3	8.5							
French Polynesia										
Guam										
Kiribati	0.0	4.9	4.8	4.3	46	(07)				
Marshall Islands			3.0	3.0	33	(07)				
Micronesia (F.S.)		0.0	0.0	0.0	32	(04)				
Nauru	5.6	0.0	0.0	0.0	18	(08)				
New Caledonia										
New Zealand	14.4	29.2	28.3	33.6	122	(08)				
Niue										
Northern Mariana Islands										
Palau		0.0	0.0	0.0	16	(08)	15.4	(08)	13	(08)
Papua New Guinea	0.0	1.8	0.9	0.9	109	(07)				
Samoa	0.0	8.2	6.1	8.2	49	(06)				
Solomon Islands	0.0	2.0	0.0	0.0	84	(08)				
Tonga	0.0		0.0	3.1	32	(08)				
Tuvalu	7.7	0.0	0.0	0.0	15	(06)				
Vanuatu	4.3	0.0	3.8	3.8	52	(08)				
Asia and the Pacific										
LLDC										
LDC										
ASEAN										
ECO										
SAARC										
Central Asia										
Pacific island dev. econ.										
Low income										
Middle income										
High income										
Africa										
Europe										
Latin America and Carib.										
North America										
Other countries/areas										
World										

6.2 Gender equality in the labour market

	Women to men ratio in employment				Women to men ratio in non-agricultural employment				Women to men employers			
	Percentage				Percentage				Percentage			
	1991	1995	2000	2007	1991	1995	2000	2007	1991	1995	2000	2007
East and North-East Asia	**80.8**	**81.8**	**83.2**	**84.6**								
China	82.9	84.2	85.2	86.2								
DPR Korea	69.8	70.8	74.3	80.8								
Hong Kong, China	59.2	64.1	74.7	87.2	60.1	63.6	73.0	86.4		14.8	16.8	24.1
Japan	69.1	68.1	69.0	71.7	67.4	67.1	68.4	70.8	22.1	22.9	22.1	21.3
Macao, China	69.7	76.1	86.2	90.7	69.5	76.9	89.3	87.2			13.8	25.3
Mongolia	86.6	86.5	92.3	99.5		92.1	101.8	113.1			38.9	
Republic of Korea	65.9	66.8	70.4	72.0	65.1	65.0	68.7	71.0			22.0	28.7
South-East Asia	**72.7**	**71.6**	**71.8**	**70.8**								
Brunei Darussalam	49.1	55.6	64.0	72.6	47.9				18.1			
Cambodia	108.9	106.1	101.3	94.6			98.4				11.7	
Indonesia	60.7	59.2	59.5	56.7	60.3	55.2	59.4	58.0				21.4
Lao PDR	98.9	100.2	100.9	102.8		61.1				35.0		
Malaysia	51.8	51.1	53.1	54.1	49.6	54.3	57.6	61.3	25.8	11.0	11.1	16.3
Myanmar	81.8	82.3	82.6	85.5								
Philippines	55.0	57.8	59.6	62.3	86.5	83.8	84.1	84.3			22.5	28.2
Singapore	64.1	63.1	65.7	69.7	66.3	63.6	65.2	74.7	18.4	19.2	24.5	30.0
Thailand	87.8	83.8	87.5	86.7	81.7	78.3	85.1	90.8	22.6	24.9	30.3	31.1
Timor-Leste	60.3	60.3	65.1	66.6								
Viet Nam	103.1	101.7	97.8	94.9			93.2				55.4	
South and South-West Asia	**38.8**	**39.1**	**39.2**	**40.5**								
Afghanistan	26.1	27.3	27.0	27.8								
Bangladesh	67.3	62.3	62.2	64.4	17.1		30.6				12.8	
Bhutan	26.8	22.8	26.0	46.6								
India	38.4	39.3	39.0	39.4								
Iran (Islamic Rep. of)	23.7	30.8	34.7	39.5				18.9				3.2
Maldives	23.5	32.0	44.6	57.7		46.3	44.0			14.9	12.5	
Nepal	62.0	68.0	73.0	83.1	25.8							
Pakistan	13.1	12.3	15.8	22.0	8.9	8.1	7.9	10.9		3.4	2.1	3.2
Sri Lanka	46.7	44.8	47.5	57.1		44.4		46.9			12.5	9.2
Turkey	43.2	39.9	36.2	34.5	15.1	16.9	19.9	23.0			4.0	6.5
North and Central Asia	**92.9**	**91.0**	**93.0**	**96.8**								
Armenia	74.9	80.7	86.9	88.6								
Azerbaijan	92.5	93.8	96.6	96.8			77.3	100.3				14.9
Georgia	89.2	91.6	87.8	90.4			75.2	80.3			13.6	
Kazakhstan	86.0	87.5	92.7	95.8								
Kyrgyzstan	82.3	81.0	79.2	74.2			74.7					
Russian Federation	95.5	92.3	94.4	100.0			99.9	102.4		24.0	40.3	63.9
Tajikistan	84.7	88.6	90.9	90.1								
Turkmenistan	87.1	87.3	88.9	90.1								
Uzbekistan	85.9	87.0	87.8	87.2								
Pacific	**73.3**	**76.6**	**79.9**	**83.1**								
American Samoa												
Australia	71.6	75.0	78.3	81.8	74.6	77.6	81.0	83.4	47.7	48.7	50.0	51.9
Cook Islands												
Fiji	35.0	44.6	47.2	47.8								
French Polynesia												
Guam												
Kiribati							63.3					
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	77.5	78.2	82.2	84.9	84.2	84.6	87.7	89.5	37.0	41.8	40.8	38.8
Niue												
Northern Mariana Islands							80.6					
Palau												
Papua New Guinea	85.9	89.7	92.3	94.1								
Samoa												
Solomon Islands	66.0	65.6	63.8	62.1								
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**64.9**	**64.9**	**65.0**	**65.4**								
LLDC	72.8	72.6	74.6	76.5								
LDC	69.7	66.7	67.1	69.1								
ASEAN	72.7	71.6	71.8	70.8								
ECO	33.8	33.4	34.6	37.7								
SAARC	39.2	39.4	39.5	40.8								
Central Asia	86.2	87.8	89.6	90.0								
Pacific island dev. econ.	76.9	81.4	84.2	86.0								
Low income	77.5	75.3	75.0	76.2								
Middle income	63.3	63.5	63.5	63.7								
High income	68.3	68.3	70.4	73.4								
Africa	**63.5**	**63.8**	**65.2**	**67.7**								
Europe	**74.1**	**75.9**	**77.9**	**82.0**								
Latin America and Carib.	**47.2**	**53.1**	**59.8**	**66.9**								
North America	**81.0**	**83.3**	**84.5**	**85.8**								
Other countries/areas	**30.3**	**31.9**	**32.1**	**33.9**								
World												

6.3 Employment by sector and sex

	Agriculture				Industry				Services			
	Female		Male		Female		Male		Female		Male	
	Percentage		Percentage		Percentage		Percentage		Percentage		Percentage	
	1990	2007	1990	2007	1990	2007	1990	2007	1990	2007	1990	2007
East and North-East Asia												
China												
DPR Korea												
Hong Kong, China	0.7	0.1	1.0	0.2	33.0	5.9	38.9	21.4	66.2	94.0	60.2	78.4
Japan	8.5	4.3	6.4	4.3	27.6	17.6	38.8	35.7	63.9	78.1	54.8	60.0
Macao, China	0.1	0.1	0.2	0.1	50.5	14.5	36.8	27.2	49.1	85.4	62.8	72.8
Mongolia	36.9 (93)	34.8	41.9 (93)	40.6	19.5 (93)	15.3	21.5 (93)	20.6	43.6 (93)	49.9	36.6 (93)	38.8
Republic of Korea	20.3	8.3	16.3	6.7	30.2	15.6	39.0	33.4	49.6	76.1	44.7	59.9
South-East Asia												
Brunei Darussalam	1.6 (91)	0.3 (01)	2.2 (91)	2.1 (01)	8.9 (91)	11.2 (01)	31.4 (91)	28.6 (01)	89.4 (91)	88.4 (01)	66.3 (91)	69.3 (01)
Cambodia		69.8 (01)		71.0 (01)		12.2 (01)		8.7 (01)		18.1 (01)		20.3 (01)
Indonesia	56.4	41.4	55.7	41.2	12.4	15.0	14.6	21.0	31.2	43.6	29.7	37.8
Lao PDR	89.3 (95)		81.3 (95)		2.7 (95)		4.4 (95)		7.9 (95)		14.4 (95)	
Malaysia	25.3	10.0	26.4	17.5	28.0	22.8	27.3	31.7	46.8	67.2	46.3	50.8
Myanmar												
Philippines	31.4	23.8	53.1	43.8	12.8	11.1	16.3	17.5	55.8	65.0	30.5	38.7
Singapore	0.1	0.5	0.6	1.6	34.3	17.6	40.2	26.3	65.6	81.9	59.2	72.0
Thailand	64.5	40.0	62.4	43.3	12.3	19.3	14.7	22.0	23.2	40.7	22.9	34.7
Timor-Leste												
Viet Nam	70.4 (96)	60.0 (04)	69.5 (96)	56.9 (04)	8.8 (96)	13.7 (04)	12.5 (96)	20.8 (04)	20.7 (96)	26.3 (04)	17.9 (96)	23.3 (04)
South and South-West Asia												
Afghanistan												
Bangladesh	88.7 (91)	68.1 (05)	57.0 (91)	41.8 (05)	9.1 (91)	12.5 (05)	16.5 (91)	15.1 (05)	2.2 (91)	19.4 (05)	26.5 (91)	43.0 (05)
Bhutan		62.8 (05)		32.6 (05)		5.8 (05)		23.7 (05)		31.5 (05)		43.7 (05)
India												
Iran (Islamic Rep. of)	17.2 (96)	33.1	24.4 (96)	20.5	35.5 (96)	29.1	30.7 (96)	32.7	47.1 (96)	37.8	44.9 (96)	46.8
Maldives	9.6	6.6 (06)	26.9	13.7 (06)	27.4	29.5 (06)	17.6	19.6 (06)	30.4	51.9 (06)	47.7	60.9 (06)
Nepal	91.1 (91)	73.0 (01)	76.3 (91)	61.0 (01)	1.3 (91)	13.7 (01)	3.7 (91)	13.3 (01)	7.6 (91)	13.2 (01)	19.9 (91)	25.7 (01)
Pakistan	72.4	72.4	48.4	36.4	14.1	12.6	20.6	23.1	13.6	15.0	31.0	40.5
Sri Lanka	43.9 (93)	37.5	39.0 (93)	29.7	23.2 (93)	27.5	20.2 (93)	27.5	32.7 (93)	34.9	40.6 (93)	42.7
Turkey	75.8	46.0 (08)	33.6	19.0 (08)	9.7	14.7 (08)	25.7	29.7 (08)	14.4	39.3 (08)	40.7	51.3 (08)
North and Central Asia												
Armenia		46.1 (06)		46.3 (06)		9.4 (06)		20.8 (06)		44.5 (06)		32.9 (06)
Azerbaijan		38.0		39.5		8.9		16.6		53.1		43.9
Georgia		56.7		50.6		3.8		16.5		39.5		33.0
Kazakhstan		32.0 (04)		34.9 (04)		10.4 (04)		23.9 (04)		57.6 (04)		41.1 (04)
Kyrgyzstan	47.4 (06)	35.4 (06)	46.9 (96)	36.9 (06)	10.8 (96)	10.7 (06)	17.7 (96)	25.7 (06)	41.8 (96)	53.9 (06)	35.4 (96)	37.4 (06)
Russian Federation		6.9		11.0		20.2		38.0		72.9		51.0
Tajikistan		75.4 (04)		41.9 (04)		4.8 (04)		27.2 (04)		19.8 (04)		30.8 (04)
Turkmenistan												
Uzbekistan												
Pacific												
American Samoa	0.0	0.0 (90)	3.3		7.7		37.6		4.3		45.2	
Australia	4.0	2.4	6.7	4.3	12.7	8.9	33.9	31.3	83.3	88.7	59.4	64.4
Cook Islands												
Fiji												
French Polynesia		5.3 (02)		12.0 (02)		8.3 (02)		24.2 (02)		86.5 (02)		63.8 (02)
Guam												
Kiribati		1.1 (00)		3.9 (00)		3.1 (00)		10.5 (00)		95.8 (00)		85.6 (00)
Marshall Islands		3.2 (99)		19.5 (99)		11.2 (99)		11.3 (99)		33.7 (99)		40.0 (99)
Micronesia (F.S.)												
Nauru												
New Caledonia	3.9 (96)		9.0 (96)		8.0 (96)		32.2 (96)		81.4 (96)		56.9 (96)	
New Zealand	7.8	5.0	12.8	9.1	14.2	10.0	32.7	32.2	77.9	85.0	54.4	58.6
Niue		1.2 (01)		3.1 (01)		1.6 (01)		7.8 (01)		17.1 (01)		16.1 (01)
Northern Mariana Islands	0.0		4.0		40.9		47.0		59.1		49.0	
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga		4.5 (03)		50.1 (03)		54.7 (03)		13.3 (03)		39.3 (03)		35.1 (03)
Tuvalu												
Vanuatu												
Asia and the Pacific												
LLDC												
LDC												
ASEAN												
ECO												
SAARC												
Central Asia												
Pacific island dev. econ.												
Low income												
Middle income												
High income												
Africa												
Europe												
Latin America and Carib.												
North America												
Other countries/areas												
World												

6.4 Employment by status and sex

	Employees						Employers				Own account workers				Contributing family workers			
	Earliest	Latest	Female		Male		Female		Male		Female		Male		Female		Male	
			Percentage															
			Earliest	Latest	Earliest	Latest	Earliest	Latest	Earliest	Latest	Earliest	Latest	Earliest	Latest	Earliest	Latest	Earliest	Latest
East and North-East Asia																		
China																		
DPR Korea																		
Hong Kong, China	(93)	(07)	94.7	94.0	85.0	84.2	1.7	1.7	8.4	6.2	1.6	3.2	6.4	9.5	2.0	1.1	0.2	0.1
Japan	(90)	(07)	72.3	86.4	80.8	86.0	1.3	1.1	4.3	3.6	9.4	4.7	12.0	8.8	16.7	7.3	2.5	1.1
Macao, China	(95)	(07)	93.0	94.6	86.2	88.5	1.0	1.5	5.4	5.2	3.7	2.5	8.1	6.2	2.3	1.4	0.3	0.1
Mongolia		(03)		41.9		37.2		0.4		0.7		25.8		43.5		31.8		18.5
Republic of Korea	(90)	(07)	69.9	68.8	96.3	67.7		3.5		8.9		15.0		22.2	30.1	12.7	3.7	1.2
South-East Asia																		
Brunei Darussalam	(91)		96.1		94.4		0.5		1.2		2.8		4.1		0.6		0.4	
Cambodia		(01)		13.6		19.1		0.1		0.2		32.9		49.1		53.3		31.6
Indonesia		(07)		30.7		35.9		1.4		3.8		34.4		52.5		33.6		7.8
Lao PDR	(95)		5.4		14.3		0.1		0.4		57.0		56.3		37.6		29.1	
Malaysia	(91)	(07)	70.6	77.3	64.1	72.5	2.0	1.3	3.6	4.6	16.7	12.5	28.3	20.1	8.1	8.8	2.4	2.7
Myanmar																		
Philippines		(07)		51.0		51.1		2.4		5.3		28.6		34.6		18.0		9.0
Singapore	(91)	(07)	92.4	89.9	82.8	80.8	2.0	2.8	7.4	6.8	3.4	6.0	9.4	11.9	2.1	1.3	0.4	0.4
Thailand	(90)	(07)	25.6	42.4	31.0	44.6	0.6	1.5	1.8	4.2	17.7	26.0	40.2	37.1	56.1	29.9	27.0	14.0
Timor-Leste																		
Viet Nam	(96)	(04)	13.5	21.2	20.1	29.8	0.4	0.3	1.1	0.7	24.2	31.3	48.8	50.7	61.5	47.2	29.5	18.9
South and South-West Asia																		
Afghanistan																		
Bangladesh	(96)	(05)	8.7	11.7	14.7	14.5	0.1	0.1	0.3	0.3	7.6	26.4	42.7	74.8	77.3	60.1	17.1	9.7
Bhutan		(05)		17.9		51.9		0.7		1.7		23.8		17.6		51.5		21.3
India																		
Iran (Islamic Rep. of)	(96)	(07)	53.7	42.2	51.4	53.4	0.9	0.9	4.0	6.4	19.6	23.4	37.9	34.4	20.8	32.6	3.4	5.4
Maldives	(90)	(00)	37.1	28.8	48.9	21.3	1.0	1.1	3.2	4.5	49.9	35.1	39.7	54.9	6.6	3.4	4.0	1.3
Nepal		(01)		12.8		33.7		3.7		3.9		70.6		56.7		12.9		5.7
Pakistan	(95)	(07)	24.8	24.6	35.4	40.6	0.3	0.1	1.1	1.0	13.2	13.4	46.3	39.8	61.7	61.9	17.2	18.6
Sri Lanka		(07)		55.1		57.2		0.7		3.9		22.5		34.5		21.7		4.4
Turkey	(90)	(08)	23.8	49.7	78.1	62.3		1.3		7.3		11.3		25.1	76.2	37.7	21.9	5.3
North and Central Asia																		
Armenia																		
Azerbaijan		(07)		32.7		50.7		1.3		8.7		66.0		40.5		0.0		0.0
Georgia		(05)		34.5		34.3		0.4		1.6		25.8		44.7		39.0		19.0
Kazakhstan		(04)		60.2		64.1		0.6		1.6		37.2		32.2		1.3		1.0
Kyrgyzstan		(06)		51.7		50.2		0.6		1.5		27.8		38.6		19.3		8.8
Russian Federation	(92)	(07)	94.4	93.3	89.9	92.0	0.0	1.1	0.2	1.7	0.4	5.4	0.9	6.0	0.1	0.1	0.1	0.1
Tajikistan																		
Turkmenistan																		
Uzbekistan																		
Pacific																		
American Samoa	(90)		98.5		97.0		1.2		2.9		0.0	0.0	0.0	0.0	0.3		0.1	
Australia	(90)	(07)	87.8	91.0	82.8	85.5	3.7	2.1	5.6	3.3	7.3	6.6	11.1	11.1	1.2	0.4	0.5	0.2
Cook Islands																		
Fiji		(05)		56.6		59.4		1.1		1.1		19.5		26.5		19.9		12.3
French Polynesia		(02)		96.5		97.4										3.5		2.6
Guam																		
Kiribati																		
Marshall Islands		(99)		67.7		72.9		0.0		1.4		29.0		24.3		0.0		1.4
Micronesia (F.S.)																		
Nauru																		
New Caledonia	(95)		99.5		99.7										0.5		0.3	
New Zealand	(91)	(07)	85.3	87.2	74.3	78.7	4.8	3.2	10.2	7.1	7.7	8.0	14.2	13.3	1.9	1.5	0.8	0.8
Niue																		
Northern Mariana Islands																		
Palau																		
Papua New Guinea																		
Samoa		(01)		59.1		44.2		5.2		4.6						35.7		51.2
Solomon Islands																		
Tonga	(96)		40.2		43.6		0.3		0.6		25.5		26.1		33.6		29.7	
Tuvalu		(02)		97.5		95.5		0.8		2.2		1.5		2.0		0.1		0.2
Vanuatu																		
Asia and the Pacific																		
LLDC																		
LDC																		
ASEAN																		
ECO																		
SAARC																		
Central Asia																		
Pacific island dev. econ.																		
Low income																		
Middle income																		
High income																		
Africa																		
Europe																		
Latin America and Carib.																		
North America																		
Other countries/areas																		
World																		

7 HIV and AIDS

Asia and the Pacific overall has low HIV prevalence but, since it has a large population, it still has a high number of people living with HIV. Some countries have managed to reduce the prevalence but in most countries prevalence are either stabilizing or still increasing – particularly among injecting drug users, men who have sex with men, and sex workers.

The aim expressed in the United Nations Millennium Declaration was by 2015 to have halted and then begun to reverse the spread of HIV. In Asia and the Pacific, the average adult prevalence rate – the percentage of people aged 15-49 infected with HIV – decreased slightly between 2001 and 2007, from 0.28 to 0.25%. However, the number of people living with HIV may be increasing. This could be for a number of reasons: overall population rise; new HIV infections; HIV treatment which extends lives; or because new infections still outnumber AIDS deaths. By 2007, the total number of people living with HIV across Asia and the Pacific was 5.9 million. In the Pacific, the number nearly tripled. In North and Central Asia it increased by one and a half times and in East and North-East Asia it increased by 47%. The increase in South-East Asia was only 15%.

Of those living with HIV, 1.96 million – one third – are women, a proportion lower than the global average of 49%. However, in some countries the proportion is higher: in Papua New Guinea, for example, the majority of people living with HIV are women. For women, one of the most important sources of infection is sex with their regular male partners who practice HIV-risk related behaviours. About 50 million women in Asia are thought be at risk and in several countries infections among these otherwise low-risk women are accounting for an increasing proportion of new infections. In 2007, in India, Thailand, and Myanmar, for example, the growth in HIV infections among women has been especially striking, and women now represent around 40% of adults living with HIV – a development that will require new and effective strategies.

The countries with the highest HIV prevalence are: Papua New Guinea, 1.5%; the Russian Federation, 1.1%; Thailand, 1.4%; Cambodia, 0.8%; and Myanmar, 0.7%.

In North and Central Asia, the primary route of HIV transmission remains injecting drug use, but there is also an increase in sexual transmission, particularly among the sexual partners of injecting drug users (IDUs), including sex workers. Indeed there are commonly overlapping risks: in the Russian Federation, about a third of female sex workers are also injecting drugs. However, this region has low coverage HIV prevention programmes for IDUs.

In East and North-East Asia and in South-East Asia, over the period 2001-2007, the prevalence for the subregion remained unchanged – though it should be noted that the prevalence increased in Viet Nam and Indonesia, while coming down in Thailand, Cambodia and Myanmar. In South and South-West Asia, on the other hand, the prevalence declined markedly over this period, from 0.40 to 0.25% – and this was over and above a downwards revision in India thanks to the collection of more accurate data.

In Oceania in 2008, there were 3,900 new HIV infections bringing the total number of people living with HIV to 59,000. Here, the overall prevalence remains low, except in Papua New Guinea, which has a generalized epidemic which is spreading, especially in the rural areas.

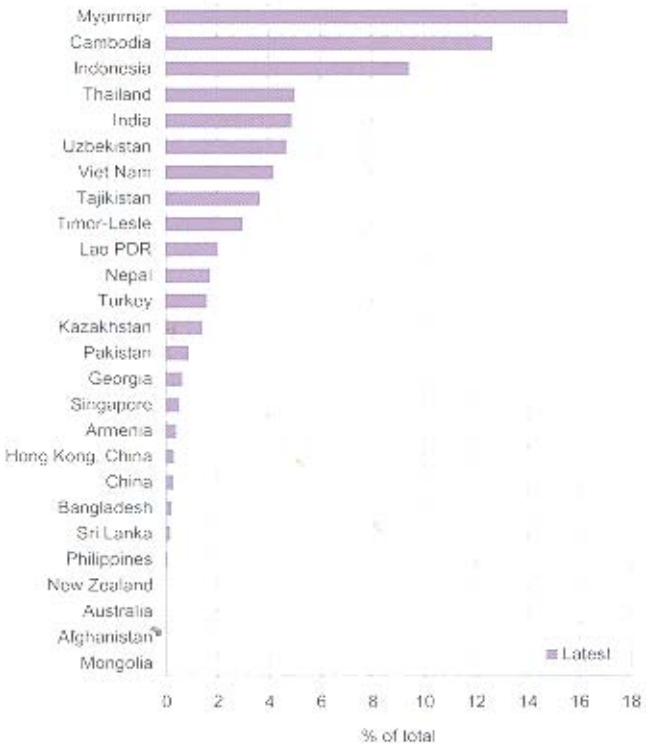
While most countries in the region have low national HIV prevalence, they often have much higher prevalence in certain geographic areas, as well as among key at-risk populations such as sex workers and their clients, and IDUs. Men having sex with men are also at high risk and in many urban locations infections levels among this group have been reported as above 20%. There is some evidence too that in Asia among men having sex

with men, the epidemic is expanding. Many of these men, who seldom use condoms, also have sex with women. The coverage of comprehensive prevention services is below 40% in most countries – and needs to be strengthened.

Among those at highest risk of HIV infection are sex workers. In Myanmar, for example, they have prevalence levels of 18% and in the southern states of India 15%. The prevalence can be especially high in male sex workers – as in cities in Thailand, Indonesia, and Pakistan. In Nepal in 2008, a study among trafficked sex workers found that 30% were HIV positive.

Figure 7.1

HIV prevalence among female sex workers in capital cities of selected countries and areas, 2007



Injecting drug use too is a significant factor in the spread of HIV. Asia has an estimated 4.5 million people who inject drugs, primarily opiates. In 2007, the three countries with most injecting drug users in the world were China, the USA and Russia. In these, the prevalence among IDUs were over 10%. Several countries in Asia have prevalence among injecting drug users of over 20%. However, there has also been a significant expansion in programmes for needle-syringe exchange and – especially in China, Indonesia and Malaysia – in oral substitution therapy.

Although the average HIV prevalence in the

Figure 7.2

HIV prevalence among injecting drug users in capital cities of selected countries, 2007

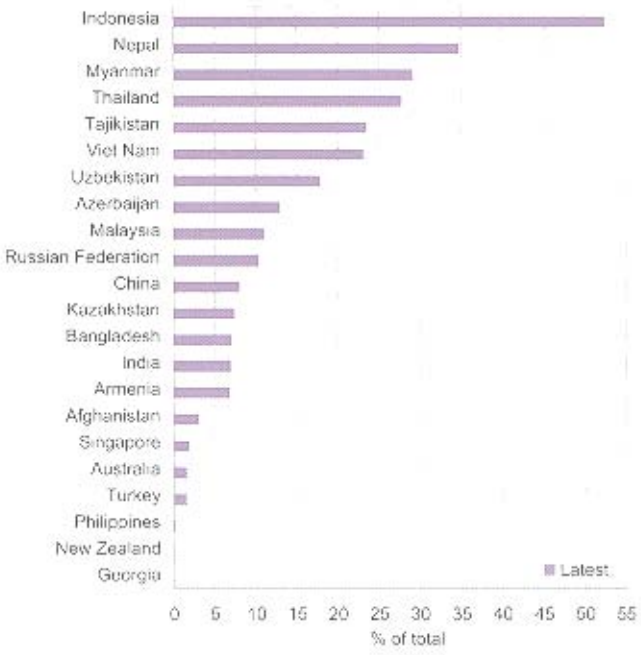
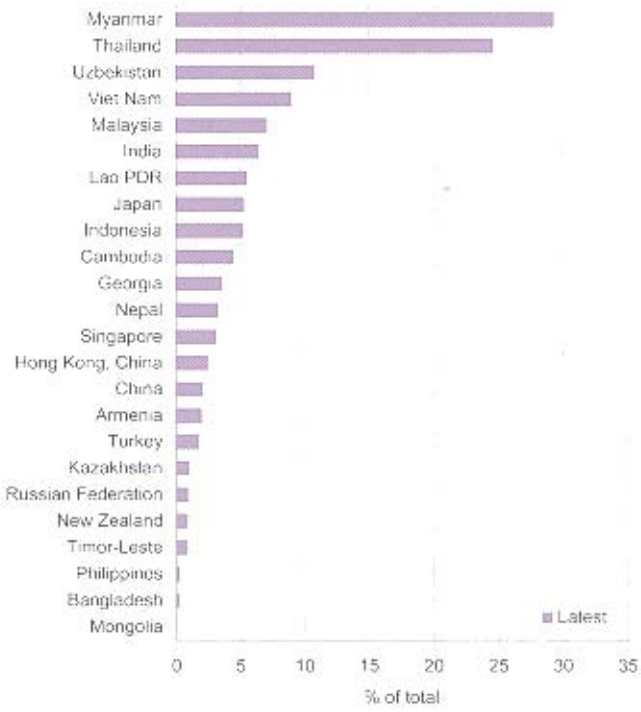


Figure 7.3

HIV prevalence among men who have sex with men in capital cities of selected countries and areas, 2007



Asia-Pacific region may be levelling off, between 2001 and 2007 there was a steady increase in the recorded number of annual AIDS deaths – reaching 188,800. The actual number will be even higher, since the 2007 estimate was unavailable for India.

There were increases in most subregions. The exception was South-East Asia, where there was a 15% decline – largely as a result of success in Cambodia and Thailand, countries that have not only reduced the prevalence but also achieved some of the region's most effective anti-retroviral treatment (ART) programmes.

The report of the high-level Commission on AIDS in Asia, published in 2008, concluded that in order for the HIV-related MDG target to be achieved, countries must invest at least 50% of their resources in targeted prevention programmes, while increasing coverage in care and treatment to mitigate the impact on the people infected and affected. The report projected that in Asia, unless care and treatment are considerably scaled up AIDS will by 2015 put an additional 6 million households into poverty (AIDS Commission Report, 2008). This report has provided the evidence for a more informed and appropriate response – offering better understanding of specific HIV dynamics in Asia, along with guidance on good practices on policy reform, programming and cost effectiveness. This information is now being made available and utilised more widely.

In 2007, the AIDS Commission estimated that more than 90% of treatment needs were concentrated in just a few countries: India, China, Thailand, Myanmar and Viet Nam. Over the last few years there has been considerable progress. Access to ART has greatly expanded. By the end of 2008, over 600,000 people in Asia and the Pacific had been put on treatment – an increase of over one third in one year. Since about 1.7 million people are estimated to be in need of ART, as per the 2008 WHO treatment guidelines, this corresponds to a regional coverage rate of 37%. In countries where treatment coverage has been high for some years, such as Cambodia and Thailand, there is evidence of a decline in mortality.

However, in most other countries, the coverage of ART for HIV-positive people in need was still under 40%. Universal access is being hindered by a number of obstacles. One is the lack of testing facilities that can inform people of their status. Another is persistent stigma and discrimination – even from health service staff – towards the at-risk populations and people living with HIV.

The region also has low coverage of programmes for prevention of parent-to-child transmission. Regionally the coverage is 26% – and is less than 20% in many countries. This is less than in many Sub-Saharan countries. The main exception is Thailand. The main difficulty is testing sufficient women during ante-natal consultations to detect the 1-2 per thousand who are HIV positive. The recommended strategy for scaling up health-based interventions is to link HIV services more closely with services for sexual and reproductive health, mother, newborn and child health, and primary health care.

Countries have reported progress in 2006 and 2008 on coverage of prevention interventions and on behaviour change among high risk groups. Even so, the lack of data make it difficult to offer a comprehensive picture on prevention. The situation should improve after the next global reporting round in March 2010, which will provide countries with another chance to collect and use more reliable information.

Figure 7.4

Condom use among female sex workers in selected countries, 2007

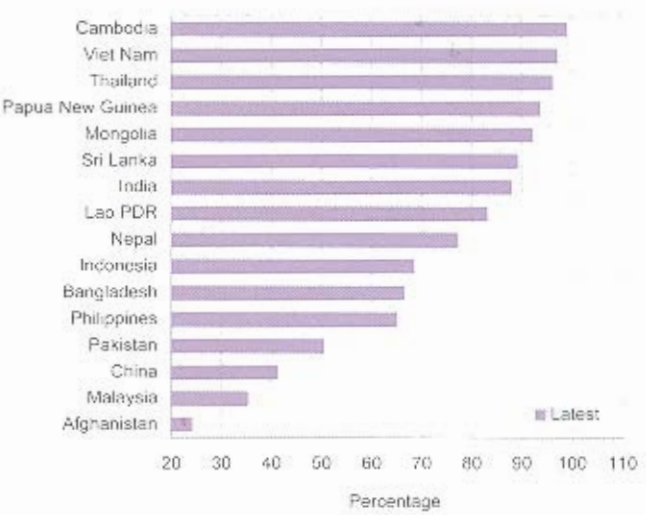
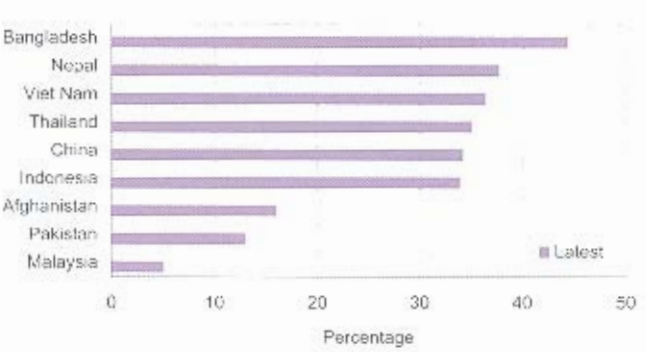


Figure 7.5

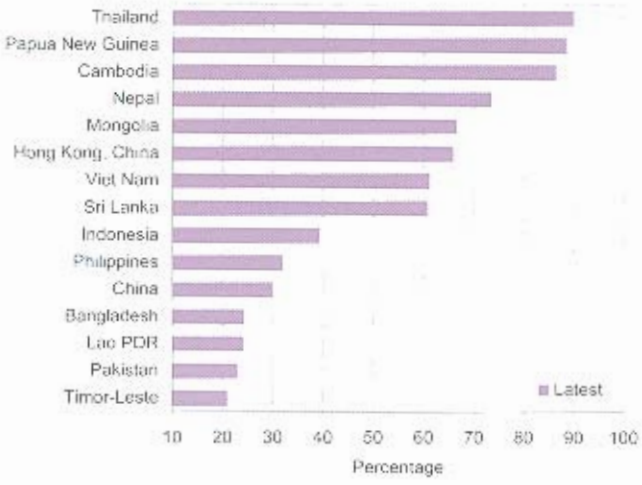
Condom use among injecting drug users in selected countries, 2007



For some forms of prevention, there is extensive documentation of what works. For sex

Figure 7.6

Condom use among men who have sex with men in selected countries, 2007



work settings, for example, there is experience from Cambodia and Thailand, and states in Southern India. And for injecting drug users there is experience on large-scale, harm reduction programmes, including methadone maintenance, in Bangladesh, China, Malaysia, and Nepal. However, prevention programmes for men having sex with men are still very limited in scope and scale. And there are scarcely any programmes at all to protect the estimated 50 million women in Asia who are put at risk by their regular male partners.

The most important obstacles to successful AIDS responses are stigma and discrimination. As a result, many people are suffering human rights abuses. Young children affected by HIV are being removed from schools and young drug users are still being locked up in "treatment" centres. In most countries, sex workers, and men having sex with men, face punitive laws. Nevertheless, some countries have shown that change is possible. India, for example, through a landmark judicial pronouncement has taken steps towards decriminalization of same-sex sexual relations. Nepal too is increasingly recognizing the rights of homosexuals and transgender individuals.

Children, youth and migrants are increasingly exposed as a result of the region's rapid economic growth and societal changes. In many countries, these groups are not covered by the national AIDS response.

Countries are, however, re-orienting their national plans and financial resources to focus more on the at-risk populations and thus make better use of resources. Between 2006 and 2008, the proportion of Global Fund grants focusing on prevention among at-risk populations increased from 24 to almost 59%. A number of countries have also shown greater political commitment and have increased national spending on HIV – notably China and Thailand where more than 80 % of total spending on AIDS is coming from national resources. On the other hand, in some countries, the funding of programmes can be reduced by conflicts, natural disasters and the global economic downturn.

The national AIDS response can be strengthened by the involvement of civil society at all levels – though in this regard the region is lagging behind the rest of the world.

Adults aged 15 and above living with HIV/AIDS, female and total population (number)
Estimated number of adults, women aged 15+ years, and total population aged 15+ years, living with HIV. These estimates include all people with HIV infection, whether or not they have developed symptoms of AIDS. **Aggregates:** Calculated by ESCAP as the sum of the individual country values. **Source:** UNAIDS 2008 Report on the global AIDS epidemic. Online database accessed on 7 August 2008 - No data updates since Statistical Yearbook 2008 Edition.

HIV prevalence rate, population aged 15-49 (percentage)
The prevalence of HIV among the population 15-49 years old is the percentage of individuals aged 15-49 living with HIV. Human Immunodeficiency Virus (HIV) is a virus that weakens the immune system, ultimately leading to AIDS, the acquired immunodeficiency syndrome. HIV destroys the body's ability to fight off infection and disease, which can ultimately lead to death. **Aggregates:** Calculated by ESCAP using the population aged 15-49 (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 7 August 2008 - No data updates since Statistical Yearbook 2008 Edition.

HIV prevalence in most-at-risk groups in capital city, female sex workers (percentage)
The estimated number of female sex workers (FSW), a most-at-risk population, with HIV infection whether or not they have developed symptoms of AIDS. **Source:** WHO/UNAIDS 2008 Report on the Global AIDS epidemic. Online database accessed on 21 October 2009.

HIV prevalence in most-at-risk groups in capital city, injecting drug users (percentage)
The estimated number of injecting drug users (IDU), a most-at-risk population, with HIV infection whether or not they have developed symptoms of AIDS. **Source:** WHO/UNAIDS 2008 Report on the Global AIDS epidemic. Online database accessed on 21 October 2009.

HIV prevalence in most-at-risk groups in capital city, men who have sex with men (percentage)
The estimated number of men who have sex with men (MSM), a most-at-risk population, with HIV infection whether or not they have developed symptoms of AIDS. **Source:** WHO/UNAIDS 2008 Report on the Global AIDS epidemic. Online database accessed on 21 October 2009.

Population with advanced HIV with access to ART (percentage)
The percentage of adults and children with advanced HIV infection currently receiving antiretroviral therapy (ART) according to nationally approved treatment protocols (or WHO/Joint UN Programme on HIV and AIDS standards) among the estimated number of people with advanced HIV infection. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 18 July 2008 - No data updates since Statistical Yearbook 2008 Edition.

Reported number of population receiving antiretroviral therapy, female and male (number; percentage)
Reported number of women and men receiving antiretroviral therapy in low and middle income countries. **Source:** WHO/UNAIDS/UNICEF Towards Universal Access Progress Report 2009. Online database accessed on 23 October 2009.

Population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS, female and male (percentage)
Percentage of young women and men aged 15-24 years with comprehensive correct knowledge of HIV/AIDS is the share of women and men aged 15-24 years who correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), who reject the two most common local misconceptions about HIV transmission and who know that a healthy-looking person can transmit HIV. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 6 August 2009.

Condom use at last high-risk sex among 15-24 yrs, female and male (percentage)
Percentage of young men and women aged 15-24 reporting the use of a condom during sexual intercourse with a non-cohabiting, non-marital sexual partner in the last 12 months. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 6 August 2009.

Condom use in most-at-risk groups, female sex workers (percentage)
Percentage of female sex workers who reported using a condom with their most recent client, of sex workers who report having sex with any clients in the last 12 months. **Source:** UNGASS Country Progress Report 2008 and WHO/UNAIDS/UNICEF Towards Universal Access Progress Report 2009. Downloaded on 17 November 2009.

Condom use in most-at-risk groups, injecting drug users (percentage)
Percentage of injecting drug users surveyed who used a condom the last time they had sex, of those who have had sex in the last 12 months. **Source:** UNGASS Country Progress Report 2008 and WHO/UNAIDS/UNICEF Towards Universal Access Progress Report 2009. Downloaded on 17 November 2009.

Condom use in most-at-risk groups, men who have sex with men (percentage)
Percentage of men reporting the use of a condom the last time they had anal sex with a male partner. **Source:** UNGASS Country Progress Report 2008 and WHO/UNAIDS/UNICEF Towards Universal Access Progress Report 2009. Downloaded on 17 November 2009.

AIDS deaths (number; per 100,000 population)
The estimated number of adults and children who died due to AIDS. AIDS, the acquired immunodeficiency syndrome, is caused by Human Immunodeficiency Virus (HIV), a virus that weakens the immune system and destroys the body's ability to fight off infection and disease, which can ultimately lead to death. **Aggregates:** Calculated by ESCAP as the sum of individual country values (number of AIDS deaths) and using total population (from the World Population Prospects: The 2008 Revision Population Database) as weight (deaths per 100,000 population). **Source:** United Nations Millennium Development Goals Indicators (number); Calculated by ESCAP using data from United Nations Millennium Development Goals Indicators (per 100,000 population). Online database accessed on 7 August 2008 - No data updates since Statistical Yearbook 2008 Edition.

7.1 HIV/AIDS prevalence

	Adults aged 15 and above living with HIV/AIDS				HIV prevalence rate					
	Female		Total		Aged 15-49		Female sex workers	Injecting drug users	Men who have sex with men	
	Number		Number		Percentage		% of total	% of total	% of total	
	2001	2007	2001	2007	2001	2007	2007	2007	2007	
East and North-East Asia	**123 600**	**206 100**	**484 900**	**713 600**	**0.10**	**0.10**				
China	120 000	200 000	470 000	690 000	0.10	0.10	0.3	8.1	2.1	
DPR Korea					0.10	0.10				
Hong Kong, China							0.3 (05)		2.5	(05)
Japan	1 800	2 300	8 100	9 600	0.10	0.10			5.3	(05)
Macao, China										
Mongolia		200		1 000	0.10	0.10	0.0 (05)		0.0	(05)
Republic of Korea	1 800	3 600	6 800	13 000	0.10	0.10				
South-East Asia	**427 000**	**525 700**	**1 351 000**	**1 556 700**	**0.45**	**0.45**				
Brunei Darussalam										
Cambodia	31 000	20 000	120 000	70 000	1.80	0.80	12.7		4.5	(05)
Indonesia	10 000	54 000	93 000	270 000	0.10	0.20	9.5	52.4	5.2	
Lao PDR	500	1 300	1 100	5 400	0.10	0.20	2.0 (04)		5.6	
Malaysia	10 000	21 000	43 000	79 000	0.30	0.50		11.0	7.1	
Myanmar	97 000	100 000	290 000	240 000	0.90	0.70	15.6	29.2	29.3	
Philippines	500	2 200	1 000	8 200	0.10	0.10	0.1	0.1	0.3	
Singapore	1 000	1 200	2 900	4 100	0.10	0.20	0.5 (05)	1.9 (05)	3.1	(08)
Thailand	240 000	250 000	650 000	600 000	1.70	1.40	5.0	27.8	24.6	
Timor-Leste							3.0 (04)		0.9	(04)
Viet Nam	37 000	76 000	150 000	280 000	0.30	0.50	4.2 (06)	23.1 (06)	9.0	(06)
South and South-West Asia	**1 038 100**	**951 500**	**2 760 500**	**2 563 200**	**0.40**	**0.25**				
Afghanistan							0.0	3.0 (08)		
Bangladesh	100	2 000	7 500	12 000	0.10	0.10	0.2 (08)	7.0 (06)	0.2	(06)
Bhutan		100		500	0.10	0.10				
India	1 000 000	880 000	2 600 000	2 300 000	0.50	0.30	4.9 (04)	6.9 (08)	6.4	(06)
Iran (Islamic Rep. of)	12 000	24 000	45 000	85 000	0.10	0.20		18.8		
Maldives					0.10	0.10				
Nepal	12 000	17 000	55 000	68 000	0.50	0.50	1.7	34.7	3.3	
Pakistan	13 000	27 000	50 000	94 000	0.10	0.10	0.9	18.2 [1]		
Sri Lanka	1 000	1 400	3 000	3 700	0.10	0.10	0.2 (05)			
Turkey							1.6	1.5	1.8	
North and Central Asia	**89 100**	**254 400**	**401 000**	**995 600**	**0.40**	**0.83**				
Armenia	500	1 000	1 800	2 400	0.10	0.10	0.4	6.8	2.0	
Azerbaijan		1 300	500	7 800	0.10	0.20		13.0 (03)		
Georgia	100	1 000	500	2 700	0.10	0.10	0.6 (08)	0.0 (05)	3.6	
Kazakhstan	1 000	3 300	3 400	12 000			1.4 (05)	7.4 (05)	1.0	(06)
Kyrgyzstan	500	1 100	1 000	4 200	0.10	0.10				
Russian Federation	86 000	240 000	390 000	940 000	0.50	1.10		10.3 (05)	0.9	(06)
Tajikistan	500	2 100	2 400	10 000	0.10	0.30	3.7 (05)	23.5 (05)		
Turkmenistan				500						
Uzbekistan	500	4 600	1 400	16 000	0.10	0.10	4.7 (05)	17.9 (05)	10.8	(05)
Pacific	**4 600**	**22 700**	**25 000**	**72 400**	**0.14**	**0.44**				
American Samoa										
Australia	1 000	1 200	14 000	18 000	0.10	0.20	0.0 (05)	1.5		
Cook Islands										
Fiji					0.10	0.10				
French Polynesia										
Guam										
Kiribati										
Marshall Islands										
Micronesia (F.S.)										
Nauru										
New Caledonia										
New Zealand	200	500	1 200	1 400	0.10	0.10	0.0	0.0	0.9	
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea	3 400	21 000	9 800	53 000	0.30	1.50				
Samoa										
Solomon Islands										
Tonga										
Tuvalu										
Vanuatu										
Asia and the Pacific	**1 682 400**	**1 960 400**	**5 022 400**	**5 901 500**	**0.28**	**0.25**				
LLDC	15 500	32 000	66 600	127 800	0.22	0.25				
LDC	140 600	140 400	473 600	395 900	0.40	0.30				
ASEAN	427 000	525 700	1 351 000	1 556 700	0.45	0.45				
ECO	27 500	63 400	103 700	229 500	0.10	0.14				
SAARC	1 026 100	927 500	2 715 500	2 475 200	0.41	0.26				
Central Asia	3 100	14 400	11 000	55 600	0.10	0.14				
Pacific island dev. econ.	3 400	21 000	9 800	53 000	0.27	1.33				
Low income	179 100	224 100	628 400	705 600	0.33	0.32				
Middle income	1 497 500	1 727 500	4 361 000	5 149 800	0.29	0.25				
High income	5 800	8 800	33 000	46 100	0.10	0.11				
Africa	**10 370 300**	**11 279 200**	**17 650 000**	**19 286 100**	**4.48**	**3.96**				
Europe	**242 100**	**403 800**	**853 900**	**1 214 000**	**0.29**	**0.37**				
Latin America and Carib.	**529 700**	**621 700**	**1 514 000**	**1 751 600**	**0.53**	**0.56**				
North America	**193 000**	**250 000**	**1 049 000**	**1 173 000**	**0.30**	**0.40**				
Other countries/areas	**3 100**	**3 900**	**5 700**	**7 900**	**0.10**	**0.10**				
World	**13 020 600**	**14 519 000**	**26 095 000**	**29 334 100**	**0.88**	**0.84**				

Footnotes: 1/. HIV prevalence rate of injecting drug users population under 25 while it is 15.4 % for population above 25.

7.2 HIV/AIDS prevention and treatment

	Population with advanced HIV with access to ART		Reported number of population receiving ART				Population aged 15-24 years old with comprehensive correct knowledge of HIV/AIDS	
			Female		Male		Female	Male
	Percentage		Number	Percentage	Number	Percentage	Percentage	
	2006	2007	2008	2008	2008	2008	Latest	Latest
East and North-East Asia								
China	19	19	20 015	42	27 145	58		
DPR Korea		0						
Hong Kong, China								
Japan								
Macao, China								
Mongolia			0	0	5	100	35 (05)	
Republic of Korea								
South-East Asia								
Brunei Darussalam								
Cambodia	54	67	16 454	51	15 545	49	50 (05)	45 (05)
Indonesia	15	15	2 682	25	7 934	75	1 (03)	0 (03)
Lao PDR	94	95	453	45	556	55		
Malaysia	16	35						
Myanmar	7	15	6 638	44	8 553	56		
Philippines	24	31	112	23	372	77	12 (03)	18 (03)
Singapore								
Thailand	46	61					46 (06)	
Timor-Leste			18	62	11	38		
Viet Nam	14	26	4 063	27	11 240	73	44 (06)	50 (05)
South and South-West Asia								
Afghanistan			0		0			
Bangladesh	3	7					16 (06)	
Bhutan			16 (07)	53 (07)	14 (07)	47 (07)		
India			75 039	39	118 479	61	20 (06)	36 (06)
Iran (Islamic Rep. of)	3	5	159	18	719	82		
Maldives			0	0	2	100		
Nepal	3	7	1 024	40	1 512	60	28 (05)	44 (06)
Pakistan	1	3	209	23	698	77	3 (07)	
Sri Lanka	10	14	68	47	78	53		
Turkey								
North and Central Asia								
Armenia	8	12	34	34	66	66	23 (05)	15 (05)
Azerbaijan		14	47	30	112	70	5 (06)	5 (06)
Georgia			137	28	359	72		
Kazakhstan	23	23	196	35	365	65	22 (06)	
Kyrgyzstan		14	17	19	72	81	20 (06)	
Russian Federation	10	16						
Tajikistan	4	6	61	35	112	65	2 (05)	
Turkmenistan			0 (06)		0 (06)		5 (06)	
Uzbekistan	30	24					31 (06)	7 (02)
Pacific								
American Samoa								
Australia								
Cook Islands								
Fiji			21	54	18	46		
French Polynesia								
Guam								
Kiribati								
Marshall Islands							27 (07)	39 (07)
Micronesia (F.S.)								
Nauru			0		0			
New Caledonia								
New Zealand								
Niue								
Northern Mariana Islands								
Palau			2	67	1	33		
Papua New Guinea	26	38	2 291	55	1 870	45		
Samoa								
Solomon Islands								
Tonga								
Tuvalu								
Vanuatu								
Asia and the Pacific								
LLDC								
LDC								
ASEAN								
ECO								
SAARC								
Central Asia								
Pacific island dev. econ.								
Low income								
Middle income								
High income								
Africa								
Europe								
Latin America and Carib.								
North America								
Other countries/areas								
World								

7.3 Condom use

	Condom use at last high-risk sex among 15-24 yrs				Condom use in most-at-risk groups					
	Female		Male		Female sex workers		Injecting drug users		Men who have sex with men	
	Percentage						Percentage			
	Latest		Latest		Latest		Latest		Latest	
East and North-East Asia										
China					41.4	(06)	34.2	(07)	30.0	(07)
DPR Korea										
Hong Kong, China									66.0	(05)
Japan										
Macao, China										
Mongolia					92.3	(05)			66.7	(05)
Republic of Korea										
South-East Asia										
Brunei Darussalam										
Cambodia			84.4	(05)	99.0	(07)			86.5	(07)
Indonesia					68.6	(07)	33.9	(07)	39.3	(07)
Lao PDR					83.2	(04)			24.2	(07)
Malaysia					35.4	(04)	5.1	(04)		
Myanmar										
Philippines	11	(03)	25.0	(03)	65.0	(07)			32.0	(07)
Singapore										
Thailand					96.2	(07)	35.0	(07)	89.9	(07)
Timor-Leste									21.0	(04)
Viet Nam			67.6	(05)	97.1	(06)	36.4	(06)	61.3	(06)
South and South-West Asia										
Afghanistan					24.3	(07)	16.0	(07)		
Bangladesh					66.7	(07)	44.3	(07)	24.3	(07)
Bhutan										
India	51	(01)	59.0	(01)	88.0	(06)	44-100	(06)	13-88	(06)
Iran (Islamic Rep. of)										
Maldives										
Nepal			78.4	(05)	77.2	(07)	37.7	(07)	73.5	(07)
Pakistan					50.5 /1	(07)	13 /2	(07)	23 /3	(07)
Sri Lanka					89.3	(07)			60.9	(07)
Turkey										
North and Central Asia										
Armenia			66.4	(05)						
Azerbaijan			31.1	(06)						
Georgia										
Kazakhstan	32	(99)	65.0	(99)						
Kyrgyzstan	56	(06)								
Russian Federation										
Tajikistan										
Turkmenistan										
Uzbekistan	61	(06)	50.0	(02)						
Pacific										
American Samoa										
Australia										
Cook Islands										
Fiji										
French Polynesia										
Guam										
Kiribati										
Marshall Islands										
Micronesia (F.S.)										
Nauru										
New Caledonia										
New Zealand										
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea					93.7	(06)			88.5	(07)
Samoa										
Solomon Islands										
Tonga										
Tuvalu										
Vanuatu										
Asia and the Pacific										
LLDC										
LDC										
ASEAN										
ECO										
SAARC										
Central Asia										
Pacific island dev. econ.										
Low income										
Middle income										
High income										
Africa										
Europe										
Latin America and Carib.										
North America										
Other countries/areas										
World										

Footnotes: 1/ Condom use of population under 25 while it is 42.3 % for population above 25. 2/ Condom use of population under 25 while it is 22.7 % for population above 25. 3/ Condom use of population under 25 while it is 25.4 % for population above 25

7.4 AIDS deaths

	Number		Per 100,000 population	
	2001	2007	2001	2007
East and North-East Asia	**15 800**	**40 200**	**1**	**3**
China	15 000	39 000	1	3
DPR Korea	100	500	0	2
Hong Kong, China				
Japan	100	100	0	0
Macao, China				
Mongolia	100	100	4	4
Republic of Korea	500	500	1	1
South-East Asia	**111 100**	**94 100**	**21**	**16**
Brunei Darussalam	100	100	29	26
Cambodia	14 000	6 000	107	42
Indonesia	100	8 700	0	4
Lao PDR	100	100	2	2
Malaysia	1 000	3 100	4	12
Myanmar	24 000	24 000	52	49
Philippines	100	500	0	1
Singapore	100	500	2	11
Thailand	66 000	31 000	108	49
Timor-Leste	100	100	12	9
Viet Nam	5 500	20 000	7	23
South and South-West Asia	**6 400**	**16 000**	**2**	**3**
Afghanistan	100	100	0	0
Bangladesh	100	1 000	0	1
Bhutan	100	100	17	15
India				
Iran (Islamic Rep. of)	1 000	4 300	1	6
Maldives	100	100	36	33
Nepal	2 600	4 900	10	17
Pakistan	1 900	5 000	1	3
Sri Lanka	500	500	3	3
Turkey				
North and Central Asia	**2 500**	**37 200**	**1**	**19**
Armenia	100	500	3	17
Azerbaijan	100	100	1	1
Georgia	100	100	2	2
Kazakhstan				
Kyrgyzstan	100	500	2	9
Russian Federation	1 900	35 000	1	25
Tajikistan	100	500	2	7
Turkmenistan				
Uzbekistan	100	500	0	2
Pacific	**800**	**1 300**	**3**	**4**
American Samoa				
Australia	100	100	1	0
Cook Islands				
Fiji	100	100	12	12
French Polynesia				
Guam				
Kiribati				
Marshall Islands				
Micronesia (F.S.)				
Nauru				
New Caledonia				
New Zealand	100	100	3	2
Niue				
Northern Mariana Islands				
Palau				
Papua New Guinea	500	1 000	9	16
Samoa				
Solomon Islands				
Tonga				
Tuvalu				
Vanuatu				
Asia and the Pacific	**136 600**	**188 800**	**5**	**7**
LLDC	3 500	7 400	3	6
LDC	41 200	36 400	16	13
ASEAN	111 000	94 000	21	16
ECO	3 400	11 000	1	4
SAARC	5 400	11 700	2	3
Central Asia	600	2 200	1	4
Pacific island dev. econ.	600	1 100	9	15
Low income	46 800	58 100	12	13
Middle income	88 800	129 300	3	4
High income	1 000	1 400	0	1
Africa	**1 358 800**	**1 495 400**	**163**	**156**
Europe	**17 500**	**33 000**	**3**	**6**
Latin America and Carib.	**65 400**	**79 100**	**12**	**14**
North America	**500**	**500**	**2**	**2**
Other countries/areas	**600**	**1 000**	**6**	**9**
World	**1 579 400**	**1 797 800**	**34**	**37**

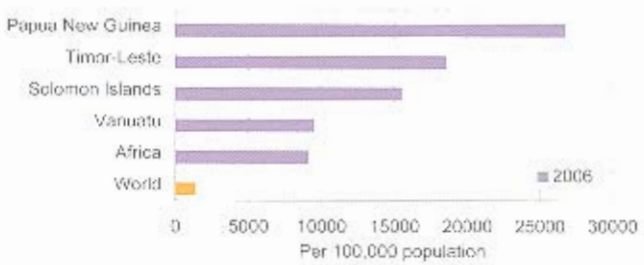
8 Other major infectious diseases

One of the region's most serious diseases is malaria. Annually, roughly one person in 500 gets malaria – though the prevalence varies hugely according to the natural conditions in each country. An even more prevalent disease is tuberculosis.

Malaria incidence is high in South-East Asia and South and South-West Asia. It is also high in places in the Pacific: in 2006, the reported incidence per 100,000 people was 26,743 for Papua New Guinea and 15,504 for the Solomon Islands – although data availability for that subregion as a whole is poor.

Figure 8.1

Highest malaria incidences in Asia and the Pacific, 2006



In recent years the number of reported malaria cases in the Asia-Pacific region has varied between 7 and 8 million. The countries with high numbers are concentrated in South-East Asia and South and South-West Asia. In 2006, more than one million cases were reported in the following countries: India, 1,785,109; Papua New Guinea, 1,676,681; and Indonesia, 1,327,431.

The number of malaria deaths has fluctuated. Between 2000 and 2005 it declined steadily, from 7,180 to 4,293, but in 2006 it increased to 5,425. Most of the deaths occurred in India (1,708), Myanmar (1,674), Papua New Guinea (668), Indonesia (494) and Cambodia (396). Bangladesh experienced a high number of deaths between 2000 and 2004, but data are unavailable for 2005 and 2006.

The malaria estimates in this Yearbook are based on routine surveillance data reported by countries to WHO. However, a change in the WHO methodology has led to higher estimates of both incidence and prevalence than reported in previous issues.

For Asia and the Pacific, a more widespread infectious disease is tuberculosis. The prevalence per 100,000 people has been declining gradually since 1990, and between 2000 and 2007 fell from 318 to 224. Even so, this is still higher than the global average. Tuberculosis is a major problem in South-East Asia and South and South-West Asia – although even in these subregions prevalence has been declining steadily. In 2007, the region's highest rates were in Cambodia (665) and the Philippines (500), followed by the Democratic Republic of Korea (441), Papua New Guinea (430) and Kiribati (423).

The incidence of tuberculosis is the register of the number of new cases reported in a year per 100,000 population. Across the region, since 2000, tuberculosis incidence has changed less than prevalence but the trend has been a gradual decline. In 2006, the incidence was higher than the regional average (141) in South-East Asia (213) and South and South-West Asia (161). The Pacific has a relatively low subregional average (56), but it has a few hotspots, such as Kiribati (365), Marshall Islands (215) and Papua New Guinea (250). Although in North and Central Asia the incidence was lower, it increased marginally between 2000 and 2007. Among individual countries of Asia and the Pacific, in 2007, the highest rates were in Cambodia (495), Kiribati (365), the Democratic Republic of Korea (344) and Timor-Leste (322).

The directly observable treatment-short course, DOTS, is an internationally recommended tuberculosis control strategy, indicating case detection. One encouraging trend is that between 2000 and 2006, the percentage of cases being

Figure 8.2

Tuberculosis incidence, Asia and the Pacific, 2000 and 2007

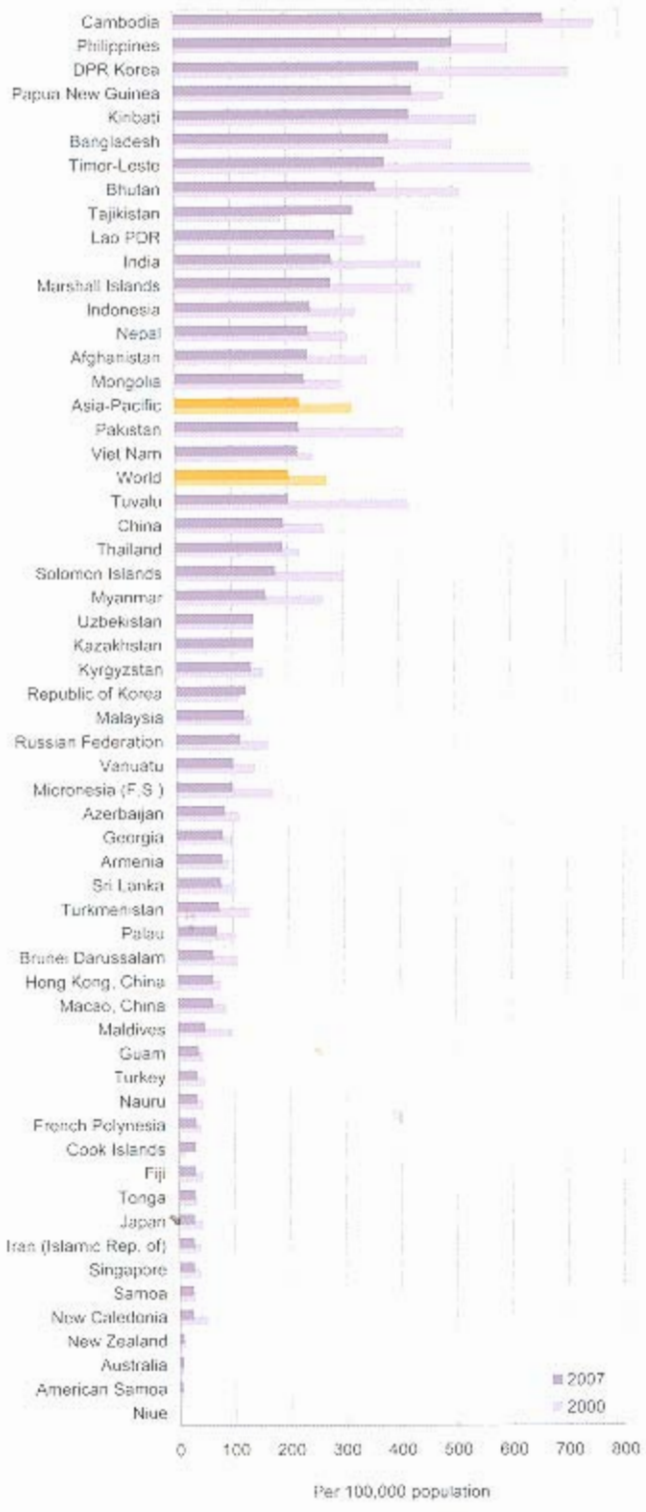
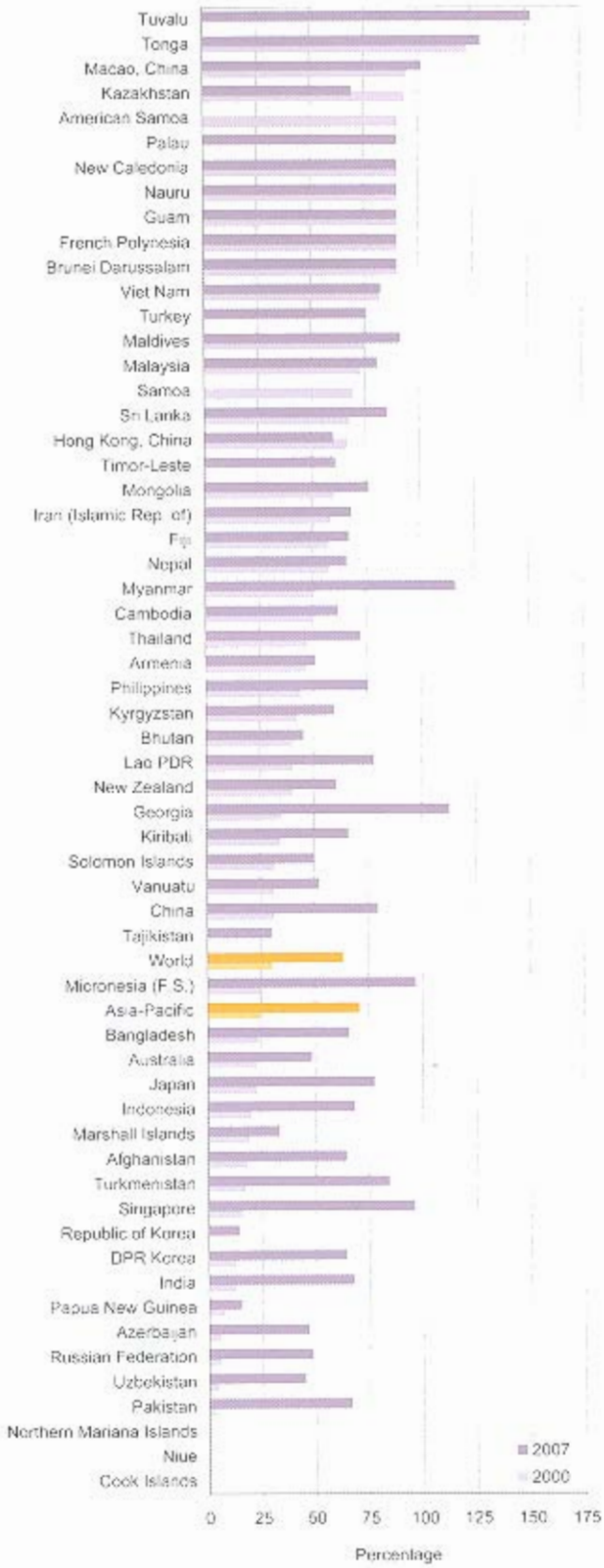


Figure 8.3

DOTS detection rate, Asia and the Pacific, 2000 and 2007



detected by DOTS gradually increased in all subregions, except South-East Asia where the proportion decreased between 2003 and 2006. It is notable that the Asia-Pacific regional average for detection climbed above the global average in 2004 and has since then further improved – implying stronger systems of national surveillance.

Malaria incidence (per 100,000 population)
The number of reported new cases of malaria in a given time period expressed per 100,000 population. **Aggregates:** Calculated by ESCAP using the total population (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** World Health Organization World Malaria Report 2008. Downloaded on 27 August 2009.

Malaria reported cases (number)
The number of notified cases of malaria in a given time period. **Aggregates:** Calculated by ESCAP as the sum of the individual country values. **Source:** World Health Organization World Malaria Report 2008. Downloaded on 27 August 2009.

Malaria reported deaths (number)
The number of deaths caused by malaria in a given time period. **Aggregates:** Calculated by ESCAP as the sum of the individual country values. **Source:** World Health Organization World Malaria Report 2008. Downloaded on 27 August 2009.

Tuberculosis prevalence (per 100,000 population)
The number of cases of tuberculosis (TB), all forms, in a population at a given point in time (sometimes referred to as "point prevalence"). It is expressed as the number of cases per 100,000 population. Estimates include cases of TB in people with HIV. **Aggregates:** Calculated by ESCAP using total population (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 6 August 2009.

Tuberculosis incidence (per 100,000 population)
Tuberculosis incidence is the estimated number of new tuberculosis (TB) cases arising in one year per 100,000 population. All forms of TB are included, as are cases in people with HIV. **Aggregates:** Calculated by ESCAP using the total population (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 6 August 2009.

Tuberculosis detection rate under DOTS (percentage)
The term "case detection", as used here, means that TB is diagnosed in a patient and is reported within the national surveillance system, and then to WHO. The case detection rate is calculated as the number of cases notified divided by the number of incident cases estimated for that year, expressed as a percentage. **Aggregates:** Calculated by ESCAP using the number of TB cases per year as weight. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 11 August 2009.

8.1 Malaria

	Incidence					Reported cases					Reported deaths		
	Per 100,000 population					Number					Number		
	1990	1995	2000	2006	2007	1990	1995	2000	2006	2007	2000	2006	2007
East and North-East Asia	**9**	**3**	**7**	**8**		**117 359**	**47 225**	**96 504**	**127 664**		**39**	**38**	
China	10	4	1	9		117 359	47 118	16 620	116 260		39	38	
DPR Korea			323	40				73 742	9 353				
Hong Kong, China													
Japan													
Macao, China													
Mongolia													
Republic of Korea	0	0	9	4		0	107	4 142	2 051		0		
South-East Asia	**419**	**252**	**89**	**404**		**1 841 166**	**1 207 636**	**458 775**	**2 265 751**			**2 910**	
Brunei Darussalam													
Cambodia	1 278	676	489	632	418	123 796	76 923	62 439	89 109	59 848	608	396	
Indonesia	97	64	49	596		171 908	123 226	101 185	1 327 431			494	
Lao PDR	524	1 082	740	342		22 044	52 021	40 006	20 468		350	21	
Malaysia	279	288	55	20		50 500	59 208	12 705	5 294		35	21	
Myanmar	2 421	1 497		976		989 042	656 547		475 297		2 756	1 647	
Philippines	138	81	47	40		86 200	56 852	36 596	35 110		536	109	
Singapore													
Thailand	483	138	131	46		273 880	82 743	81 692	30 293		825	113	
Timor-Leste			6 113	18 602				49 836	191 399			68	
Viet Nam	187	137	94	107		123 796	100 116	74 316	91 350		148	41	
South and South-West Asia	**229**	**257**	**159**	**161**	**120**	**2 875 713**	**3 577 624**	**2 429 450**	**2 717 685**	**2 055 464**	**1 426**	**1 791**	
Afghanistan	2 524			1 070	1 649	317 479			271 601	433 412		25	25
Bangladesh	47	119	43	233		53 875	152 729	60 396	362 042		484		
Bhutan	1 731	4 558	1 056	300	126	9 497	23 188	5 935	1 991	850		6	
India	234	314	195	156	127	2 018 783	2 988 231	2 031 790	1 785 109	1 476 562	938	1 708	
Iran (Islamic Rep. of)	137	109	29	22	22	77 470	67 532	19 716	15 909	15 712	4	1	0
Maldives													
Nepal	120	45	31	558		22 856	9 718	7 616	154 765		0	42	
Pakistan	69	86	56	74	74	79 689	111 836	82 526	124 910	128 570		9	24
Sri Lanka	1 662	780	1 119	3		287 384	142 294	210 039	591			0	
Turkey	15	134	17	1	0	8 680	82 096	11 432	767	358			1
North and Central Asia	**0**	**5**	**10**		**0.5**	**446**	**9 911**	**21 933**		**1078**	**2**		**3**
Armenia	0	16	5	0	0	0	502	141	0	1		0	0
Azerbaijan	0	36	19	2	1	24	2 840	1 526	143	110		0	0
Georgia	0	0	5	1	1	1	1	245	60	25		0	0
Kazakhstan													
Kyrgyzstan	0	0	0	6	2	1	3	12	320	96		0	0
Russian Federation	0	0	1		0	216	425	795		122	2		2
Tajikistan	3	106	309	12	9	175	6 103	19 064	776	635			0
Turkmenistan	0	0	1	0	0	1	10	24	0	0			0
Uzbekistan	0	0	1	0	0	26	27	126	76	89		0	1
Pacific													
American Samoa													
Australia													
Cook Islands													
Fiji													
French Polynesia													
Guam													
Kiribati													
Marshall Islands													
Micronesia (F.S.)													
Nauru													
New Caledonia													
New Zealand													
Niue													
Northern Mariana Islands													
Palau													
Papua New Guinea	2 539	2 102	1 507	26 743		104 900	99 000	81 192	1 676 681		617	668	
Samoa													
Solomon Islands	37 146	32 754	16 336	15 504		116 500	118 521	67 884	75 337		38	12	
Tonga													
Tuvalu													
Vanuatu	19 274	4 830	3 567	9 534		28 805	8 318	6 768	21 184			6	
Asia and the Pacific	**155**	**143**	**84**	**171**		**5 084 889**	**5 068 235**	**3 162 506**	**6 885 677**		**7 180**	**5 425**	
LLDC	373	85	62	339		372 105	94 412	74 450	450 140			94	
LDC	824	477	119	593		1 683 894	1 097 965	300 880	1 663 193		4 236		
ASEAN	420	252	79	370		1 841 166	1 207 636	406 939	2 074 352			2 842	
ECO	162	81	37	102	140	483 547	270 447	134 426	414 502	578 982		35	51
SAARC	244	270	172	175	130	2 789 563	3 427 996	2 398 302	2 701 009	2 039 394	1 422	1 790	
Central Asia	0	14	30	2	1	230	9 486	21 138	1 375	956			1
Pacific island dev. econ.	3 889	3 122	1 923	19 212		250 205	225 839	166 844	1 773 202		655	686	
Low income	377			245		1 653 092			1 475 157				
Middle income	130	141	93	168		3 431 797	4 013 941	2 820 647	5 408 469		2 834	3 253	
High income													
Africa	**5 313**	**4 190**	**4 424**	**9 114**		**33 935 951**	**30 434 048**	**36 251 499**	**85 909 331**				
Europe													
Latin America and Carib.	**239**	**265**	**219**	**185**		**1 055 897**	**1 279 664**	**1 139 240**	**1 042 407**				
North America													
Other countries/areas	**80**	**664**	**1 300**	**172**	**174**	**63 801**	**619 883**	**1 403 699**	**219 049**	**226 908**			
World	**759**	**655**	**686**	**1 427**		**40 140 538**	**37 401 830**	**41 956 944**	**94 056 464**			**162 773**	

8.2 Tuberculosis

	Prevalence				Incidence				DOTS detection rate		
	Per 100,000 population				Per 100,000 population				Percentage		
	1990	1995	2000	2007	1990	1995	2000	2007	1995	2000	2007
East and North-East Asia	**306**	**282**	**251**	**182**	**115**	**108**	**102**	**95**	**16**	**30**	**77**
China	327	303	269	194	117	111	105	98	15	31	80
DPR Korea	841	775	713	441	344	344	344	344		13	64
Hong Kong, China	96	86	78	63	94	84	76	62		67	60
Japan	62	51	45	28	47	39	34	21		23	78
Macao, China	69	87	87	63	69	87	85	63	88	95	102
Mongolia	477	477	297	234	205	205	205	205	8	61	76
Republic of Korea	223	132	113	126	166	98	72	90	30		14
South-East Asia	**461**	**409**	**338**	**271**	**279**	**257**	**237**	**213**	**20**	**43**	**77**
Brunei Darussalam	91	91	108	66	58	58	102	59		90	90
Cambodia	928	811	758	665	585	557	530	495	40	50	61
Indonesia	443	380	326	244	343	304	270	228	1	20	68
Lao PDR	428	407	344	289	179	170	162	151		40	78
Malaysia	159	151	136	121	118	114	109	103	64	73	81
Myanmar	411	361	267	162	171	171	171	171		50	116
Philippines	799	719	600	500	393	360	329	290	0	44	76
Singapore	52	49	39	27	50	47	38	27	62	16	96
Thailand	336	285	223	192	142	142	142	142		48	72
Timor-Leste	706	644	644	379	322	322	322	322			61
Viet Nam	365	346	248	220	202	193	183	171	30	82	82
South and South-West Asia	**523**	**471**	**403**	**261**	**166**	**165**	**163**	**161**	**4**	**16**	**68**
Afghanistan	437	397	346	236	168	168	168	168		18	64
Bangladesh	639	576	500	387	264	251	239	223	6	24	66
Bhutan	924	651	515	363	540	429	340	246	38	41	45
India	586	525	443	283	168	168	168	168	0	12	68
Iran (Islamic Rep. of)	50	55	40	27	36	40	31	22	42	58	68
Maldives	143	88	96	48	129	96	71	47	107	75	92
Nepal	629	523	312	240	243	220	199	173		57	66
Pakistan	430	422	413	223	181	181	181	181	1	3	67
Sri Lanka	109	97	107	79	61	61	61	61	62	67	86
Turkey	83	62	49	34	49	40	31	30			76
North and Central Asia	**78**	**107**	**155**	**124**	**50**	**70**	**110**	**113**	**10**	**13**	**51**
Armenia	52	68	94	81	33	47	71	72	12	47	51
Azerbaijan	58	76	113	86	35	50	75	77	5	6	47
Georgia	51	66	98	83	39	54	82	84	18	34	113
Kazakhstan	95	94	141	139	58	62	141	129		94	69
Kyrgyzstan	90	118	156	134	55	77	135	121		42	60
Russian Federation	69	111	164	115	45	73	113	110		5	49
Tajikistan	193	106	192	322	112	65	117	231			30
Turkmenistan	105	80	130	75	64	52	92	69		17	84
Uzbekistan	114	119	139	141	68	76	93	113		4	45
Pacific	**97**	**99**	**98**	**91**	**52**	**53**	**54**	**56**	**17**	**25**	**46**
American Samoa	43	22	8	5	21	11	6	5		90	
Australia	7	7	6	6	7	7	6	6		23	49
Cook Islands	0	19	12	31	0	12	7	15	90		
Fiji	69	53	43	30	51	39	30	21	51	58	67
French Polynesia	67	107	40	32	34	54	29	27		90	90
Guam	103	93	44	37	51	46	39	34		90	90
Kiribati	1 026	928	546	423	513	464	420	365		34	66
Marshall Islands	605	547	431	281	302	274	248	215		19	33
Micronesia (F.S.)	264	217	174	100	169	155	128	97	12	24	97
Nauru	170	263	44	33	85	132	44	33		90	90
New Caledonia	112	60	51	25	93	50	49	22	90	90	90
New Zealand	10	11	11	7	10	11	11	7		40	60
Niue	118	105	0	0	59	53	0	0			
Northern Mariana Islands	142	185	135	72	71	92	121	58		90	90
Palau	96	187	104	71	64	124	52	60	90		90
Papua New Guinea	498	496	486	430	250	250	250	250		7	15
Samoa	36	31	27	25	32	27	23	19	73	70	
Solomon Islands	625	480	300	180	312	240	185	128		32	50
Tonga	45	41	34	28	34	31	28	24	67	123	129
Tuvalu	593	500	422	203	297	250	211	166			152
Vanuatu	278	234	143	102	139	117	98	77		31	52
Asia and the Pacific	**393**	**362**	**318**	**224**	**152**	**148**	**145**	**140**	**11**	**25**	**72**
LLDC	272	254	224	191	121	121	141	144	23	35	59
LDC	589	523	435	330	251	240	230	216	25	34	74
ASEAN	461	409	337	271	279	257	237	212	19	42	77
ECO	230	227	228	143	106	107	113	116	15	19	66
SAARC	568	512	438	282	179	177	176	174	2	14	68
Central Asia	99	99	137	140	60	65	104	117	28	31	57
Pacific island dev. econ.	393	385	367	324	201	197	194	192	19	24	32
Low income	514	464	387	300	230	221	215	207	23	40	73
Middle income	401	370	327	225	149	146	144	138	9	23	72
High income	92	65	57	49	70	50	41	36	22	28	60
Africa	**293**	**320**	**375**	**407**	**154**	**203**	**273**	**310**	**40**	**47**	**52**
Europe	**38**	**38**	**38**	**27**	**31**	**31**	**31**	**28**	**33**	**31**	**32**
Latin America and Carib.	**131**	**102**	**80**	**59**	**88**	**73**	**62**	**49**	**33**	**45**	**79**
North America	**7**	**6**	**4**	**3**	**9**	**8**	**6**	**4**	**81**	**82**	**85**
Other countries/areas	**101**	**94**	**69**	**62**	**60**	**55**	**49**	**42**	**30**	**52**	**52**
World	**301**	**284**	**264**	**209**	**127**	**130**	**139**	**141**	**23**	**34**	**66**

9 Health risks and causes of death

Across the region, there are still millions of people dying from communicable diseases, but a rising proportion is now dying from non-communicable causes, such as cardiovascular disease or cancer.

In about one third of Asian and Pacific countries, more than 40% of lives are lost to communicable diseases, such as malaria, tuberculosis, measles and cholera. In Afghanistan, for example, the proportion is 77%, in Tajikistan 72%, and in Cambodia 67%. At the other end of the scale, in about one fifth of countries, most lives are lost to non-communicable diseases such as cardiovascular diseases, cancers, diabetes and chronic respiratory diseases – as in China 59%, Russian Federation 62%, Japan 76%, and New Zealand 77%.

The third major category of cause is injuries. These involve those resulting from traffic accidents, or other accidents, such as drowning and falls, as well as from violence, including those resulting from conflicts. Countries where injuries represent a high percentage of lives lost include: Sri Lanka, 62%; Indonesia 37%; Maldives, 30%; and Russian Federation, 29%. Three of these countries suffered significant loss of life in the December 2004 Indian Ocean tsunami.

Proportion of lives lost due to injuries in tsunami-affected countries, 2002 and 2004
(Percentage)

Country	2002	2004
India	13	14
Indonesia	15	37
Maldives	9	30
Sri Lanka	20	62
Thailand	17	19

In principle, the injuries category also covers suicide but the data in this regard are scarce and, for various reasons, not necessarily readily comparable. Suicide rates are high for a number of countries, including Japan, Kazakhstan, the Republic of Korea and the Russian Federation, though due to the paucity of data, it is not clear whether their rates have changed over time. However, the gender differences are clear: in most countries that have the relevant data, male suicide rates are more than double those of females.

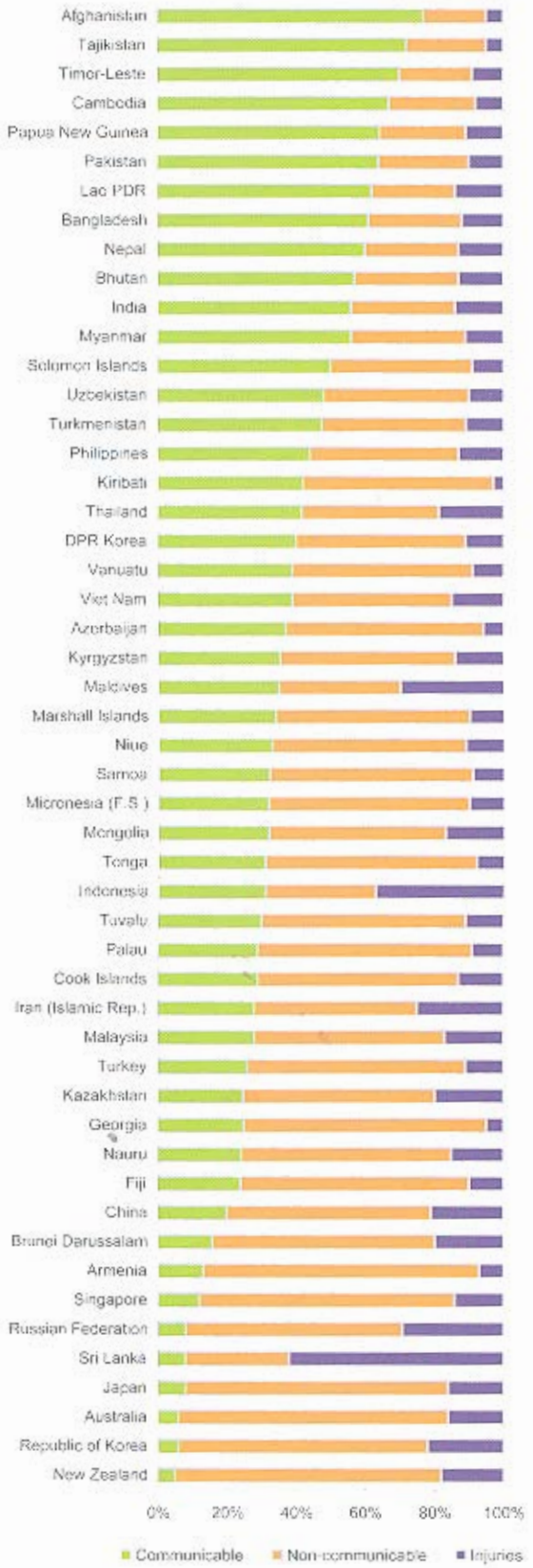
One of the major causes of non-communicable disease is substance abuse, such as smoking and alcohol consumption. In the case of smoking, average prevalence for females is only around 6% but for males it is much higher – in East and North-East Asia 58%, in South-East Asia 53%, and in South and South-West Asia 35%. In North and Central Asia, the average smoking prevalence for females is 21%, while for males it is 62%. The smoking prevalence, and the gender difference, is lowest in the Pacific. At the country level, the highest prevalence of male smoking in Asia and the Pacific is in the Russian Federation – 70%.

Significantly, in many ESCAP countries more than 20% of adolescents aged 13 -15 are smoking – for instance in Georgia, Islamic Republic of Iran, Malaysia, Russian Federation, Philippines and Timor-Leste. The issue is even more serious in the Pacific – in Papua New Guinea 48%, in the Federated States of Micronesia 46%, in Cook Islands 45%, and in Tuvalu 36%. This is not just a problem for the smokers themselves since other people suffer from their second-hand smoke, and the diseases related to smoking put pressure on health systems.

On the other hand, the region has more modest consumption of alcohol – only 3.2 litres of absolute alcohol per adult per year. However, there are considerable differences between the subregions and among countries. In general, consumption is higher in the more industrialized countries: 9.7 litres in New Zealand, 9.0 litres in Australia, 7.9 litres in the Republic of Korea and 7.6 litres in Japan. The highest rate, however, is in the Russian Federation – 10.3 litres per adult. The Pacific island country of Niue also has very high consumption, at 9.5 litres. For religious and cultural reasons, the consumption of alcohol is very low in

Figure 9.1

Proportions of years of life lost to communicable, non-communicable disease, and injuries, Asia and the Pacific, 2004



much of South and South-West Asia and South-East Asia.

Distribution of years of life lost to communicable diseases, non-communicable diseases and injuries (percentage of total)
Years of life lost (YLLs) are calculated from the number of deaths multiplied by a standard life expectancy at the age at which death occurs due to communicable diseases, non-communicable diseases or injuries. The standard life expectancy used for YLLs at each age is the same for deaths in all regions of the world. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 22 September 2009.

Suicide rates, female and male (per 100,000 population)
The total number of suicides in a given year divided by the respective mid-year population, expressed per 100,000 population. Suicide is the act of deliberately killing oneself. Risk factors for suicide include mental disorder (such as depression, personality disorder, alcohol dependence, or schizophrenia), and some physical illnesses, such as neurological disorders, cancer, and HIV infection. Data are disaggregated by sex. **Source:** World Health Organization, Mental Health programme. Online database accessed on 23 September 2009.

Prevalence of smoking: female and male (percentage)
The prevalence of current tobacco smoking (including cigarettes, cigars, pipes or any other smoked tobacco products) among women and men. Current smoking includes both daily and non-daily or occasional smoking. **Aggregates:** Calculated by ESCAP using the population of women or men aged 15 and above (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 23 September 2009.

Prevalence of smoking in adolescents (% of population aged 13-15 years)
The prevalence among girls and boys aged 13-15 of tobacco use, including smoking, oral tobacco and snuff, on more than one occasion in the 30 days preceding the survey. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 23 September 2009.

Alcohol consumption (litres per adult aged 15 and above)
Litres of pure alcohol per capita, computed as the sum of alcohol production and imports, less alcohol exports, divided by the adult population (aged 15 years and older). **Aggregates:** Calculated by ESCAP using population aged 15 and above (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 23 September 2009.

9.1 Causes of deaths

	Distribution of years of life lost to			Suicide rates			
	Communicable diseases	Non-communicable diseases	Injuries	Female		Male	
	Percentage of total			Per 100,000 population			
	2004	2004	2004	Latest		Latest	
East and North-East Asia							
China	20	59	21	14.6	(99)	13.0	(99)
DPR Korea	40	49	11				
Hong Kong, China				13.1	(05)	22.0	(05)
Japan	8	76	16	13.2	(06)	34.8	(06)
Macao, China							
Mongolia	32	51	17				
Republic of Korea	6	72	22	14.1	(06)	29.6	(05)
South-East Asia							
Brunei Darussalam	16	65	20				
Cambodia	67	25	8				
Indonesia	31	32	37				
Lao PDR	62	24	14				
Malaysia	28	55	17				
Myanmar	56	33	11				
Philippines	44	43	13	1.7	(93)	2.5	(93)
Singapore	12	73	14	7.7	(06)	12.9	(06)
Thailand	42	40	19	3.8	(02)	12.0	(02)
Timor-Leste	70	21	9				
Viet Nam	39	46	15				
South and South-West Asia							
Afghanistan	77	16	5				
Bangladesh	61	27	12				
Bhutan	57	30	13				
India	56	30	14	9.1	(98)	12.2	(98)
Iran (Islamic Rep. of)	28	47	25	0.1	(91)	0.3	(91)
Maldives	35	35	30				
Nepal	60	27	13				
Pakistan	64	26	10				
Sri Lanka	8	30	62	16.8	(91)	44.6	(91)
Turkey	26	63	11				
North and Central Asia							
Armenia	13	79	7	0.5	(03)	3.2	(03)
Azerbaijan	37	57	6	0.5	(02)	1.8	(02)
Georgia	25	70	5	1.1	(01)	3.4	(01)
Kazakhstan	25	56	20	8.1	(05)	45.0	(05)
Kyrgyzstan	35	50	14	3.2	(05)	15.3	(05)
Russian Federation	8	62	29	9.8	(05)	58.1	(05)
Tajikistan	72	23	5	2.3	(01)	2.9	(01)
Turkmenistan	48	42	11	3.5	(98)	13.8	(98)
Uzbekistan	48	42	10	3.0	(03)	8.1	(03)
Pacific							
American Samoa							
Australia	6	78	16	4.7	(03)	17.1	(03)
Cook Islands	29	58	13				
Fiji	24	66	10				
French Polynesia							
Guam							
Kiribati	42	55	3				
Marshall Islands	34	56	10				
Micronesia (F.S.)	32	58	10				
Nauru	24	60	15				
New Caledonia							
New Zealand	5	77	18	4.2	(00)	19.8	(00)
Niue	33	56	11				
Northern Mariana Islands							
Palau	29	62	9				
Papua New Guinea	65	25	11				
Samoa	32	58	9				
Solomon Islands	50	41	9				
Tonga	31	61	8				
Tuvalu	30	59	11				
Vanuatu	39	52	9				
Asia and the Pacific							
LLDC							
LDC							
ASEAN							
ECO							
SAARC							
Central Asia							
Pacific island dev. econ.							
Low income							
Middle income							
High income							
Africa							
Europe							
Latin America and Carib.							
North America							
Other countries/areas							
World							

9.2 Tobacco and alcohol consumption

	Prevalence of smoking			Alcohol consumption per capita
	Women	Men	Adolescents	
	% of women	% of men	% of population aged 13-15	Litres per adult aged 15 and above
	2005	2005	Latest	2003
East and North-East Asia	**5**	**58**		**5.5**
China	4	60	6 (05)	5.2
DPR Korea		59		3.3
Hong Kong, China				
Japan	14	44		7.6
Macao, China				
Mongolia	7	46	15 (03)	2.8
Republic of Korea	6	53	10 (05)	7.9
South-East Asia	**6**	**53**		**1.6**
Brunei Darussalam				0.1
Cambodia	7	41	5 (03)	1.5
Indonesia	5	66	14 (05)	0.1
Lao PDR	16	65	9 (03)	6.9
Malaysia	3	54	26 (03)	1.1
Myanmar	14	47	15 (07)	0.3
Philippines	10	42	23 (07)	3.5
Singapore			9 (00)	2.2
Thailand	3	40	16 (05)	5.6
Timor-Leste			41 (06)	
Viet Nam	3	46	2 (03)	0.9
South and South-West Asia	**5**	**35**		**0.3**
Afghanistan			10 (04)	0.0
Bangladesh	4	47	6 (04)	0.0
Bhutan			20 (06)	0.2
India	4	33	14 (06)	0.3
Iran (Islamic Rep. of)	6	30	27 (07)	0.0
Maldives	12	45	6 (07)	
Nepal	26	35	9 (07)	0.2
Pakistan	7	35	10 (03)	0.0
Sri Lanka	3	30	9 (07)	0.3
Turkey	19	52	8 (03)	1.4
North and Central Asia	**21**	**62**		**8.0**
Armenia	4	55	7 (04)	1.5
Azerbaijan	1			4.5
Georgia	6	57	25 (03)	1.5
Kazakhstan	10	43	11 (04)	3.0
Kyrgyzstan	2	47	7 (04)	3.6
Russian Federation	27	70	27 (04)	10.3
Tajikistan			5 (04)	0.4
Turkmenistan				1.2
Uzbekistan	1	24		1.5
Pacific	**22**	**28**		**7.7**
American Samoa				
Australia	22	28		9.0
Cook Islands	20	36	45 (03)	3.7
Fiji	5	24	12 (05)	1.7
French Polynesia				
Guam				
Kiribati				0.5
Marshall Islands				
Micronesia (F.S.)			46 (07)	1.2
Nauru	52	46		0.9
New Caledonia				
New Zealand	28	30	20 (07)	9.7
Niue				9.5
Northern Mariana Islands				
Palau	10	38		
Papua New Guinea			48 (07)	1.6
Samoa	23	58	24 (07)	1.7
Solomon Islands				1.0
Tonga	16	62		0.8
Tuvalu			36 (06)	1.4
Vanuatu	8	49	26 (07)	0.8
Asia and the Pacific	**6**	**48**		**3.2**
LLDC	10	37		1.7
LDC	9	46		0.3
ASEAN	6	53		1.6
ECO	9	37		0.7
SAARC	4	35		0.2
Central Asia	4	37		2.2
Pacific island dev. econ.	9	35		1.6
Low income	6	45		0.7
Middle income	6	49		3.1
High income	13	44		7.7
Africa	**3**	**20**		**3.3**
Europe	**27**	**38**		**10.0**
Latin America and Carib.	**18**	**34**		**5.4**
North America	**21**	**26**		**8.5**
Other countries/areas	**5**	**32**		**0.6**
World	**10**	**42**		**4.4**

10 Financial and human resources for health

Governments have been spending less on health as a proportion of GDP, while individuals and households have been increasing the proportion of private spending that takes the form of out-of-pocket expenditure.

Between 2001 and 2005, total health expenditure in Asia and the Pacific was around 6.4-6.5% of GDP, but in 2006, it declined to 6.1%. This coincided with a nearly two percentage-point increase in private households' out-of-pocket expenditure, as percentage of total private health expenditure. Lower public expenditure on health and higher private expenditure could disproportionately affect poor and marginalized people. The Yearbook data do not, however, allow conclusions on which population groups were affected, or on whether the trend has continued. For both indicators they do, however, show significant subregional and country variations.

The Pacific region had both the highest total health expenditure (8.7% of GDP) and the lowest out-of-pocket expenditure on health as a percentage of private health expenditure (58.0%). South-East Asia had the lowest relative health expenditure of all subregions. While their average out-of-pocket expenditure as a proportion of total health expenditure was also relatively low, at 77%, there was a huge variation from 37% in Timor-Leste to 94-99% in Brunei Darussalam, the Lao People's Democratic Republic, Myanmar and Singapore.

East and North-East Asia, North and Central Asia and South and South-West Asia had moderate levels of total health expenditure as a percentage of GDP, and relatively high levels of out-of-pocket expenditures as a percentage of private health expenditure.

Per-capita government expenditure on health, in terms of purchasing power parity (PPP) at current prices, varies even among countries at similar levels of development. North and Central Asian countries generally saw a significant rise in

Figure 10.1

Total health expenditure as a percentage of GDP, Asia and the Pacific, 2005 and 2006

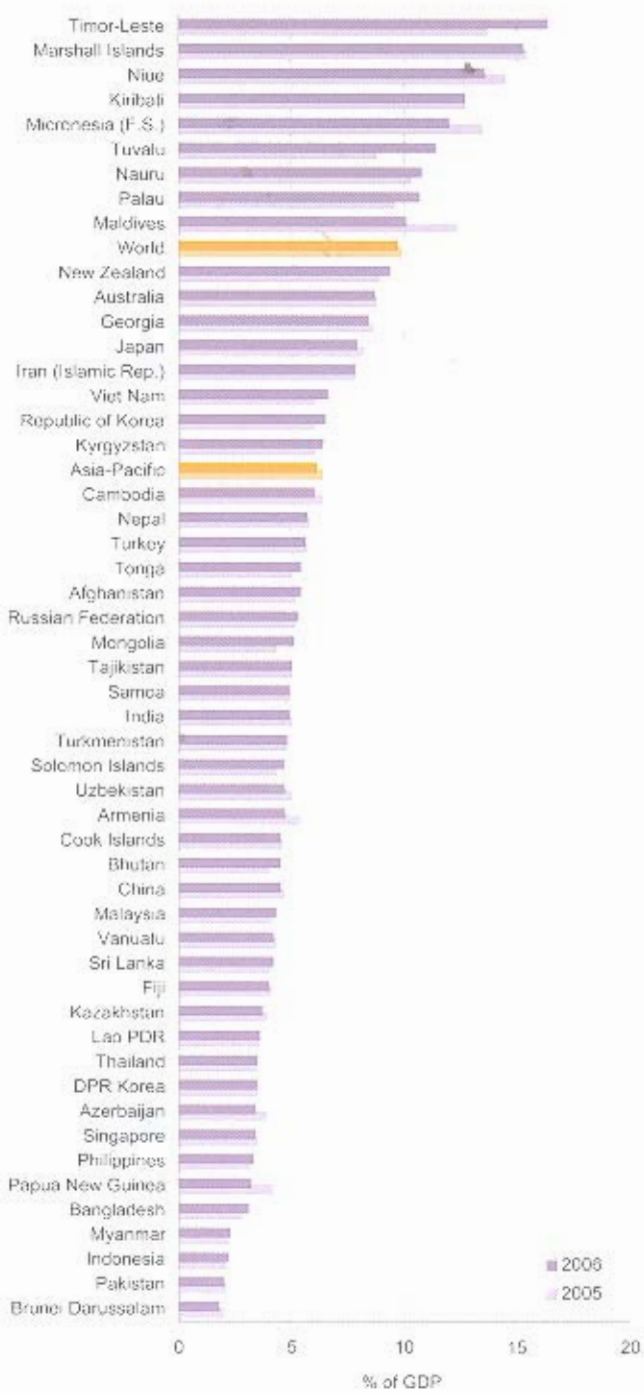


Figure 10.2

Out-of-pocket expenditure as a proportion of total private health expenditure, Asia and the Pacific, 2000 and 2006

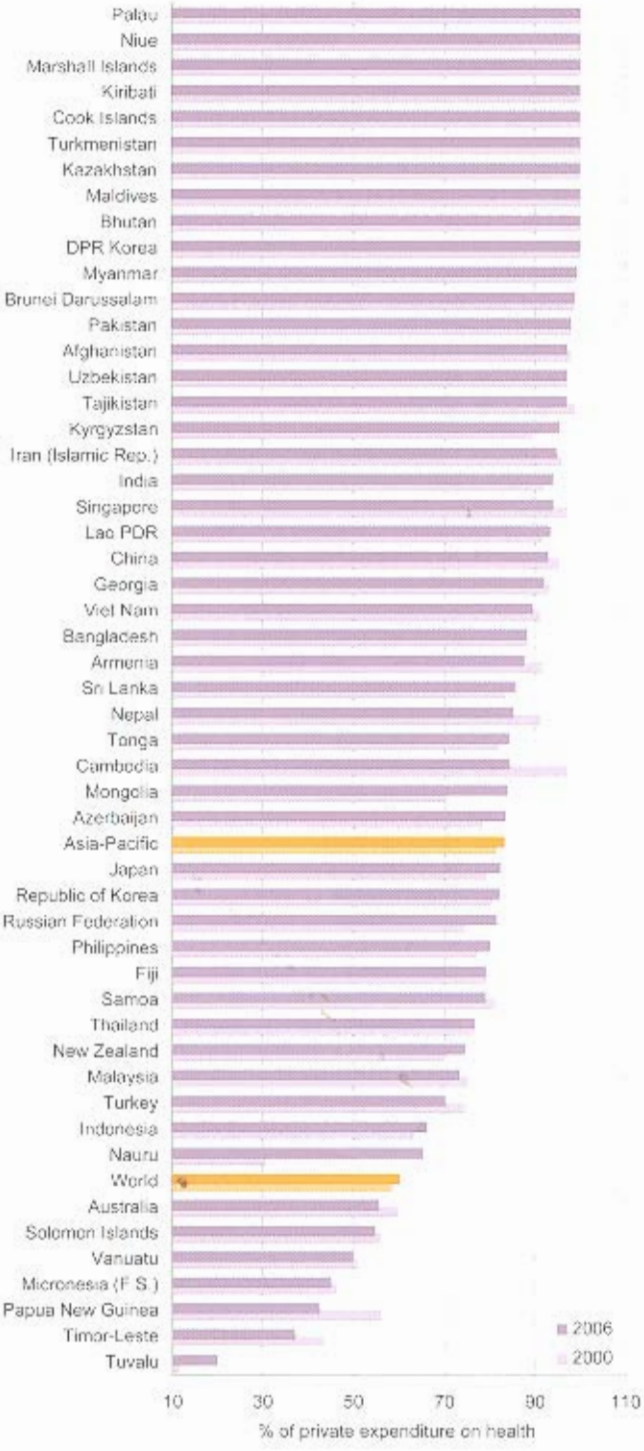
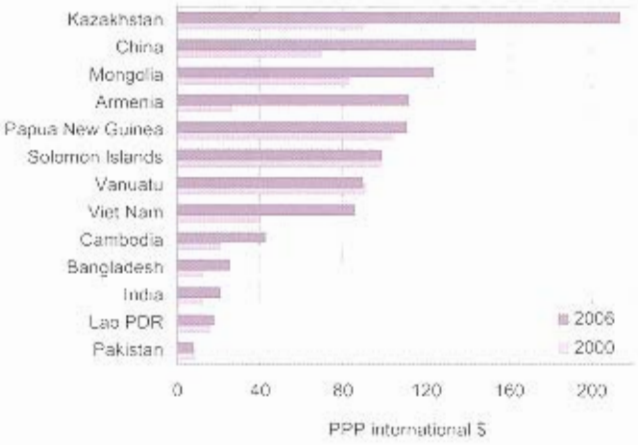


Figure 10.3

Per capita government expenditure on health in selected developing countries, 2000 and 2006



per capita government expenditure on health. Other countries that increased their expenditure considerably during the same period include Bangladesh, Cambodia, China, Indonesia, the Islamic Republic of Iran and Maldives. While there was little change in the lower-income countries of the Pacific, Australia and New Zealand increased their expenditure by 38% and 43%, respectively, over the same period. Government financing of health is critical for the poor, but in several countries of the region it remains below what is considered adequate to provide essential health-care interventions to all members of society.

While financial resources play an important role in determining the extent and quality of the health care available, it is also important to have data on the number and quality of health staff, regrettably, consistent and up-to-date data on human resources are even harder to find than those on financial resources. Nevertheless, some basic patterns can be noted.

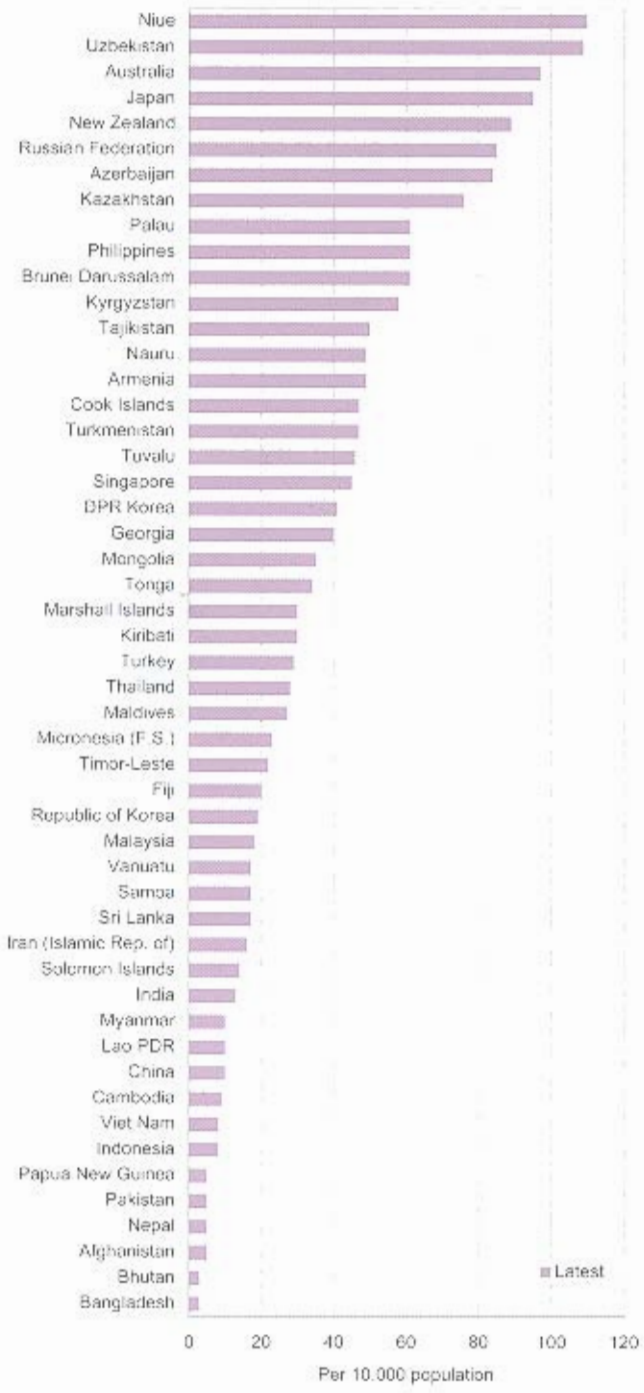
North and Central Asia has both the highest number of physicians and midwifery personnel per population. Several countries in the Pacific, as well as ones in East and North-East Asia, also have relatively high numbers of health-care workers. The patterns are similar for the number of hospital beds available per person.

South-East Asian and South and South-West Asian countries typically have low numbers of physicians, nursing and midwifery personnel, and hospital beds. The exceptions are Brunei Darussalam, Philippines, Singapore and Maldives.

The South and South-West Asia subregion is particularly short of nursing and midwifery personnel. This has serious implications for women and children, since this subregion also has high levels of maternal mortality and morbidity. Improving maternal and child survival and health will require greater investment in these key personnel.

Figure 10.4

Number of nursing and midwifery personnel, Asia and the Pacific, 2000-2006



Total health expenditure (% of GDP)
Level of total expenditure on health (THE) as a percentage of gross domestic product (GDP). Total expenditure on health (THE) comprises the funds mobilized by the system, being the sum of general government and private expenditure on health. **Aggregates:** Calculated by ESCAP using current GDP in US dollars (from UNSD, National Accounts Main Aggregates Database) as weight. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 11 August 2009.

General government health expenditure (% of total government expenditure)
The sum of outlays for health maintenance, restoration or enhancement paid for in cash or supplied in kind by government entities, such as the Ministry of Health, other ministries, parastatal organizations or social security agencies (without double counting government transfers to social security and extrabudgetary funds). It includes transfer payments to households to offset medical care costs and extrabudgetary funds to finance health services and goods. The revenue base of these entities may comprise multiple sources, including external funds. General government expenditure corresponds to the consolidated outlays of all levels of government: territorial authorities (Central/Federal Government, Provincial/Regional/State/District authorities, Municipal/Local governments), social security institutions and extrabudgetary funds, including capital outlays. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 13 August 2009.

Per capita total expenditure on health (international dollars (PPP)
The sum of general government and private expenditure on health, expressed in international (PPP) dollars, divided by mid-year population. International dollar rate is a common currency unit that takes into account differences in relative purchasing power annual average. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 11 August 2009.

Per capita government expenditure on health (international dollars (PPP)
Government expenditure on health in PPP international dollars divided by mid-year population. See also definition of *general government health expenditure*. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 11 August 2009.

Private expenditure on health (% of total expenditure on health)
The sum of outlays for health by private entities, such as commercial or mutual health insurance providers, non-profit institutions serving households, resident corporations and quasi-corporations not controlled by government with a health services delivery or financing, and direct household out-of-pocket payments, expressed as a proportion of total health expenditure. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 11 August 2009.

Out-of-pocket expenditure on health (% of private expenditure on health)
The direct outlay of households, including gratuities and payments in kind, made to health practitioners and suppliers of pharmaceuticals, therapeutic appliances and other goods and services, whose primary intent is to contribute to the restoration or to the enhancement of the health status of individuals or population groups. It includes household payments to public services, non-profit institutions and nongovernmental organizations, as well as non-reimbursable cost sharing, deductibles, co-payments and fee-for-service. It excludes payments made by companies that deliver medical and paramedical benefits, whether required by law or not, to their employees, and payments for overseas treatment. **Aggregates:** Calculated by ESCAP using current GDP in US dollars (from UNSD, National Accounts Main Aggregates Database) as weight. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 11 August 2009.

Number of physicians (per 1,000 population)
Estimates of the density of physicians per 1,000 population. Physicians include generalists and specialists. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 10 October 2009.

Number of nursing and midwifery personnel (per 10,000 population)
Estimates of nursing and midwifery personnel density (per 10,000 population). Nursing and midwifery personnel: includes professional nurses, professional midwives, auxiliary nurses, auxiliary midwives, enrolled nurses, enrolled midwives and other personnel, such as dental nurses and primary care nurses. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 11 August 2009.

Number of hospital beds (per 10,000 population)
Estimates of in-patient hospital beds, expressed per 10,000 population. Maternity beds are included while cots and delivery beds are excluded. **Source:** WHO Statistical Information System (WHOSIS), Core Health Indicators Database. Online database accessed on 11 August 2009.

10.1 Financial resources for health

	Total health expenditure			General government health expenditure			Per capita total expenditure on health			Per capita government expenditure on health		
	% of GDP			% of total government expenditure			International dollars (PPP)					
	1995	2000	2006	1995	2000	2006	1995	2000	2006	1995	2000	2006
East and North-East Asia	**6.2**	**6.8**	**6.6**									
China	3.5	4.6	4.5	15.9	11	9.9	91	183	342	46	70	144
DPR Korea	3.2	3.6	3.5	6.0	6.0	6.0	37	41	49	31	35	42
Hong Kong, China												
Japan	6.8	7.6	7.9	15.7	16.0	17.7	1 551	1 967	2 514	1 288	1 598	2 067
Macao, China												
Mongolia	4.9	5.6	5.1	10.7	10.7	11.0	75	104	149	57	83	124
Republic of Korea	3.7	4.4	6.5	7.2	9.3	11.9	473	718	1 487	191	304	819
South-East Asia	**3.0**	**3.0**	**3.3**									
Brunei Darussalam	2.7	2.5	1.8	4.2	5.0	5.1	479	457	394	364	381	314
Cambodia	5.7	5.8	6.0	7.1	8.7	10.7	67	93	167	13	21	43
Indonesia	1.9	1.7	2.2	4.1	3.8	5.3	52	48	87	21	19	44
Lao PDR	3.0	3.2	3.6	4.6	5.2	4.1	35	49	85	16	16	18
Malaysia	3.1	3.3	4.3	5.3	6.2	7.0	220	280	500	100	147	226
Myanmar	2.1	2.1	2.3	1.5	1.2	1.8	20	29	43	4	4	7
Philippines	3.4	3.5	3.3	6.3	7.0	6.4	145	170	223	57	81	66
Singapore	3.6	3.4	3.4	9.4	6.0	5.4	736	874	1 228	309	322	413
Thailand	3.5	3.4	3.5	9.9	10.0	11.3	223	226	346	105	127	223
Timor-Leste	9.5	8.8	16.4	10.8	12.7	16.4	112	93	169	100	66	150
Viet Nam	4.9	5.4	6.6	6.7	6.4	6.8	85	132	264	28	40	86
South and South-West Asia	**3.8**	**4.4**	**5.2**									
Afghanistan		3.3	5.4		1.1	4.4		11	29		1	8
Bangladesh	3.0	3.1	3.1	5.3	5.3	7.4	36	49	69	11	13	26
Bhutan	4.9	5.4	4.5	6.4	7.2	7.3	57	84	107	43	63	73
India	4.1	4.3	4.9	4.3	3.4	3.4	44	60	109	12	13	21
Iran (Islamic Rep. of)	4.7	5.9	7.8	9.3	9.6	9.2	231	364	731	115	135	406
Maldives	5.5	6.8	10.1	12.8	13.7	14.0	198	357	882	168	271	742
Nepal	5.3	5.4	5.7	7.9	7.7	9.2	50	62	78	13	15	24
Pakistan	2.4	2.5	2.0	2.0	1.8	1.3	39	44	51	10	9	8
Sri Lanka	3.5	3.7	4.2	5.5	6.8	8.3	90	127	213	42	61	105
Turkey	3.4	4.9	5.6	10.7	9.8	16.5	177	432	645	124	272	461
North and Central Asia	**5.5**	**5.3**	**5.2**									
Armenia	4.9	5.4	4.7	4.5	4.5	9.7	80	154	272	33	27	112
Azerbaijan	6.4	4.8	3.4	6.9	4.2	3.6	105	115	218	23	21	67
Georgia	5.5	7.4	8.4	3.7	6.4	5.6	78	161	355	7	27	76
Kazakhstan	4.6	4.1	3.7	11.5	9.2	10.4	151	177	330	97	91	214
Kyrgyzstan	7.0	4.7	6.4	11.9	8.3	8.7	77	68	127	44	30	55
Russian Federation	5.6	5.4	5.3	9.0	9.6	10.8	325	375	638	230	224	404
Tajikistan	3.3	4.6	5.0	7.0	4.9	5.5	28	37	71	12	7	16
Turkmenistan	2.9	4.8	4.8	9.1	14.9	14.9	101	211	259	63	156	172
Uzbekistan	5.2	5.8	4.7	7.2	6.3	8.0	106	145	177	74	65	89
Pacific	**7.3**	**8.2**	**8.7**									
American Samoa												
Australia	7.4	8.3	8.7	12.8	16.0	17.2	1 611	2 265	3 122	1 060	1 518	2 097
Cook Islands	4.8	6.1	4.5	10.2	13.0	12.4	330	543	566	300	493	518
Fiji	3.9	4.7	4.0	8.0	10.3	9.1	178	245	280	104	169	199
French Polynesia												
Guam												
Kiribati	12.2	11.6	12.7	11.1	9.6	13.0	180	228	290	165	209	268
Marshall Islands	12.7	22.0	15.3	12.8	21.1	15.1	543	764	607	523	748	589
Micronesia (F.S.)	8.8	9.0	12.0	9.3	10.5	18.9	320	333	491	281	292	444
Nauru	11.5	11.0	10.8	5.9	11.2	25.0	727	622	803	671	467	444
New Caledonia												
New Zealand	7.2	8.1	9.4	13.1	16.2	18.6	1 244	1 686	2 447	960	1 333	1 905
Niue	7.3	8.0	13.6	4.0	6.3	10.8	86	116	298	84	116	294
Northern Mariana Islands												
Palau	9.3	9.7	10.7	12.8	12.3	16.4	652	716	1 084	592	639	1 003
Papua New Guinea	3.4	3.6	3.2	9.7	9.9	7.3	113	129	134	89	105	111
Samoa	5.0	5.5	4.9	7.1	10.8	10.5	135	186	232	95	132	188
Solomon Islands	4.1	5.2	4.7	8.9	11.4	12.6	101	105	107	90	99	99
Tonga	4.8	5.8	5.4	9.7	15.2	11.1	174	250	289	122	183	218
Tuvalu	8.4	13.4	11.4	6.0	5.9	16.1	83	157	205	73	145	189
Vanuatu	3.5	4.4	4.2	8.0	9.8	10.9	102	136	139	64	92	90
Asia and the Pacific	**5.7**	**6.3**	**6.1**									
LLDC	4.9	4.8	4.2									
LDC	3.3	3.5	3.8									
ASEAN	3.0	3.0	3.3									
ECO	3.7	4.7	5.4									
SAARC	3.7	4.0	4.4									
Central Asia	4.9	5.0	4.2									
Pacific island dev. econ.	4.0	4.4	4.0									
Low income	3.9	4.2	4.7									
Middle income	3.8	4.4	4.6									
High income	6.5	7.3	7.7									
Africa	**5.4**	**5.4**	**5.5**									
Europe	**8.6**	**8.6**	**9.3**									
Latin America and Carib.	**6.5**	**6.7**	**6.8**									
North America	**13.0**	**12.9**	**14.8**									
Other countries/areas	**4.8**	**4.9**	**4.1**									
World	**8.7**	**9.1**	**9.7**									

10.2 Financial, human and other resources on health

	Private expenditure on health			Out-of-pocket expenditure on health			Physicians	Number of Nursing and midwifery personnel	Hospital beds
	% of total expenditure on health			% of private expenditure on health			Per 1,000 population	Per 10,000 population	
	1995	2000	2006	1995	2000	2006	Latest	Latest	Latest
East and North-East Asia				**81**	**82**	**86**			
China	50	62	58	94	96	93	1.4 (03)	10 (03)	22 (06)
DPR Korea	16	14	14	100	100	100	3.2 (03)	41 (03)	
Hong Kong, China									
Japan	17	19	18	79	79	82	2.1 (04)	95 (04)	141 (05)
Macao, China									
Mongolia	24	20	16	76	71	84	2.7 (02)	35 (02)	64 (06)
Republic of Korea	60	49	45	84	81	82	1.6 (03)	19 (03)	86 (08)
South-East Asia				**76**	**77**	**77**			
Brunei Darussalam	24	17	20	99	99	99	1.1 (02)	61 (02)	30 (05)
Cambodia	81	78	74	95	97	84	0.2 (00)	9 (00)	1 (04)
Indonesia	60	62	50	58	63	66	0.1 (03)	8 (03)	
Lao PDR	55	67	79	89	92	94	0.3 (04)	10 (04)	12 (05)
Malaysia	54	48	55	78	75	73	0.7 (02)	18 (02)	19 (06)
Myanmar	81	87	83	100	99	99	0.4 (04)	10 (04)	7 (00)
Philippines	61	52	60	83	77	80	1.1 (02)	61 (02)	13 (06)
Singapore	58	63	66	98	97	94	1.5 (03)	45 (03)	32 (06)
Thailand	53	44	36	80	77	77	0.4 (03)	28 (03)	
Timor-Leste	11	29	11	94	43	37	0.1 (04)	22 (04)	
Viet Nam	68	70	66	92	91	90	0.6 (02)	8 (02)	26 (05)
South and South-West Asia				**94**	**88**	**88**			
Afghanistan		99	73		98	97	0.2 (05)	5 (05)	4 (03)
Bangladesh	68	74	63	90	88	88	0.3 (05)	3 (05)	3 (01)
Bhutan	25	26	31	100	100	100	0.1 (07)	3 (07)	16 (01)
India	74	78	80	91	92	94	0.6 (04)	13 (04)	
Iran (Islamic Rep. of)	50	63	44	92	96	95	0.9 (05)	16 (05)	17 (05)
Maldives	16	24	16	100	100	100	1.0 (04)	27 (04)	23 (03)
Nepal	74	75	70	95	91	85	0.2 (04)	5 (04)	2 (01)
Pakistan	74	80	84	98	98	98	0.8 (05)	5 (05)	12 (05)
Sri Lanka	53	52	51	87	83	86	0.5 (04)	17 (04)	29 (00)
Turkey	30	37	29	100	75	70	1.6 (06)	29 (06)	27 (06)
North and Central Asia				**60**	**78**	**83**			
Armenia	59	82	59	97	92	88	3.5 (06)	49 (06)	44 (05)
Azerbaijan	78	82	69	80	78	84	3.6 (06)	84 (06)	81 (06)
Georgia	91	83	79	97	93	92	4.7 (06)	40 (06)	37 (06)
Kazakhstan	36	49	35	100	100	100	3.8 (06)	76 (06)	78 (06)
Kyrgyzstan	43	56	57	93	89	95	2.4 (06)	58 (06)	51 (06)
Russian Federation	29	40	37	55	75	82	4.3 (06)	85 (06)	97 (06)
Tajikistan	59	80	77	93	99	97	2.0 (06)	50 (06)	61 (06)
Turkmenistan	37	26	33	100	100	100	2.5 (06)	47 (06)	43 (06)
Uzbekistan	30	55	50	97	97	97	2.7 (05)	109 (05)	52 (05)
Pacific				**50**	**61**	**58**			
American Samoa									
Australia	34	33	33	47	60	56	2.5 (01)	97 (01)	40 (05)
Cook Islands	9	9	9	100	100	100	1.1 (04)	47 (04)	63 (05)
Fiji	42	31	29	81	79	79	0.5 (03)	20 (03)	21 (05)
French Polynesia									
Guam									
Kiribati	8	8	8	100	100	100	0.2 (04)	30 (04)	15 (05)
Marshall Islands	4	2	3	100	100	100	0.5 (00)	30 (00)	
Micronesia (F.S.)	12	12	10	43	46	45	0.6 (03)	23 (03)	33 (08)
Nauru	8	25	45	100	31	66	1.0 (04)	49 (04)	59 (04)
New Caledonia									
New Zealand	23	21	22	71	70	75	2.1 (02)	89 (03)	60 (02)
Niue	2	2	1	100	100	100	2.4 (04)	110 (04)	49 (06)
Northern Mariana Islands									
Palau	9	11	8	100	100	100	1.6 (00)	61 (04)	59 (06)
Papua New Guinea	21	18	17	52	56	43	0.1 (00)	5 (00)	
Samoa	30	29	19	78	81	79	0.3 (03)	17 (03)	10 (05)
Solomon Islands	12	6	7	68	56	55	0.1 (03)	14 (03)	15 (05)
Tonga	30	27	25	91	82	85	0.3 (02)	34 (02)	29 (04)
Tuvalu	11	8	8	7	12	20	1.0 (03)	46 (03)	56 (01)
Vanuatu	37	32	35	53	51	50	0.1 (04)	17 (04)	41 (05)
Asia and the Pacific				**80**	**81**	**83**			
LLDC				96	95	95			
LDC				91	90	90			
ASEAN				76	77	77			
ECO				96	85	83			
SAARC				92	92	94			
Central Asia				97	96	96			
Pacific island dev. econ.				66	54	71			
Low income				93	92	91			
Middle income				83	87	87			
High income				78	78	79			
Africa				**69**	**72**	**71**			
Europe				**67**	**66**	**70**			
Latin America and Carib.				**76**	**75**	**73**			
North America				**30**	**28**	**26**			
Other countries/areas				**63**	**63**	**57**			
World				**61**	**58**	**60**			

11 Access to water and sanitation

Safe water and sanitation are vital for human health and social dignity, as well as healthy ecosystems and productive livelihoods. But they also bring economic benefits, both directly as sources of investment activity, and indirectly through increases in tourism, foreign direct investment, labour productivity and agricultural output.

Asia and the Pacific has taken significant steps towards the MDG target of halving, by 2015, the proportion of people without sustainable access to safe drinking water. Between 1990 and 2006, the proportion of the region's population with access to improved drinking water sources increased from 74 to 88%. This places the region ahead of Africa at 64%, but behind Latin America and the Caribbean at 91%, and North America and Europe 99%. The region made the greatest gains in the rural areas where the proportion of the population with access to improved water sources increased from 63 to 83%.

The proportion increased in all Asia-Pacific subregions, except for the Pacific island developing economies. In North and Central Asia, access is almost universal; the exception being Tajikistan, which by 2006 had only reached 67%. Among the countries that made significant progress in improving rural access were China from 55 to 81%, India from 65 to 86%, and Turkey from 74 to 95%.

The least developed countries and landlocked developing countries are some way behind. Many still have access rates of just above 70%, while the Pacific developing economies are even further behind, at 48%. The lowest coverage is in some Pacific islands, including Papua New Guinea at 40%, and Fiji at 47%.

The worst situation is in conflict-stricken Afghanistan, where, in 2006, access in urban areas was 37% and in rural areas just 17%. The second lowest coverage was in Papua New Guinea, where rural access, in 2006, was only 32% and showed little sign of improvement. Other Pacific islands are also lagging, and some have seen urban access deteriorate.

Figure 11.1

Proportion of total population with access to improved water sources, selected country groupings, 1990 and 2006

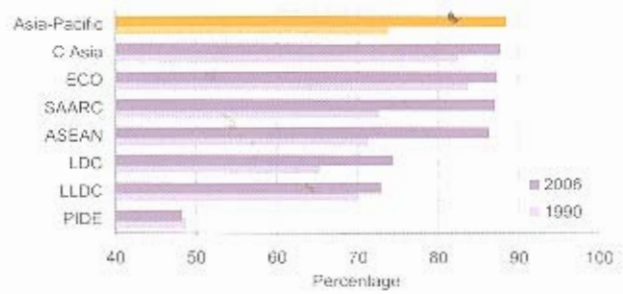
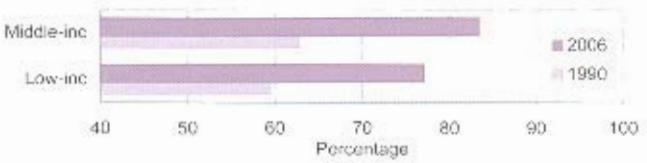


Figure 11.2

Proportion of rural population with access to improved water sources, low- and middle-income countries, 1990 and 2006



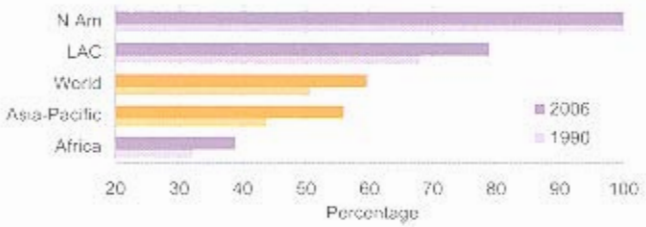
Sanitation

Compared with the situation for water supplies, coverage of safe sanitation is lower. Only, around 56% of the region's population have access to improved sanitation, which is higher than in Africa at 39%, but lower than in Latin America and the Caribbean at 79% – and also lower than the global average of 60%. Sanitation is much better in the richer countries: in the high-income economies just about everyone has access to safe sanitation. But the situation is much worse in the middle- and low-income economies, where access is 55% and 53%, respectively. It may seem surprising that access is the same in both groups, but this is because India, which has low access, has, in the

2009 World Bank country groupings, graduated from low- to middle-income status – thus improving the average for low-income economies but dragging down the average for middle-income economies.

Figure 11.3

Proportion of total population with access to improved sanitation, world regions, 1990 and 2006



Access to sanitation varies considerably between subregions, though in almost all it has improved significantly. Some of the most rapid progress has been in East and North-East Asia which, between 1990 and 2006, increased access by 15 percentage points, and in South-East Asia where the increase was 17 percentage points.

The situation in South and South-West Asia is more difficult. Although since 1990 the number of people with access increased by 50%, this still means that by 2006 average coverage was only 37%. Some countries in the subregion have done better – including Sri Lanka, Turkey, the Maldives and Pakistan. In spite of significant relative improvements, access remains very low in Nepal (27%), India (28%), Afghanistan (30%) and Bangladesh (36%).

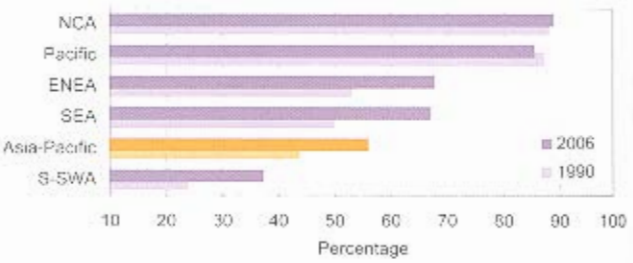
In South-East Asia, two countries stand out for achieving almost universal coverage for their rural populations – Thailand at 96% and Malaysia at 93%. Indonesia has been less successful. Between 1990 and 2006 the proportion of people with access dropped in both rural and urban areas – though the national average remained static at 52%, as rural-urban migration increased the proportion of urban dwellers, who have the better access.

In the rural areas of the Pacific, the average is driven by Australia and New Zealand – which tends to mask low coverage in the smaller Pacific islands – 20% in Kiribati, for example, 18% in the Solomon Islands and only 14% in the Federated States of Micronesia.

In principle it should be easier to provide improved sanitation in urban environments. Nevertheless, between 1990 and 2006, the region's

Figure 11.4

Proportion of total population with access to improved sanitation, by subregion, 1990 and 2006



urban coverage increased only moderately, from 69 to 74%. This unimpressive performance is largely because of the need to cover increasing numbers of urban people, a high proportion of who live in slums. The greatest problems are in the landlocked developing countries and the Pacific developing economies where since 2000 the percentage of urban people with access to improved sanitation has actually fallen. Some highly populated countries, like Indonesia and Bangladesh, have also recorded worrying urban declines.

This report only includes data until 2006, and shows no improvements since the previous edition. However, the year 2008 was declared as the International Year of Sanitation which encouraged numerous activities and initiatives – efforts which should subsequently have increased access.

Inequalities in access to water and sanitation

Access to water and sanitation is understandably better in richer than poorer households. Indeed, in many developing countries in the region, these disparities have increased as most of the gains have been achieved by households in the richest quintiles while the poorest quintile seems unable to make progress. The gap between the lowest and highest household income quintiles is particularly high in the Lao People's Democratic Republic and Nepal – more than 80 percentage points.

On the other hand, in Viet Nam, Kyrgyzstan and Kazakhstan, since early 2000, the difference between the richest and poorest households has decreased.

The disparity between richer and poorer households' access is less acute for water, as people increasingly recognize the value of clean water. Significant achievements have been made in providing access to the poorest households. Indeed, since 2001, the difference between the richest and

Figure 11.5

Access to improved sanitation of selected countries in Asia-Pacific, by wealth quintile, latest available year

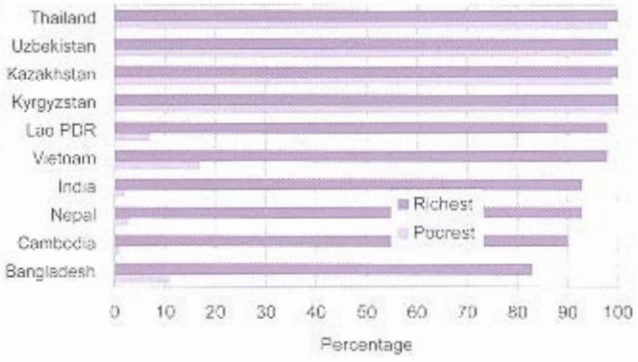
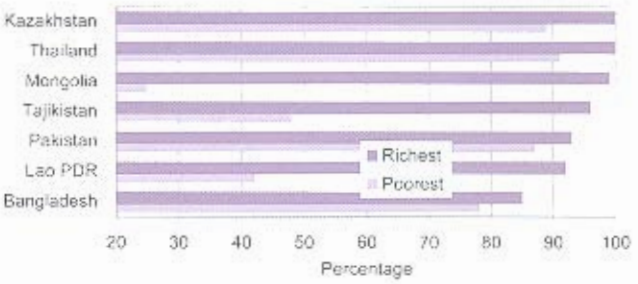


Figure 11.6

Access to improved drinking water sources in selected countries of Asia and the Pacific by wealth quintile, 2000-2007



poorest households increased only in one country: Nepal. The starkest remaining difference between richest and poorest households was in Mongolia, where in 2005, for the richest households, access to clean water was 99% but for the poorest households only 25%. The next largest disparity – 55 percentage points – was in the Lao People's Democratic Republic.

It should be noted, however, that estimates for coverage can vary between different data sources, which can make it difficult to pinpoint trends. Nevertheless, it seems that coverage for water fluctuates less than that for sanitation. This implies that the achievements in access to water are more sustainable and that further efforts will be needed to strengthen the institutional and policy framework on sanitation.

Population with access to improved water sources, rural, urban, and total population (percentage)
Proportion of rural, urban, or total population using improved drinking water sources (including household water connection, public standpipe, borehole, protected dug well, protected spring, rainwater collection and bottled water - if a secondary available source is also improved). **Aggregates:** Calculated by ESCAP using rural, urban and total populations (from the World Population Prospects: The 2008 Revision Population Database) as weights. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 8 August 2008 - No data updates since Statistical Yearbook 2008 Edition.

Population with access to improved sanitation, rural, urban, and total population (percentage)
Proportion of rural, urban, or total population using an improved sanitation facility (including flush/pour flush toilet or latrine to: piped sewerage, septic tank or pit; a Ventilated Improved Pit (VIP) latrine; a pit latrine with slab or a composting toilet/latrine). **Aggregates:** Calculated by ESCAP using the rural, urban and total populations (from the World Population Prospects: The 2008 Revision Population Database) as weights. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 8 August 2008 - No data updates since Statistical Yearbook 2008 Edition.

11.1 Access to water

Population with access to improved water sources

Percentage

	Rural				Urban				Total			
	1990	1995	2000	2006	1990	1995	2000	2006	1990	1995	2000	2006
East and North-East Asia	**58**	**65**	**73**	**82**	**98**	**98**	**97**	**98**	**71**	**77**	**82**	**89**
China	55	63	71	81	97	97	97	98	67	74	80	88
DPR Korea		100	100	100	100	100	100	100		100	100	100
Hong Kong, China												
Japan	100	100	100	100	100	100	100	100	100	100	100	100
Macao, China												
Mongolia	21	24	35	48	97	96	93	90	64	65	68	72
Republic of Korea		71	71		97	97	97	97		91	92	
South-East Asia	**62**	**67**	**73**	**81**	**92**	**92**	**92**	**93**	**71**	**75**	**80**	**86**
Brunei Darussalam												
Cambodia		14	33	61		47	60	80		19	38	65
Indonesia	53	65	68	71	92	91	90	89	72	74	77	80
Lao PDR		34	39	53		73	76	86		41	46	60
Malaysia	96	96	96	96	100	100	100	100	98	98	98	99
Myanmar	47	53	66	80	86	85	83	80	57	61	71	80
Philippines	75	79	84	88	92	93	94	96	83	87	90	93
Singapore					100	100	100	100				
Thailand	94	96	96	97	98	98	98	99	96	96	97	98
Timor-Leste			56	56			77	77			61	62
Viet Nam	43	57	72	90	87	90	94	96	52	64	77	92
South and South-West Asia	**68**	**72**	**77**	**84**	**91**	**92**	**94**	**95**	**74**	**78**	**82**	**88**
Afghanistan		17	17	17		37	37	37		21	21	22
Bangladesh	76	76	77	78	88	87	86	85	78	78	79	80
Bhutan			79	79			98	98			81	81
India	65	71	77	86	90	92	94	96	71	77	82	89
Iran (Islamic Rep. of)	84	84	84		99	99	99	99	92	93	94	
Maldives	95	93	82	76	100	100	99	98	96	95	87	83
Nepal	70	76	81	88	97	96	95	94	72	78	83	89
Pakistan	81	83	85	87	96	96	95	95	86	87	88	90
Sri Lanka	62	67	73	79	91	93	96	98	67	71	77	82
Turkey	74	80	87	95	92	94	96	98	85	89	93	97
North and Central Asia	**79**	**81**	**82**	**84**	**97**	**97**	**99**	**100**	**91**	**92**	**93**	**94**
Armenia		75	83	96	99	99	99	99		91	93	98
Azerbaijan	51	53	58	59	82	85	93	95	68	70	76	78
Georgia	58	61	78	97	91	92	95	100	75	78	87	99
Kazakhstan	91	91	91	91	99	99	99	99	96	95	96	96
Kyrgyzstan		65	73	83	97	97	98	99		77	82	89
Russian Federation	86	87	88	88	97	98	99	100	94	95	96	97
Tajikistan		42	47	58		91	92	93		56	59	67
Turkmenistan												
Uzbekistan	85	85	83	82	97	97	98	98	90	90	89	88
Pacific	**63**	**61**	**59**	**57**	**99**	**99**	**99**	**98**	**88**	**87**	**87**	**86**
American Samoa												
Australia	100	100	100	100	100	100	100	100	100	100	100	100
Cook Islands	87	87	87	88	99	99	99	98	94	94	95	95
Fiji	51	51	51	51	43	43	43	43	48	47	47	47
French Polynesia	100	100	100	100	100	100	100	100	100	100	100	100
Guam	100	100	100	100	100	100	100	100	100	100	100	100
Kiribati	33	41	50	53	76	77	77	77	48	54	62	65
Marshall Islands	97	97	96		95	89	83		96	92	88	
Micronesia (F.S.)	86	89	92	94	93	94	94	95	88	90	92	94
Nauru												
New Caledonia												
New Zealand	82	82			100	100	100	100	97	97		
Niue	100	100	100	100	100	100	100	100	100	100	100	100
Northern Mariana Islands	100	99	97	97	98	98	98	98	98	98	98	98
Palau	98	97	95	94	73	74	78	79	90	90	90	89
Papua New Guinea	32	32	32	32	88	88	88	88	39	39	39	40
Samoa	89	88	88	87	99	96	92	90	91	90	89	88
Solomon Islands	65	65	65	65	94	94	94	94	69	69	70	70
Tonga	100	100	100	100	100	100	100	100	100	100	100	100
Tuvalu	89	90	91	92	92	93	94	94	90	92	93	93
Vanuatu	53	53	52		93	90	86		61	61	59	
Asia and the Pacific	**63**	**69**	**75**	**83**	**95**	**95**	**96**	**96**	**74**	**78**	**83**	**88**
LLDC	59	61	63	65	91	89	89	88	70	70	71	73
LDC	62	63	67	72	83	82	81	80	65	67	70	74
ASEAN	62	67	73	81	92	92	92	93	71	75	81	86
ECO	75	76	78	80	94	95	95	95	84	84	86	87
SAARC	67	72	77	84	90	92	93	94	73	77	81	87
Central Asia	71	74	76	79	95	95	97	98	82	84	86	88
Pacific island dev. econ.	41	41	40	40	81	80	79	79	49	48	48	48
Low income	59	64	70	77	88	88	88	88	66	69	75	80
Middle income	63	69	75	83	95	95	96	97	73	78	83	89
High income	94	95	95	95	99	99	99	99	98	98	98	98
Africa	**43**	**45**	**48**	**51**	**85**	**85**	**85**	**84**	**56**	**59**	**61**	**64**
Europe	**92**	**95**	**96**	**97**	**100**	**100**	**100**	**100**	**98**	**98**	**99**	**99**
Latin America and Carib.	**61**	**65**	**69**	**73**	**94**	**95**	**96**	**97**	**84**	**87**	**89**	**91**
North America	**94**	**94**	**94**	**95**	**100**	**100**	**100**	**100**	**99**	**99**	**99**	**99**
Other countries/areas	**67**	**67**	**68**	**70**	**97**	**97**	**95**	**92**	**86**	**86**	**85**	**84**
World	**62**	**66**	**71**	**77**	**95**	**95**	**95**	**96**	**76**	**79**	**82**	**86**

11.2 Access to sanitation

Population with access to improved sanitation

	Rural				Urban				Total			
	Percentage											
	1990	1995	2000	2006	1990	1995	2000	2006	1990	1995	2000	2006
East and North-East Asia	**46**	**51**	**55**	**61**	**68**	**71**	**73**	**77**	**53**	**57**	**63**	**68**
China	43	48	53	59	61	65	69	74	48	53	59	65
DPR Korea		60	60			58	58			59	59	
Hong Kong, China												
Japan	100	100	100	100	100	100	100	100	100	100	100	100
Macao, China												
Mongolia		23	26	31		66	65	64		47	48	50
Republic of Korea												
South-East Asia	**40**	**44**	**51**	**59**	**73**	**75**	**77**	**78**	**50**	**55**	**61**	**67**
Brunei Darussalam												
Cambodia		2	9	19		43	51	62		8	16	28
Indonesia	42	40	39	37	73	71	69	67	51	51	52	52
Lao PDR		6	14	38		48	57	87		13	22	48
Malaysia			93	93	95	95	95	95			94	94
Myanmar	15	26	53	81	47	55	74	85	23	34	59	82
Philippines	46	55	64	72	71	75	78	81	58	66	72	78
Singapore					100	100	100	100				
Thailand	72	82	92	96	92	93	94	95	78	85	93	96
Timor-Leste			32	32			64	64			40	41
Viet Nam	21	32	43	56	62	70	78	88	29	40	51	65
South and South-West Asia	**11**	**15**	**20**	**25**	**57**	**59**	**61**	**63**	**24**	**28**	**32**	**37**
Afghanistan		29	27	25		42	43	45		32	30	30
Bangladesh	18	21	26	32	56	54	51	48	26	28	32	36
Bhutan			50	50			71	71			52	52
India	4	6	13	18	44	46	49	52	14	18	23	28
Iran (Islamic Rep. of)	78	78	78		86	86	86		83	83	83	
Maldives		42	42	42	100	100	100	100		57	58	59
Nepal	5	12	17	24	36	39	42	45	9	15	20	27
Pakistan	14	22	30	40	76	80	85	90	33	40	48	58
Sri Lanka	68	74	80	86	85	86	88	89	71	76	81	86
Turkey	69	70	71	72	96	96	96	96	85	86	87	88
North and Central Asia	**78**	**79**	**80**	**81**	**93**	**93**	**93**	**94**	**88**	**88**	**89**	**89**
Armenia		78	79	81	94	94	95	96		89	89	91
Azerbaijan		70	70	70		90	90	90		80	80	80
Georgia	91	91	91	92	96	96	95	94	94	94	93	93
Kazakhstan	96	96	97	98	97	97	97	97	97	97	97	97
Kyrgyzstan		92	93	93		93	93	94		92	93	93
Russian Federation	70	70	70	70	93	93	93	93	87	87	87	87
Tajikistan		81	84	91		88	91	95		83	86	92
Turkmenistan												
Uzbekistan	91	92	93	95	97	97	97	97	93	94	94	96
Pacific	**65**	**64**	**62**	**60**	**98**	**98**	**98**	**98**	**87**	**87**	**86**	**86**
American Samoa												
Australia	100	100	100	100	100	100	100	100	100	100	100	100
Cook Islands	91	92	99	100	100	100	100	100	96	97	100	100
Fiji	55	55	55	55	87	87	87	87	68	70	70	71
French Polynesia	97	97	97	97	99	99	99	99	98	98	98	98
Guam	98	98	98	98	99	99	99	99	99	99	99	99
Kiribati	20	20	20	20	26	34	43	46	22	25	30	33
Marshall Islands	51	54	57		88	90	93		75	77	81	
Micronesia (F.S.)	20	16	16	14	54	56	59	61	29	28	26	25
Nauru												
New Caledonia												
New Zealand	88	88										
Niue	100	100	100	100	100	100	100	100	100	100	100	100
Northern Mariana Islands	78	86	93	96	85	89	92	94	84	89	92	94
Palau	54	53	52	52	76	81	92	96	61	61	65	67
Papua New Guinea	41	41	41	41	67	67	67	67	44	44	44	45
Samoa	98	99	100	100	100	100	100	100	98	99	100	100
Solomon Islands	18	18	18	18	98	98	98	98	29	30	31	32
Tonga	96	96	96	96	98	98	98	98	96	96	96	96
Tuvalu	74	78	81	84	83	87	90	93	78	83	86	89
Vanuatu		42	42			78	78			49	50	
Asia and the Pacific	**32**	**35**	**40**	**44**	**69**	**70**	**72**	**74**	**44**	**47**	**52**	**56**
LLDC	50	50	52	54	85	84	82	82	62	61	61	63
LDC	16	20	29	38	51	52	55	57	23	27	35	43
ASEAN	40	44	51	59	73	75	77	78	50	55	61	67
ECO	45	48	51	55	87	87	89	90	63	65	68	72
SAARC	8	12	17	23	49	51	54	57	18	22	27	33
Central Asia	88	89	90	92	95	95	95	95	91	92	92	93
Pacific island dev. econ.	44	44	43	43	80	80	80	80	51	51	51	51
Low income	24	30	38	47	60	62	65	67	33	38	45	53
Middle income	31	35	38	42	66	68	70	73	42	46	50	55
High income	100	100	100	100	100	100	100	100	100	100	100	100
Africa	**23**	**24**	**27**	**29**	**52**	**53**	**54**	**54**	**32**	**34**	**36**	**39**
Europe												
Latin America and Carib.	**35**	**41**	**47**	**52**	**81**	**83**	**85**	**87**	**68**	**72**	**76**	**79**
North America	**99**	**99**	**99**	**99**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Other countries/areas	**45**	**48**	**53**	**59**	**91**	**91**	**91**	**92**	**68**	**70**	**72**	**76**
World	**34**	**37**	**40**	**44**	**76**	**76**	**77**	**78**	**51**	**53**	**56**	**60**

12 Participation in education

The Asia-Pacific region has made steady progress towards universal primary education. Nevertheless, more than 28 million of the region's children are still out of school.

Between 2000 and 2007, the proportion of primary school-age children in schools increased from 86 to 90%. The steady progress in bringing children to school and enabling them to stay there has been partly due to the Education for All initiative, which started in 1990. The average net enrolment ratio (NER) in primary education in the Asia-Pacific region is now considerably higher than in Africa, at 75%, but still somewhat lower than in Latin America and the Caribbean, at 93%.

Where regional averages can be produced in 2007, the highest primary level NERs – above 90% – were in South-East Asia and North-Central Asia. The levels were similar among ASEAN, as well as in high-income economies. The lowest – below 80% – were in the landlocked developing countries and member states of the Economic Cooperation Organization (ECO) – though between 2000 and 2007, the NER in ECO countries did increase significantly, from 68 to 79%.

The progress toward universal primary education is more uneven among individual countries. For the 26 countries in the Asia-Pacific region for which data were available for 2007, 15 had NERs higher than 90%, including Japan and New Zealand where they were above 98%. Among the lowest NERs were those in Timor-Leste at 63%, Marshall Islands at 66%, and Cook Islands at 67%.

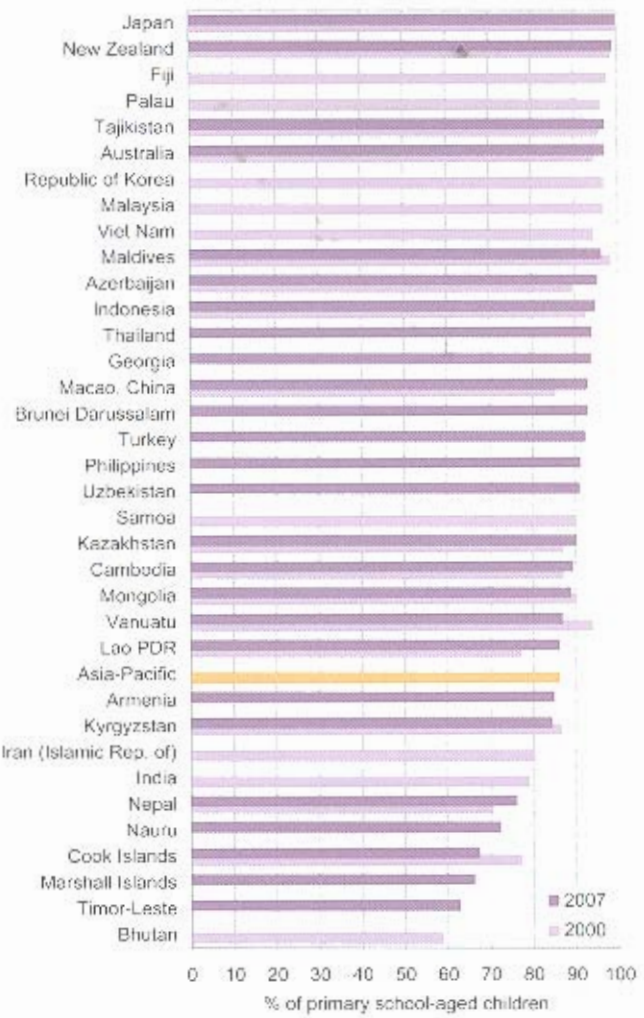
Having improved the situation in primary schools, governments in the region are now paying greater attention to secondary schooling. As a result, between 2000 and 2007, the secondary NER of the ASEAN countries, for example, increased from 53 to 65%. Nevertheless many primary completers are still unable to move on to secondary education.

In the Asia-Pacific region for 2006, while 9 out of 10 children of primary-school age are enrolled in school, for children of secondary school age the number is only 6 out of 10. Furthermore, the degree of participation in secondary level varied greatly among the countries. For instance in 2007, of the high-income economies the secondary NER was 95%, but for the least developed countries it was only 40%.

Compared with the primary level, the inter-country differences in participation are far higher at the secondary level. In 2007, secondary

Figure 12.1

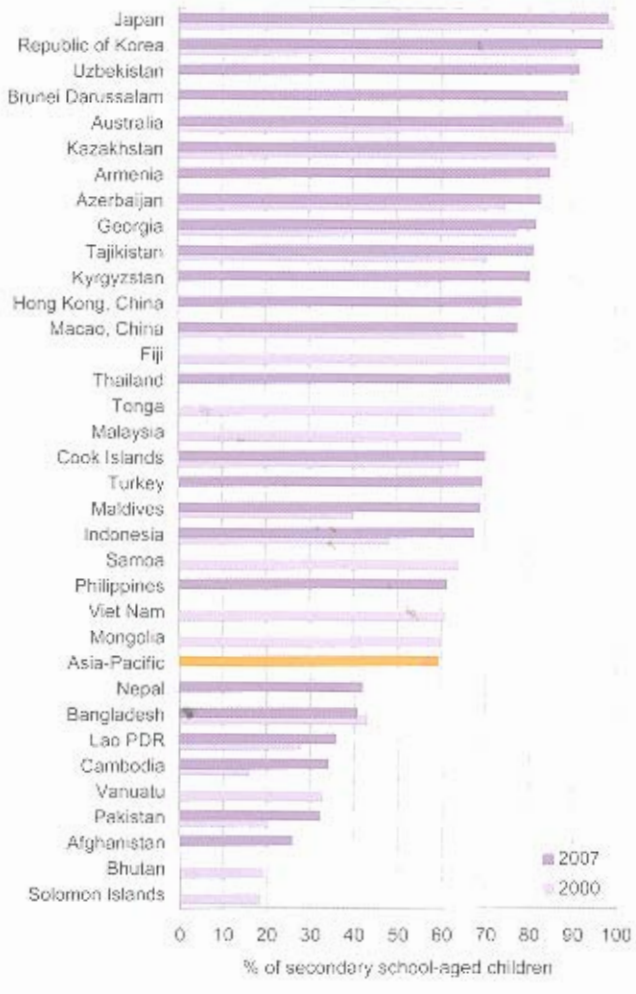
Net enrolment ratio in primary education, Asia and the Pacific, 2000-2007



NERs ranged from 26% in Afghanistan to 98% in Japan. A number of countries enrolled less than half of their secondary school-age children – including Afghanistan, Bangladesh, Cambodia, the Lao People's Democratic Republic, Nepal, the Marshall Islands and Pakistan. Indeed, Afghanistan, Cambodia and Pakistan, were enrolling only one child in three. Nevertheless, some countries have made noticeable improvements. Between 2000 and 2007, Cambodia, Indonesia, Maldives and Mongolia achieved more than 15 percentage point increases in secondary NER.

Figure 12.2

Net enrolment ratio in secondary education, Asia and the Pacific, 2000-2007



Many more young people in Asia and the Pacific are also benefiting from tertiary education. In this report, participation in tertiary education is measured by the gross enrolment ratio (GER). Between 2000 and 2007, the average tertiary GER in Asia and the Pacific increased from 13 to 21%. Among the sub regions, the highest GER was in North and Central Asia at 55%, followed by the Pacific at 53%. As with secondary education, the gross enrolment ratios at tertiary education were much greater in the high-income economies, where the average GER was 69%, while for the low-income group it was only 9%.

Among the 26 countries or areas with available data for 2007, seven had tertiary GERs above 50%: Australia; Japan; Kazakhstan; Macao, China; New Zealand; Republic of Korea; and the Russian Federation. The highest levels were in the Republic of Korea at 95% and New Zealand at 80%. On the other hand, five low-income economies had tertiary GERS below 10%: Bangladesh; Bhutan; Cambodia; Pakistan and Uzbekistan.

Figure 12.3

Gross enrolment ratio in tertiary education, Asia and the Pacific, 2006-2007



The MDG and EFA initiatives both aim to eliminate gender disparities in primary and secondary education, preferably by 2005, and at all levels by 2015. Progress can be assessed using the gender parity index (GPI), which is the ratio of female to male students in primary secondary and tertiary education. The GPIs indicate improvements in gender parity at the primary level, but highlight the need for greater efforts at the secondary level.

At the primary level, the Asia-Pacific region in

2006 as a whole had achieved gender parity in net enrolment, with a value of 0.98. For the 30 countries for which data are available between 2005 and 2007, two-thirds had achieved parity. For the 9 countries which still had disparities between the sexes, 7 showed disparities in favour of boys with GPIs below 0.97. In Pakistan, for example, among children of primary-school age enrolled in 2007, there were only eight girls for every 10 boys.

At the secondary level the GPI value for the region as a whole was slightly lower in 2007 at 0.95 – near gender parity. However this masks important variations at the country level. In 2007, the GPIs ranged from 0.38 in Afghanistan to 1.20 in the Philippines. Only one-third of the countries with available data had reached secondary gender parity.

Another key measure of educational attainment is school life expectancy (SLE). In 2007, the Asia-Pacific region had an average SLE of 11.0 years for males and 10.4 for females, indicating that most young people were failing to reach tertiary education. The SLE for Asia and the Pacific was greater than in Africa (8.3 years for females, and 9.5 years for males), but lower than that in Latin America and the Caribbean (13.6 years for females, and 13.2 years for males) or in Europe (15.7 years for females, and 14.9 years for males).

SLEs in Asia and the Pacific show considerable variation between income groups and subregions. In 2007, the school life expectancy for girls ranged from 9.0 years in the low-income economies to 15.8 years in the high-income economies, and in both country groups was about half a year longer for boys. A number of countries had SLEs below 10 years for both sexes, including Bangladesh, Cook Islands, Nauru, Pakistan and Solomon Islands. Cambodia, India and The Lao People's Democratic Republic had SLEs below 10 years for females only. On the other hand, Australia, Japan, Kazakhstan, the Republic of Korea, Macao, China and New Zealand had SLEs greater than 14 years for both sexes. Brunei Darussalam, the Russian Federation and Thailand had SLEs greater than 14 years for females only. Australia (both sexes) and New Zealand (females only) had SLEs of more than 20 years.

In many countries, women stay longer in education than men. Of the 35 countries where data were available for both females and males, the country most favourable to women in 2007 was Mongolia with an SLE for women 1.8 years higher than that of men. In contrast, the countries least favourable to women were the Republic of Korea where their SLE was women a 2.3 years less, followed by Tajikistan at 2 years less.

Net enrolment ratio in primary education (% of primary school-aged children)
The number of pupils of the theoretical school-age group for primary education, expressed as a percentage of the total population in that age-group. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 17 November 2009.

School life expectancy from primary to tertiary, girls and boys (years)
The number of years a four-year old girl or boy is expected to spend in education from primary to tertiary level, including years spent on repetition. Data are disaggregated by sex. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 13 August 2009.

Net enrolment ratio in secondary education (% of secondary school-aged children)
The number of pupils of the theoretical school-age group for secondary education, expressed as a percentage of the total population in that age group. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 28 August 2009.

Gross enrolment ratio in tertiary education (% of tertiary school-aged children)
The number of pupils enrolled in the tertiary level of education, regardless of age, expressed as a percentage of the population in the theoretical age group for the same level of education. For the tertiary level, the population used is the five-year age group following on from the secondary school leaving age. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 10 August 2009.

Gender parity index for school enrolment – primary, secondary (net enrolment), and tertiary (gross enrolment) levels
Ratio of female to male enrolment ratios for each level of education. A GPI of 1 indicates parity between sexes. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 10 August 2009.

12.1 Primary education

	Net enrolment ratio in primary education				School life expectancy from primary to tertiary - Girls				School life expectancy from primary to tertiary - Boys			
	% of primary school-aged children				Years				Years			
	1991	2000	2005	2007	2000	2005	2006	2007	2000	2005	2006	2007
East and North-East Asia	**98.1**						**11.5**	**11.8**			**11.6**	**11.8**
China	98.0						11.2	11.4			11.2	11.4
DPR Korea												
Hong Kong, China	92.4		90.7			13.5				13.9		
Japan	99.7	100.0	99.8	99.8	14.4	14.7	14.8	14.8	14.7	15.0	15.1	15.1
Macao, China	81.1	85.5	90.4	92.9	12.3	14.1	14.3	14.6	12.6	15.9	15.5	15.6
Mongolia	90.1	89.9	86.9	88.8	10.1	13.5	13.8	13.9	8.3	11.7	12.0	12.2
Republic of Korea	99.7	96.9	97.6		14.4	15.2	15.4	15.7	16.7	17.6	17.8	18.0
South-East Asia	**93.7**	**92.7**	**93.6**	**92.1**	**10.4**	**11.3**	**11.4**	**11.8**	**10.8**	**11.5**	**11.5**	**11.7**
Brunei Darussalam	92.0		93.4	92.8	13.7	14.3	14.4	14.2	13.1	13.5	13.7	13.6
Cambodia	72.0	87.2		89.4	6.6		9.2	9.2	8.3		10.4	10.4
Indonesia	96.3	92.6	94.5	94.8		11.2		12.2		11.7		12.5
Lao PDR	62.1	77.2	82.7	86.3	7.2	8.3	8.4	8.5	9.1	10.0	10.1	10.2
Malaysia	93.0	96.8	99.9		12.1	13.1			11.6	12.4		
Myanmar	98.6											
Philippines	96.4		92.9	91.3		12.2	12.1			11.6	11.5	
Singapore												
Thailand	87.7			93.9		13.7	13.9	14.5		13.2	13.2	13.4
Timor-Leste			68.1	63.0								
Viet Nam	90.4	94.5			9.9				10.7			
South and South-West Asia	**70.9**	**75.5**	**85.5**		**7.2**	**8.8**	**9.0**		**9.0**	**10.0**	**10.1**	
Afghanistan	24.7											
Bangladesh	76.3		86.2			8.0	8.1	8.1		7.8	7.8	7.8
Bhutan	55.5	58.8	73.9		7.1		10.0		8.5		10.6	
India		79.2	88.5		7.3	9.3	9.4		9.4	10.5	10.6	
Iran (Islamic Rep. of)	92.4	80.2	95.3		10.9	12.9			12.0	12.8		
Maldives	86.7	98.2	97.6	96.3	12.6		12.3		12.4		12.2	
Nepal	63.0	70.5		76.1	7.5				9.9			
Pakistan	33.3		67.2			5.7	5.7	6.3		7.4	7.3	7.9
Sri Lanka	84.3											
Turkey	89.2		90.2	92.3		10.2	10.6	10.8		11.7	12.1	12.4
North and Central Asia	**91.5**	**89.1**	**89.5**	**91.1**	**11.6**	**12.9**	**13.0**	**13.2**	**11.5**	**12.6**	**12.7**	**12.7**
Armenia			79.6	85.0		11.4	11.9	12.5		10.5	11.0	11.5
Azerbaijan	88.8	89.5	95.6	95.3	11.0	12.2	12.4	12.7	11.2	12.6	12.8	12.9
Georgia	97.1		88.6	93.7	11.9	12.7	12.7	12.8	11.9	12.4	11.9	12.6
Kazakhstan	88.0	87.2	91.0	90.2	12.6	15.4	15.6	15.6	12.0	14.4	14.5	14.5
Kyrgyzstan	92.3	86.7	85.9	84.5	11.9	12.7	12.9	12.9	11.7	12.1	12.1	12.1
Russian Federation	97.9					14.0	14.1	14.3		13.0	13.0	13.2
Tajikistan	76.7	95.9	97.5	97.2	8.9	9.9	10.0	10.0	10.7	12.0	12.2	12.0
Turkmenistan												
Uzbekistan	78.2			91.0	10.5	11.4	11.3	11.4	10.9	11.8	11.8	11.8
Pacific		**88.0**	**84.8**	**83.8**	**14.8**	**14.3**	**14.3**	**14.4**	**14.7**	**14.3**	**14.3**	**14.3**
American Samoa												
Australia	99.4	94.7	96.5	97.1	20.6	20.5	20.7	20.9	20.2	20.2	20.3	20.4
Cook Islands		77.4	74.2	67.4	10.1	10.0		9.5	9.7	9.7		9.3
Fiji		97.5	93.5			13.2				12.8		
French Polynesia												
Guam												
Kiribati					14.2	12.7			11.4	11.9		
Marshall Islands				66.3								
Micronesia (F.S.)	96.2											
Nauru				72.3	8.1	9.5	8.8		6.7	8.9	8.2	
New Caledonia	95.4											
New Zealand	98.1	98.7	99.2	99.1	18.3	20.5	20.4	20.6	16.8	18.5	18.6	19.1
Niue					11.6	12.3			11.3	12.3		
Northern Mariana Islands												
Palau		96.4			15.4				13.7			
Papua New Guinea	66.0											
Samoa		90.0			12.4				11.8			
Solomon Islands	83.5		61.8		6.3	8.2			7.1	8.8		
Tonga	96.5		95.9		13.3				12.9			
Tuvalu												
Vanuatu	70.6	93.9	97.1	86.9								
Asia and the Pacific		**86.2**	**89.4**		**8.8**	**10.1**	**10.3**	**10.4**	**9.9**	**10.8**	**10.9**	**11.0**
LLDC	65.5	67.3	76.9	75.8	7.4	9.0	9.4	9.4	8.5	10.7	11.1	11.0
LDC	74.1		83.6			7.9	8.2	8.2		8.6	8.8	8.7
ASEAN	93.7	92.7	93.7	92.2	10.4	11.3	11.4	11.8	10.8	11.5	11.5	11.7
ECO	62.3	68.5	77.5	79.2	7.0	8.2	8.5	8.8	8.5	9.7	9.7	10.0
SAARC	68.7	74.5	84.9		6.9	8.7	8.8		8.8	9.8	9.9	
Central Asia	83.8	89.2	91.0	91.7	10.8	11.9	12.0	12.0	11.1	12.2	12.3	12.3
Pacific island dev. econ.												
Low income	78.8	78.3	85.2		8.0	8.8	8.9	9.0	8.7	9.4	9.5	9.4
Middle income	84.5	86.8	89.7		8.7	10.2	10.3	10.5	9.9	10.8	10.9	11.0
High income		97.6	97.8	98.3	15.0	15.5	15.6	15.8	15.8	16.2	16.3	16.5
Africa		**62.0**	**71.5**	**75.1**	**6.6**	**7.9**	**8.1**	**8.3**	**7.9**	**9.2**	**9.3**	**9.5**
Europe	**93.4**	**95.5**	**95.3**	**95.3**	**14.9**	**15.6**	**15.6**	**15.7**	**14.4**	**14.9**	**14.9**	**14.9**
Latin America and Carib.		**92.8**	**93.9**	**93.4**	**12.9**	**13.5**	**13.6**	**13.6**	**12.6**	**13.1**	**13.2**	**13.2**
North America	**96.9**	**95.0**	**92.2**	**93.0**	**15.9**	**16.5**	**16.4**	**16.5**	**15.0**	**15.1**	**15.1**	**15.1**
Other countries/areas		**80.7**	**84.7**	**84.5**	**9.2**	**10.2**			**11.0**	**11.8**		
World		**82.7**	**86.2**	**86.9**	**9.4**	**10.5**	**10.6**	**10.7**	**10.2**	**11.0**	**11.1**	**11.2**

12.2 Secondary and tertiary education

	Net enrolment ratio in secondary education							Gross enrolment ratio in tertiary education						
	% of secondary school-aged children							% of tertiary school-aged children						
	2000	2002	2003	2004	2005	2006	2007	2000	2002	2003	2004	2005	2006	2007
East and North-East Asia								**13.4**	**18.1**	**20.5**	**22.5**	**24.0**	**25.7**	**26.9**
China								7.7	12.7	15.5	17.8	19.6	21.6	22.9
DPR Korea														
Hong Kong, China		74.3	75.0	76.0	77.1	77.9	78.6			30.6	31.0	32.1	33.0	33.8
Japan	99.5	99.7	99.8	99.9	100.0	98.7	98.2	47.4	50.5	52.1	54.0	55.3	57.3	58.1
Macao, China	65.5	71.7	74.2	76.1	77.2	77.5	77.6	26.6	64.6	77.3	68.0	60.4	57.4	57.0
Mongolia	59.8	71.7	77.2	81.4				28.8	34.0	36.1	39.0	43.3		
Republic of Korea	91.0	87.3	85.3	90.4	93.9	96.0	96.9	78.4	86.8	88.5	89.9	91.0	92.6	94.7
South-East Asia	**52.5**		**56.3**	**58.1**	**59.3**	**61.5**	**65.1**	**17.1**	**19.1**	**19.7**	**20.7**	**20.8**	**21.0**	**22.1**
Brunei Darussalam					87.3	90.1	89.1	12.9	13.7	13.9	14.9	15.0	15.0	15.4
Cambodia	16.2	22.1	25.5	25.8	23.9	30.6	34.1	2.1	2.5	3.1	3.0	3.6	4.5	5.3
Indonesia	48.2		54.3	56.1	57.4	60.4	67.5		15.0	16.2	16.6	17.0	17.0	17.5
Lao PDR	28.1	30.5	33.7	35.3	35.6	34.9	35.9	2.8	4.3	5.0	5.8	7.9	9.1	11.6
Malaysia	64.8	65.4	70.9	72.0	68.7			25.9	28.0	31.2	30.6	28.6	30.2	
Myanmar														
Philippines		56.3	59.0	60.8	60.2	60.4	61.3		30.4	29.4	28.6	28.0	26.5	
Singapore														
Thailand						71.0	76.1	36.2	41.0	42.3	43.6	46.0	45.9	49.5
Timor-Leste									9.6					
Viet Nam	61.0							9.5						
South and South-West Asia				**44.4**	**45.9**		**46.5**	**9.4**	**10.0**	**10.6**	**9.8**	**11.1**	**12.0**	**12.4**
Afghanistan							25.9			1.2	1.3			
Bangladesh	43.1	44.7	44.2	41.0	39.6	40.1	40.7	5.4	6.0	6.0	5.5	6.0	6.8	7.2
Bhutan	19.2	24.5			35.6	38.5		3.1					5.5	5.3
India								9.6	10.4	10.9	9.5	11.0	11.8	
Iran (Islamic Rep. of)				78.5	77.3			19.1	19.4	20.4	22.6	24.1	26.8	31.4
Maldives	39.8	51.1			64.1	67.1	69.0			0.2	0.2			
Nepal							42.0	4.1	5.0	4.9	5.6			11.3
Pakistan	20.6		26.2	28.3	28.3	29.7	32.2		2.5	2.5	3.1	4.5	4.5	5.1
Sri Lanka														
Turkey						66.0	68.7	69.5	23.2	24.4	28.0	28.9	31.0	34.6
North and Central Asia							**83.4**	**39.3**	**47.4**	**49.9**	**52.3**	**53.4**	**53.9**	**54.9**
Armenia		83.0	83.7	83.5	83.9	85.5	85.0	23.6	26.5	25.0	26.2	28.0	31.7	34.2
Azerbaijan	74.8	77.8	79.7	80.7	81.3	82.1	83.0	16.5	15.9	15.3	14.9	15.2	15.1	15.2
Georgia	77.6				77.5	78.7	81.9	37.9	40.9	42.1	41.5	40.1	38.2	37.3
Kazakhstan	87.0	87.9	89.9	90.6	88.8	87.7	86.2	28.2	38.8	44.0	47.1	52.0	52.7	51.2
Kyrgyzstan				82.1	80.5	80.5	80.5	34.7	42.9	40.0	39.6	41.4	42.7	42.8
Russian Federation										65.1	69.0	71.1	72.3	74.7
Tajikistan	71.1	76.2	78.8	79.6	79.8	80.4	81.3	14.0	14.0	15.4	16.4	17.3	18.6	19.8
Turkmenistan														
Uzbekistan							91.7	13.0	13.6	13.9	14.1	9.6	9.8	9.8
Pacific	**71.4**	**70.9**	**69.9**	**70.2**	**70.6**	**70.5**	**70.3**	**46.6**	**53.0**	**52.0**	**52.6**	**52.3**	**51.9**	**53.4**
American Samoa														
Australia	90.2	87.8	86.0	85.9	86.4	87.2	87.9	65.6	76.5	74.3	72.4	72.6	72.7	75.1
Cook Islands	64.4				69.0		70.1							
Fiji	76.1	77.0	75.9	81.1	80.9	79.1				15.5	15.5	15.4		
French Polynesia														
Guam														
Kiribati			70.4	70.4	68.3									
Marshall Islands		74.4	74.4						16.9	17.0				
Micronesia (F.S.)								14.1						
Nauru														
New Caledonia														
New Zealand		91.9						66.4	69.2	70.9	85.7	82.2	79.7	79.8
Niue														
Northern Mariana Islands														
Palau								40.6	40.2					
Papua New Guinea														
Samoa	64.0	65.6	66.1	66.0				7.4						
Solomon Islands	18.4	27.6	27.3											
Tonga	72.4			66.4		60.4		4.8	5.4	5.1	6.0			
Tuvalu														
Vanuatu	32.7	36.2	36.2	38.1				4.0	5.0	4.8	4.8			
Asia and the Pacific				**57.4**	**58.6**		**59.3**	**13.0**	**15.7**	**17.0**	**17.6**	**18.8**	**19.8**	**20.6**
LLDC	56.9	61.0	62.7	62.6	62.6	62.8	63.5	11.9	13.9	14.4	15.0	14.9	15.3	16.4
LDC	36.2	39.1	39.0	37.8	37.6	39.0	39.8	5.7	6.4	6.3	6.0	6.3	6.8	7.7
ASEAN	52.5		56.3	58.1	59.3	61.6	65.2	17.1	19.1	19.7	20.7	20.9	21.0	22.1
ECO	44.8		50.5	52.9	51.9	51.7	52.6	12.4	12.9	13.8	14.6	15.5	16.6	17.8
SAARC							44.7	8.2	8.8	9.2	8.1	9.4	10.1	
Central Asia	81.9	84.0	87.7	87.7	86.3	86.2	87.8	19.3	22.3	23.2	23.8	23.6	23.7	23.4
Pacific island dev. econ	33.6	35.9	35.6											
Low income	48.3	51.4	52.2	51.6	51.5	52.7	53.4	6.5	6.9	6.9	7.7	8.0	8.3	9.1
Middle income								12.9	16.1	17.7	18.3	19.8	21.0	21.8
High income	94.6	93.6	93.7	94.2	95.2	95.1	95.3	56.2	61.6	62.9	64.4	65.4	66.8	69.2
Africa	**27.6**	**29.2**	**29.8**	**30.7**	**31.5**	**32.3**	**32.8**	**8.2**	**8.5**	**8.6**	**9.1**	**9.4**	**9.4**	**9.6**
Europe	**87.2**		**88.4**	**87.8**	**87.9**	**87.6**	**87.5**	**49.2**	**55.3**	**58.0**	**60.3**	**61.9**	**63.2**	**64.5**
Latin America and Carib.	**61.2**	**65.4**	**66.6**	**68.1**	**69.5**	**70.2**	**70.8**	**22.5**	**25.7**	**27.2**	**28.6**	**30.1**	**31.6**	**34.2**
North America	**87.9**	**86.7**	**89.4**	**89.1**	**89.2**	**89.0**	**88.8**	**68.1**	**78.5**	**80.1**	**80.2**	**80.4**	**79.9**	**79.8**
Other countries/areas	**49.7**	**50.6**	**54.7**	**56.9**	**57.3**	**57.9**	**58.1**	**17.1**	**18.3**	**19.3**	**20.5**	**20.9**	**21.2**	
World	**52.4**		**55.7**	**57.4**	**58.3**	**58.2**	**58.8**	**18.7**	**21.3**	**22.4**	**23.1**	**24.0**	**24.8**	**25.5**

12.3 Gender parity in education

	Gender parity index											
	for net enrolment - Primary				for net enrolment - Secondary				for gross enrolment - Tertiary			
	2000	2005	2006	2007	2000	2005	2006	2007	2000	2005	2006	2007
East and North-East Asia										**0.89**	**0.93**	**0.96**
China										0.93	0.98	1.01
DPR Korea												
Hong Kong, China		0.95				1.01	1.01	1.00		1.04	1.03	1.03
Japan					1.01		1.00	1.00	0.85	0.89	0.88	0.88
Macao, China	1.00	0.97	0.98	0.97	1.08	1.05	1.05	1.04	0.95	0.70	0.81	0.92
Mongolia	1.04	1.02	1.02	1.01	1.23	1.14	1.13	1.11	1.79	1.62	1.57	1.56
Republic of Korea	0.94				1.01	0.96	0.94	0.94	0.59	0.64	0.65	0.67
South-East Asia	**0.97**	**0.98**	**0.98**	**0.99**	**0.98**	**1.02**	**1.03**	**1.04**	**0.90**	**0.97**	**0.96**	**1.11**
Brunei Darussalam		1.01	1.00	1.00		1.05	1.05	1.05	1.87	2.02	1.99	1.86
Cambodia	0.92		0.98	0.96	0.56	0.84	0.86	0.88	0.33	0.47	0.50	0.56
Indonesia	0.97	0.97	0.96	0.96	0.95	0.99	1.00	1.01		0.79		1.00
Lao PDR	0.92	0.94	0.94	0.95	0.78	0.85	0.86	0.87	0.53	0.71	0.68	0.72
Malaysia	1.00		1.00		1.09	1.10			1.06	1.29	1.22	
Myanmar												
Philippines		1.02	1.02	1.02		1.20	1.21	1.20		1.23	1.24	
Singapore												
Thailand							1.11	1.12	1.20	1.13	1.07	1.23
Timor-Leste		0.96		0.96								
Viet Nam									0.72			
South and South-West Asia	**0.85**	**0.95**	**0.95**			**0.86**		**0.86**	**0.68**	**0.75**	**0.76**	**0.77**
Afghanistan								0.38				
Bangladesh		1.07	1.08		1.04	1.08	1.07	1.07	0.51	0.53	0.57	0.57
Bhutan	0.90	1.00	1.00		1.00	1.00	1.01		0.52		0.59	0.61
India	0.85	0.96	0.96						0.66	0.71	0.72	
Iran (Islamic Rep. of)	0.98	1.10				0.94			0.87	1.09	1.11	1.15
Maldives	1.01	1.00	1.00	1.01	1.16	1.10	1.09	1.06				
Nepal	0.82			0.95				0.92	0.40			
Pakistan		0.76	0.78		0.70	0.77	0.77	0.76		0.88	0.85	0.85
Sri Lanka												
Turkey		0.95	0.96	0.97		0.85	0.86	0.86	0.68	0.74	0.75	0.76
North and Central Asia	**0.99**	**0.99**	**0.99**	**0.99**				**0.97**	**1.22**	**1.31**	**1.30**	**1.30**
Armenia		1.05	1.05	1.04		1.03	1.04	1.06	1.09	1.22	1.18	1.20
Azerbaijan	1.02	0.98	0.97	0.99	1.01	0.97	0.97	0.97	0.66	0.91	0.94	0.88
Georgia		1.02	1.03	0.97	1.00	1.00	1.05	1.01	0.95	1.04	1.13	1.12
Kazakhstan	1.01	1.00	1.00	1.00	1.02	0.99	0.99	1.00	1.18	1.43	1.43	1.44
Kyrgyzstan	0.99	0.99	0.99	0.99		1.01	1.02	1.02	1.01	1.25	1.27	1.30
Russian Federation										1.36	1.36	1.35
Tajikistan	0.93	0.96	0.96	0.96	0.87	0.85	0.84	0.86	0.34	0.35	0.37	0.38
Turkmenistan												
Uzbekistan				0.97				0.97	0.83	0.70	0.71	0.71
Pacific	**0.97**	**0.97**	**0.97**	**0.97**	**1.00**	**0.99**	**0.99**	**0.99**	**1.25**	**1.29**	**1.31**	**1.31**
American Samoa												
Australia	1.01	1.01	1.01	1.01	1.02	1.02	1.02	1.02	1.23	1.25	1.28	1.29
Cook Islands	0.99	1.03		0.96	1.10	1.04		1.07				
Fiji	1.00	0.99	1.00		1.10	1.07	1.10			1.20		
French Polynesia												
Guam												
Kiribati						1.11						
Marshall Islands				0.99				1.08				
Micronesia (F.S.)												
Nauru				1.01								
New Caledonia												
New Zealand	1.00	1.00	1.00	1.01					1.45	1.49	1.51	1.49
Niue												
Northern Mariana Islands												
Palau	0.96								2.35			
Papua New Guinea												
Samoa	1.01				1.14				0.93			
Solomon Islands		0.99			0.82							
Tonga		0.97			1.10		1.25		1.64			
Tuvalu												
Vanuatu	0.99	0.98	0.99	0.99	1.14							
Asia and the Pacific	**0.93**	**0.97**	**0.98**			**0.94**		**0.95**	**0.78**	**0.93**	**0.94**	**0.98**
LLDC	0.82	0.87	0.88	0.87	0.94	0.92	0.91	0.91	0.88	1.01	1.01	0.94
LDC		0.98	0.99		0.98	0.98	0.97	0.97	0.59	0.67	0.69	0.68
ASEAN	0.97	0.98	0.98	0.99	0.98	1.02	1.03	1.04	0.90	0.97	0.96	1.11
ECO	0.82	0.87	0.89	0.90	0.87	0.88	0.88	0.88	0.80	0.94	0.95	0.97
SAARC	0.84	0.94	0.95					0.85	0.65	0.70	0.71	
Central Asia	0.99	0.99	0.98	0.98	0.99	0.97	0.97	0.97	0.91	1.07	1.07	1.07
Pacific island dev. econ					0.90							
Low income		0.96	0.96		0.96	0.96	0.97	0.96	0.67	0.72	0.72	0.79
Middle income	0.93	0.97	0.97						0.80	0.96	0.98	1.01
High income	0.98				1.01	0.99	0.99	0.99	0.78	0.83	0.84	0.85
Africa	**0.90**	**0.92**	**0.93**	**0.93**	**0.88**	**0.87**	**0.87**	**0.87**	**0.65**	**0.83**	**0.83**	**0.84**
Europe	**1.00**	**1.00**	**1.00**	**1.00**	**1.02**	**1.00**	**1.01**	**1.01**	**1.22**	**1.29**	**1.30**	**1.30**
Latin America and Carib.	**0.98**	**1.00**	**1.00**	**1.00**	**1.05**	**1.07**	**1.07**	**1.07**	**1.13**	**1.16**	**1.16**	**1.19**
North America	**1.00**	**1.01**	**1.02**	**1.01**	**1.02**	**1.02**	**1.01**	**1.02**	**1.32**	**1.40**	**1.41**	**1.41**
Other countries/areas	**0.89**	**0.90**		**0.90**	**0.88**	**0.88**	**0.88**	**0.91**	**0.96**	**1.03**	**1.03**	
World	**0.94**	**0.97**	**0.97**	**0.97**	**0.93**	**0.96**	**0.96**	**0.96**	**0.95**	**1.05**	**1.06**	**1.08**

13 Educational outcomes

The Asia-Pacific region is home to more than two thirds of the world's adult illiterates. The situation is particularly serious in South and South-West Asia, where over 390 million adults lack basic skills in reading, writing and numeracy, while one in four children never make it to the final grade of primary school.

In 2007, according to the 2009 Education for All Global Monitoring Report, the Asia-Pacific region had 510 million illiterate people. Almost two thirds were female. The situation is particularly difficult in South and South-West Asia: at least one in three adults is illiterate in Afghanistan, Bangladesh, Bhutan, India, Nepal and Pakistan. However, some countries in this region have seen significant improvements. Bangladesh and Nepal, for example, between 1991 and 2007, improved their adult literacy rates from 35.3 to 53.5% and from 33 to 56.5%, respectively.

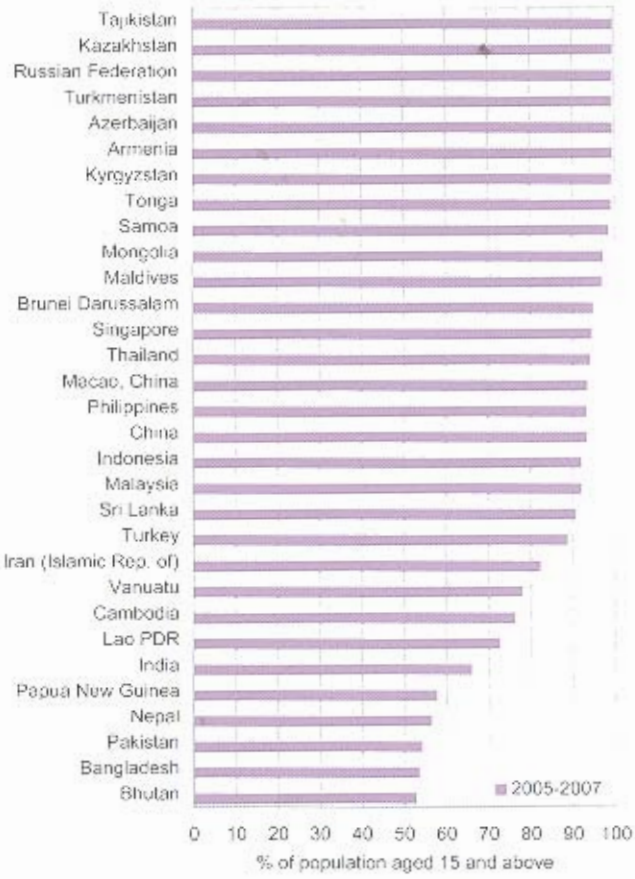
Of the 31 countries that had data between 2005 and 2007, nine had literacy rates below 80% – Bangladesh, Bhutan, Cambodia, India, Lao People's Democratic Republic, Nepal, Pakistan, Papua New Guinea and Vanuatu.

The subregions with the highest literacy rates – above 90% – are North and Central Asia and South-East Asia and East and North-East Asia. However, more intensive and dedicated efforts on provision of literacy programmes through better access to cover all remaining ones as they tend to be the most vulnerable and most difficult to reach.

Illiteracy is more prevalent among women. Out of 31 countries in the region where data are available for the years between 2005 and 2007, only the Republic of Korea and Singapore had literacy rates favouring women, while 10 other countries were within the range considered to represent gender parity – a GPI between 0.97 and 1.03. The situation was worst in South and South-West Asia, where only Maldives was within the parity range. By far the lowest GPI was in Afghanistan – at 0.29 in 2000. Bhutan, India, Pakistan and Nepal also had low

Figure 13.1

Adult literacy rates, Asia and the Pacific, 2005-2007



ratios, around 0.6-0.7, but these are slowly rising as overall literacy improves. All North and Central Asian countries have reached gender parity in literacy.

The interpretation of literacy data is not always straightforward. Literacy statistics are usually drawn from censuses or household surveys that rely on self-assessments or third-party reporting, or use educational attainment as a proxy. Generally these overestimate both literacy and functional literacy. A number of literacy assessment surveys have attempted to measure skills and literacy profiles in a more comprehensive manner, such as the Literacy Assessment Surveys in Cambodia (1999) and in the Lao People's Democratic Republic (2001).

Another important measure of educational outcome is the percentage of children enrolled in primary school who reach the final primary grade. Among 29 Asia-Pacific countries for which data are available, 20 countries had 80% of students reaching the last grade. However, in a number of countries the proportion reaching the final grade is lower: in Bangladesh in 2005, 55%; in Cambodia in 2006, 55%; in the Lao People's Democratic Republic in 2006, 62%; in Nepal in 2007, 62%; in India in 2005, 66%; in Pakistan in 2004, 70%; in Myanmar in 2006, 73%; in the Philippines in 2006, 73%; and in Fiji in 2006, 76%. On the other hand, all the countries in North and Central Asia had more than 90% students reaching the last grade of the primary level. Elsewhere other countries had equally high retention numbers: Brunei Darussalam; Hong Kong, China; Indonesia, the Republic of Korea; Samoa; Sri Lanka; Tonga; Turkey; and Viet Nam.

In line with a change in the official MDG indicator, the definition of survival rate at primary level has changed from that used in the previous *Yearbook*. Now we measure survival to the last grade of primary level rather than the survival to grade 5. This definition will thus offer compatible information for all countries, regardless of the official duration of primary school.

Figure 13.2

Survival rate to the last grade of primary level, Asia and the Pacific, 2005-2007



Survival rate to the last grade of primary level (% of grade 1 students)
The proportion of pupils starting grade 1 who reach last grade of primary education is the percentage of a cohort of pupils enrolled in grade 1 of the primary level of education in a given school year who are expected to reach the last grade of primary school, regardless of repetition. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 31 August 2009.

Adult literacy rate (% of population aged 15 and above)
The proportion of literate persons among adult population, expressed as a percentage of population aged 15 years and above. Literacy is defined as the ability to read and write with understanding a simple statement related to one's daily life. It generally encompasses basic arithmetic skills. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 14 August 2009.

Gender parity index for adult literacy rate (ratio)
The number of literate women divided by the number of literate men in the population aged 15 years and above. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 9 November 2009.

13.1 Survival rate to the last grade of primary level and literacy

	Survival rate to the last grade of primary level % of grace 1 students			Adult literacy rate % of population aged 15 and above			Gender parity index for adult literacy rate Ratio		
	2000	2005	2007	1990	2004	2007	1990	2004	2007
East and North-East Asia				**81.2**	**92.2**	**94.1**	**0.82**	**0.92**	**0.94**
China				77.6	90.9 (00)	93.3	0.78	0.91 (00)	0.93
DPR Korea									
Hong Kong, China		99.3 (04)							
Japan									
Macao, China					91.3 (01)	93.5 (06)		0.92 (01)	0.94 (06)
Mongolia	88.9		84.1 (06)		97.8 (00)	97.3		0.99 (00)	1.01
Republic of Korea	99.2	96.8	97.4 (06)						
South-East Asia				**85.1**	**90.2**	**91.4**	**0.89**	**0.94**	**0.94**
Brunei Darussalam		98.3	96.2 (06)	87.8 (91)	92.7 (01)	94.9	0.89 (91)	0.95 (01)	0.96
Cambodia	54.6	55.0	54.5 (06)	67.3 (98)	73.6	76.3	0.72 (98)	0.76	0.79
Indonesia	85.9 (01)	79.5	94.7 (06)	81.5	90.4	92.0 (06)	0.86	0.92	0.93 (06)
Lao PDR	53.2	62.0	61.5 (06)	60.3 (95)	68.7 (01)	72.7 (05)	0.65 (95)	0.79 (01)	0.77 (05)
Malaysia		89.3		82.9 (91)	88.7 (00)	91.9	0.87 (91)	0.93 (00)	0.95
Myanmar	55.2	71.5	72.7 (06)		89.9 (00)			0.92 (00)	
Philippines	75.3 (01)	70.4	73.2 (06)	93.6	92.6 (03)	93.4	0.99	1.02 (03)	1.01
Singapore				89.1	92.5 (00)	94.4	0.87	0.92 (00)	0.94
Thailand					92.6 (00)	94.1		0.95 (00)	0.97
Timor-Leste									
Viet Nam	85.7	92.1		87.6 (89)	90.3 (99)		0.89 (89)	0.93 (99)	
South and South-West Asia				**49.0**	**60.3**	**65.3**	**0.58**	**0.68**	**0.72**
Afghanistan					28.0 (00)			0.29 (00)	
Bangladesh		54.8		35.3 (91)	47.5 (01)	53.5	0.58 (91)	0.76 (01)	0.82
Bhutan	81.3	84.4				52.8 (05)			0.60 (05)
India	59.0	65.8		48.2 (91)	61.0 (01)	66.0	0.55 (91)	0.65 (01)	0.71
Iran (Islamic Rep. of)	97.5			73.1 (96)	77.0 (02)	82.3 (06)	0.83 (96)	0.84 (02)	0.88 (06)
Maldives				96.3 (95)	96.3 (00)	97.0	1.00 (95)	1.00 (00)	1.00
Nepal	45.8	50.8 (04)	61.6	33.0 (91)	48.6 (01)	56.5	0.35 (91)	0.56 (01)	0.62
Pakistan		69.7 (04)		42.7 (98)		54.2 (06)	0.52 (98)		0.58 (06)
Sri Lanka		93.4			90.7 (01)	90.8 (06)		0.97 (01)	0.96 (06)
Turkey		94.1 (04)		79.2	87.4	88.7	0.76	0.84	0.85
North and Central Asia				**97.9**	**99.1**	**99.2**	**0.97**	**0.99**	**0.99**
Armenia	79.3 (01)	99.5	97.7 (06)	98.8 (89)	99.4 (01)	99.5	0.99 (89)	0.99 (01)	1.00
Azerbaijan	96.9	97.3	98.7 (06)		98.8 (99)	99.5		0.99 (99)	0.99
Georgia	94.6	100.0	100.0 (06)						
Kazakhstan	95.9	99.4	99.5	97.5 (89)	99.5 (99)	99.6	0.97 (89)	0.99 (99)	1.00
Kyrgyzstan	93.0	98.6	96.5 (06)		98.7 (99)	99.3		0.99 (99)	1.00
Russian Federation	98.7		94.8 (06)	98.0 (89)	99.4 (02)	99.5	0.97 (89)	0.99 (02)	1.00
Tajikistan	95.5	98.7	99.4 (06)	97.7 (89)	99.5 (00)	99.6	0.98 (89)	0.99 (00)	1.00
Turkmenistan				98.8 (95)		99.5	0.99 (95)		1.00
Uzbekistan	97.8	98.6	99.2 (06)		99.9 (00)			0.98 (00)	
Pacific									
American Samoa									
Australia									
Cook Islands									
Fiji	86.1	81.0	75.6 (06)						
French Polynesia									
Guam									
Kiribati	69.7 (01)								
Marshall Islands									
Micronesia (F.S.)									
Nauru	25.4 (01)								
New Caledonia									
New Zealand									
Niue									
Northern Mariana Islands									
Palau									
Papua New Guinea					57.3 (00)	57.8		0.80 (00)	0.86
Samoa	95.9			97.9 (91)	98.6	98.7	0.99 (91)	0.99	0.99
Solomon Islands									
Tonga	94.6	90.9		98.9 (96)		99.2	1.00 (96)		1.00
Tuvalu	72.7								
Vanuatu	68.9 (99)			66.5 (94)	75.5	78.1	0.91 (94)	0.94	0.95
Asia and the Pacific				**70.3**	**79.7**	**82.3**	**0.78**	**0.85**	**0.87**
LLDC				74.9	76.6	77.5	0.86	0.87	0.87
LDC				47.0	56.7	60.4	0.67	0.78	0.81
ASEAN				85.1	90.3	91.5	0.89	0.94	0.94
ECO				64.4	69.0	72.9	0.75	0.79	0.80
SAARC				45.9	57.4	62.9	0.54	0.65	0.70
Central Asia				97.8	98.4	98.6	0.98	0.99	0.99
Pacific island dev. econ				75.8	76.2	76.8	0.88	0.91	0.93
Low income				58.3	63.5	67.7	0.76	0.81	0.81
Middle income				71.2	81.6	84.3	0.77	0.85	0.88
High income				99.1	99.1	99.1	1.00	1.00	1.00
Africa				**52.8**	**59.7**	**63.3**	**0.69**	**0.73**	**0.76**
Europe				**98.5**	**99.0**	**99.2**	**0.99**	**0.99**	**1.00**
Latin America and Carib.				**86.6**	**89.7**	**91.0**	**0.98**	**0.98**	**0.99**
North America				**99.9**	**99.9**	**99.8**	**0.99**	**0.99**	**0.99**
Other countries/areas				**73.4**	**78.6**	**80.5**	**0.77**	**0.81**	**0.82**
World				**76.2**	**82.1**	**83.9**	**0.85**	**0.89**	**0.90**

14 Financial and human resources for education

The international community, through the 2000 Dakar Framework for Action, agreed to increase expenditure on education. However, the Asia-Pacific region as a whole has seen no significant improvement.

In 2006-2007, across Asia-Pacific countries, public education expenditure as a proportion of GDP ranged from 1.6 to 7.8%. Among the 37 countries where data are available for at least two years during this decade, 7 countries increased this proportion and 9 countries reduced it – by at least one percentage point. The changes vary from a sharp decline of 2.7 percentage points in Marshall Islands to an increase of 1.8 percentage points in Kyrgyzstan and 2.5 percentage point in Kirbati.

Among the countries where the ratio of education expenditure to GDP is less than 2% are: Cambodia, in 2007 1.6%; Myanmar in 2001 1.3%; and Cook Islands, in 2001 0.2%.

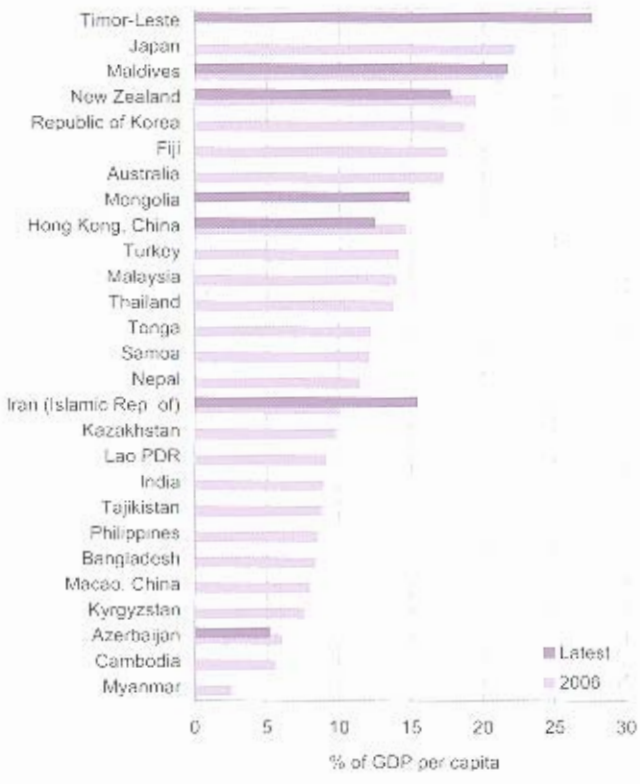
Another indicator of national commitment is the proportion of government expenditure devoted to education. In 2007, among the countries and areas where data are available, four allocated more than 19%: Hong Kong, China; Kyrgyzstan, the Islamic Republic of Iran and Thailand. At the other end of the scale was Georgia which allocated only 7.8%. Most governments were allocating between 12 and 18%. However, in some countries this proportion fell between 2006 and 2007 – in Azerbaijan, Kyrgyzstan and Thailand by more than four percentage points.

Expenditure can also be considered in terms of public spending per student, as a percentage of per capita GDP. This can vary by country, and by the level of education. Over the period 2005-2007, at the primary level, it varied from 5.2% in Azerbaijan in 2006 to 27.6% in Timor-Leste in 2007. Over the same period a number of countries were spending less than 10% of GDP per capita at the primary level, including Azerbaijan, India, Philippines, Tajikistan and The Lao People's Democratic Republic.

At the secondary level, in 2007 all countries that had data available for 2007 had ratios higher than 15%. At tertiary level, however, there were considerable differences – in 2007, ranging from 2.2% of GDP per capita expenditure in Mongolia to 47.3% in Hong Kong, China. The per student expenditure ratios are highly dependent on the country's size, its GDP, the extent of private education, and the nature of government priorities.

Figure 14.1

Public expenditure per pupil in primary level as a proportion of GDP per capita, Asia and the Pacific, 2006-Latest



The quality of education also depends on the distribution, skills and competencies of teachers. One of the most readily available measures of success in this area is the number of pupils per teacher – the pupil-teacher ratio (PTR). In 2007, on average in the Asia-Pacific region there were 26

pupils per teacher in the primary level – one more than the global average. The primary PTR varied from 41:1 in the SAARC region to 20:1 in the high-income economies. Between 2000 and 2007, there was a notable decrease in the primary PTR in South-East Asia, from 26:1 to 22:1, and in the least developed countries, from 47:1 to 44:1.

Looking at national averages, the PTR at the primary level varied widely in 2007, from 12:1 in Azerbaijan to 51:1 in Cambodia. Among the countries with the lowest ratios in their respective subregions were the Maldives in South and South-West Asia at 15:1, and Brunei Darussalam in South-East Asia at 13:1.

Compared with the primary level, pupil-teacher ratios are lower at the secondary level. The Asia-Pacific average is 20:1, ranging from 10:1 in North and Central Asia to 30:1 in South and South-West Asia (in 2004). Among individual countries in 2007, the lowest ratio was in Azerbaijan and Armenia at 8:1, while the highest was in the Philippines at 35:1.

In general, a smaller pupil-teacher ratio should improve the quality of education. However, the capacity of teachers will also depend on their skills, competencies, their number of years of experience, their opportunities for in-service training, and, at the secondary level especially, on the extent of their specialization and knowledge. Learning outcomes will inevitably suffer in schools with large class sizes, minimal facilities, modest instructional materials and poorly trained teachers.

Pupils to teacher ratio in primary education
Average number of pupils (students) per teacher in primary/secondary education in a given school year, based on headcounts for both pupils and teachers. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 24 August 2009.

Pupils to teacher ratio in secondary education
Average number of pupils (students) per teacher in primary/secondary education in a given school year, based on headcounts for both pupils and teachers. **Aggregates:** Calculated by UNESCO Institute for Statistics. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 24 August 2009.

Public expenditure on education (percentage of GDP, percentage of total government expenditure)
Current and capital expenditures on education by local, regional and national governments, including municipalities (household contributions are excluded), expressed as a percentage of the GDP and as a percentage of total government expenditure on all sectors (including health, education, social services, etc.). **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 14 August 2009.

Public expenditure per pupil in primary, secondary, and tertiary education (% of GDP per capita)
Total public expenditure per pupil at each level of education, expressed as a percentage of GDP per capita. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 27 November 2008 - No data updates since Statistical Yearbook 2008 Edition.

14.1 Pupil-teacher ratio

	Pupil-teacher ratio in primary education (Ratio)						Pupil-teacher ratio in secondary education (Ratio)					
	2000	2002	2003	2004	2005	2007	2000	2002	2003	2004	2005	2007
East and North-East Asia		**19.9**	**21.2**			**18.0**	**17.0**	**18.3**	**18.1**			**16.1**
China		19.6	21.1			17.7	17.1	18.9	18.6			16.4
DPR Korea												
Hong Kong, China	21.3	20.2	19.8	18.8	18.3	16.9						
Japan	20.7	20.0	19.6	19.2	18.9	18.5	14.0	13.5	13.2	12.9	12.6	12.2
Macao, China	30.0	27.5	26.0	24.4	23.2	20.4	23.9	24.0	24.8	23.2	22.4	20.5
Mongolia	32.6	31.8	30.8	32.9			19.9	21.9	21.5	22.7		
Republic of Korea	32.1	31.3	30.1	29.0	27.9	25.6	21.0	18.2	17.7	17.8	18.0	18.1
South-East Asia	**25.9**	**24.5**	**23.8**	**23.4**	**23.3**	**21.8**	**21.0**	**19.5**	**19.9**	**19.8**	**17.9**	**18.1**
Brunei Darussalam	13.7	12.7	12.2	10.9	10.1	12.7	10.9	11.2	10.6	10.2	10.1	10.6
Cambodia	50.1	56.3	56.2	55.1	53.2	50.9	18.5	21.6	23.6	25.1		28.9
Indonesia	22.4	20.9	20.3	20.1	20.4	18.8	15.8	13.6	14.2	14.2	11.8	13.0
Lao PDR	30.1	29.9	30.6	31.4	31.5	30.1	21.3	24.1	25.7	26.6	24.8	23.6
Malaysia	19.6	18.9	17.5	17.5	16.9		16.4	17.7	17.7	17.4	17.0	
Myanmar	32.8	32.6	32.8	32.0	30.9	29.1	31.9	31.2	32.6	33.0	33.1	32.8
Philippines		35.4	34.9	34.5	35.1	33.7		38.3	37.1	37.5	37.9	35.1
Singapore						20.4						17.0
Thailand	20.8	19.1	19.1			17.7		24.0	24.0			21.0
Timor-Leste		50.8	46.8	50.7	34.2	30.8		28.4		27.6	23.7	
Viet Nam	29.5	26.3	24.7	23.0	21.6	20.4	28.0	26.3	25.6	24.5	23.9	21.8
South and South-West Asia	**38.6**	**38.9**	**39.3**	**38.3**	**38.2**	**38.0**	**32.3**	**31.3**	**31.1**	**29.9**		
Afghanistan						42.8						31.6
Bangladesh					47.0	44.8	38.4	34.4	31.1	27.4	23.9	25.2
Bhutan	41.1	37.9			31.1		32.5				28.1	
India	40.0	40.7	41.3	40.2			33.6	32.3	32.3	32.7		
Iran (Islamic Rep. of)	26.1	24.4	23.6	20.0	19.2	19.2				19.6	18.8	
Maldives	22.7	20.0	18.2	22.7	20.1	14.5	15.3	15.0	13.7			
Nepal	42.6	39.9	35.7	35.8	39.7	40.0	30.2	29.0	34.7			
Pakistan	33.0	35.0	34.8	37.5	38.3	40.0				41.9		
Sri Lanka		24.8	23.4	22.5	21.9	23.8		19.8	19.7	19.5		
Turkey												
North and Central Asia	**19.0**	**18.4**	**18.2**	**17.8**	**17.7**	**17.4**	**11.3**	**11.5**	**11.3**	**10.9**	**10.6**	**10.2**
Armenia		20.3	18.8	20.3	21.2	19.3		6.9	6.9	7.9	8.0	7.8
Azerbaijan	18.7	16.2	15.3	14.3	13.4	11.6	7.8	8.4	8.7	8.5	8.4	7.8
Georgia	16.8	13.9	14.5	14.5	14.5		7.5	9.4	9.2	9.1		
Kazakhstan	18.7	18.9	18.5	17.9	17.3	16.5	11.3	11.9	11.7	11.3	11.0	10.4
Kyrgyzstan	24.1	24.0	24.5	24.2	24.5	24.2	13.3	13.4	14.0	13.7	13.4	13.6
Russian Federation	17.6	17.0	16.6		16.7	17.1			10.8	10.3	9.5	8.6
Tajikistan	21.8	21.8	22.4	21.5	21.3	21.6	16.4	17.9	17.3	15.7	16.4	16.5
Turkmenistan												
Uzbekistan	21.4	21.3	21.1	20.1	19.9	18.2	11.5	12.2	12.9	13.0	13.3	13.1
Pacific	**20.3**	**19.3**	**18.9**	**18.5**	**18.6**							
American Samoa												
Australia												
Cook Islands	17.8	17.7	15.7		16.1	16.2	13.9	15.3	15.0		15.6	14.7
Fiji	28.1	27.8	28.2	28.2	28.2		20.2	18.6	24.6	22.4		22.9
French Polynesia												
Guam												
Kiribati	31.7	22.4	26.5	24.7	24.7		17.6	18.4	19.9	18.6	17.0	
Marshall Islands		16.9	16.9					16.7	16.7			
Micronesia (F.S.)						16.6						
Nauru	21.5	18.6	21.8	26.4	27.9	19.9	17.4	22.9	19.0	13.4	15.4	20.9
New Caledonia												
New Zealand	18.4	17.8	17.8	16.4	16.3	15.7	15.5		14.2	13.2	14.7	14.6
Niue	14.7	14.8		11.5	11.9		11.8			8.4	8.2	
Northern Mariana Islands												
Palau	15.7				12.5		15.1					
Papua New Guinea	35.4	37.7	36.2	35.5	34.6							
Samoa	24.0	26.9	25.0	25.0		23.8	21.2		20.8	20.8		
Solomon Islands							10.1					
Tonga	22.1	22.1	21.7	20.3	21.3		14.6	14.4				
Tuvalu	19.7	16.7	17.9	19.2								
Vanuatu	22.5	23.2	21.7	20.0			24.7	13.9				
Asia and the Pacific	**26.5**	**26.3**	**27.4**	**27.4**	**26.3**	**25.5**	**20.6**	**21.1**	**21.0**	**20.7**	**20.2**	**19.6**
LLDC	27.2	28.9	29.8	29.9	31.3	28.3	12.4	13.1	13.6	13.5	13.9	14.3
LDC	46.8	46.1	46.3	45.0	44.5	40.2	34.3	30.3	29.0	26.7	25.1	27.6
ASEAN	25.9	24.4	23.8	23.4	23.3	21.8	20.9	19.5	19.9	19.8	17.9	18.0
ECO	28.4	28.8	28.9	28.5	28.6	28.1				19.1	18.2	
SAARC	40.6	41.3	41.7	41.0		40.6	34.2	32.7	32.4	32.2		
Central Asia	20.5	19.9	19.8	19.0	18.7	17.6	11.0	11.7	12.0	12.0	12.1	11.8
Pacific island dev. econ.	30.1	29.7	29.0	28.6	28.3	26.9						
Low income	35.8	35.8	35.7	35.6	35.4	34.2	25.9	25.4	24.9	24.1	23.1	23.8
Middle income	25.3	25.1	26.4	26.3		24.4	20.0	20.7	20.6	20.5		19.1
High income	22.5	21.7	21.2	20.6	20.2	19.5	15.3	14.6	14.3	14.1	14.0	13.8
Africa	**37.4**	**38.0**	**37.8**	**38.3**	**38.5**	**38.6**	**20.0**	**20.6**	**21.3**	**21.7**	**21.7**	**20.5**
Europe	**15.1**	**14.6**	**14.6**	**14.6**	**14.3**	**14.1**	**12.2**	**12.0**	**11.9**	**11.7**	**11.3**	**11.0**
Latin America and Carib.	**25.6**	**24.8**	**23.9**	**23.4**	**23.1**	**23.4**	**19.2**	**18.7**	**17.6**	**16.8**	**16.5**	**17.8**
North America	**15.2**	**14.8**	**14.8**	**14.4**	**14.4**	**14.0**	**14.9**	**15.0**	**15.1**	**15.2**	**15.1**	**14.8**
Other countries/areas	**19.7**	**20.0**	**19.6**	**19.6**	**18.0**	**17.0**	**16.1**	**15.7**	**15.7**	**15.8**	**15.1**	
World	**25.5**	**25.3**	**25.9**	**25.9**	**25.3**	**24.9**	**18.3**	**18.5**	**18.5**	**18.3**	**17.9**	**17.7**

14.2 Financial resources for education

	Public expenditure on education % of GDP							Public expenditure on education % of total government expenditure						
	2000	2002	2003	2004	2005	2006	2007	2000	2002	2003	2004	2005	2006	2007
East and North-East Asia														
China														
DPR Korea														
Hong Kong, China		4.0	4.3	4.6	4.2	3.9	3.5		21.9	23.3	23.3	23.0	23.9	23.2
Japan	3.7	3.6	3.7	3.7	3.5	3.5		10.5	10.6	9.7	9.8	9.5	9.5	
Macao, China	3.8	3.1	3.0	2.4	2.4	2.3		13.9	16.3	15.2	14.0	14.1	14.9	
Mongolia	5.8	7.9		4.7										
Republic of Korea		4.2	4.6	4.6	4.4				15.5	15.0	16.5	15.3		
South-East Asia														
Brunei Darussalam	3.7							9.1						
Cambodia	1.7	1.7	1.8	1.7			1.6	14.6						12.4
Indonesia		2.6	3.2	2.7	2.9	3.6	3.5		14.3	16.0	14.2	14.9	17.2	17.5
Lao PDR	1.5	2.7	2.3	2.3	2.3	3.0	3.2	7.4	10.6	11.0	10.8	11.7	14.0	15.8
Malaysia	6.2	8.1	8.0	5.9	7.5	4.6		26.7	20.3	28.0	25.2			
Myanmar	0.6	1.3 (01)						8.7						
Philippines	3.5	3.2	3.2	2.7	2.5			13.9	17.8	17.2	16.4	16.2		
Singapore														
Thailand	5.4			4.2	4.2	4.3	3.9	31.0			26.8	25.0	25.0	20.9
Timor-Leste														
Viet Nam														
South and South-West Asia														
Afghanistan														
Bangladesh	2.4	2.3	2.4	2.2		2.5	2.6	15.0	15.8	15.5	14.8		14.2	15.8
Bhutan	5.4				7.0		5.7	13.6				17.2		
India	4.4		3.7	3.4	3.2			12.7		10.7				
Iran (Islamic Rep. of)	4.4	4.9	4.8	4.9	4.7	5.1	5.5	18.3	21.7	17.7	17.9	22.8	18.5	19.5
Maldives		8.1	8.1	7.4	7.8	7.9						15.0	11.0	
Nepal	3.0	3.2	3.1					13.2	13.9	14.9				
Pakistan	1.8		1.9	1.9	2.3	2.6	2.9				6.4	10.9	12.2	11.2
Sri Lanka														
Turkey	3.5	3.6	3.7	4.0										
North and Central Asia														
Armenia	2.8	2.1	2.1	2.5	2.7	2.7		12.8	11.0	11.1	14.2	14.6	15.0	
Azerbaijan	3.9	3.2	3.3		2.3	2.0	2.6	23.8	20.7	19.2		19.6	17.4	12.6
Georgia	2.2	2.2	2.1	2.9	2.5	3.0	2.7	11.7	11.8	11.6	13.1	8.8	9.3	7.8
Kazakhstan	3.3	3.0		2.3	2.3	2.6	2.9	12.1						
Kyrgyzstan	3.5	4.4	4.5	4.6	4.9	5.6	5.3	20.3	22.1	22.2	23.1	24.4	25.0	19.2
Russian Federation	2.9	3.8	3.7	3.5	3.8	3.9		10.6	10.7	12.3	12.9			
Tajikistan	2.3	2.8	2.4	2.8	3.5	3.4	3.4		17.8	16.3	16.9	16.0	19.0	18.2
Turkmenistan														
Uzbekistan														
Pacific														
American Samoa														
Australia	5.0	5.0	4.9	4.9	4.8	5.2		13.3						
Cook Islands	0.2	0.2 (01)												
Fiji	5.8	6.2	6.2	6.2				22.8	20.0					
French Polynesia														
Guam														
Kiribati	15.3	17.8												
Marshall Islands	14.5	8.7	12.1	11.8						15.8				
Micronesia (F.S.)	7.3													
Nauru														
New Caledonia														
New Zealand		6.6	6.7	6.8	6.5	6.2	6.3		16.2	20.9		15.5	19.7	
Niue									10.1					
Northern Mariana Islands														
Palau	9.8	10.3												
Papua New Guinea														
Samoa	4.0	4.3						13.3	13.7					
Solomon Islands														
Tonga	6.3	4.9	5.3	5.0				16.5	13.1	13.5				
Tuvalu														
Vanuatu	7.8	9.3	9.5					16.9						
Asia and the Pacific														
LLDC														
LDC														
ASEAN														
ECO														
SAARC														
Central Asia														
Pacific island dev. econ.														
Low income														
Middle income														
High income														
Africa														
Europe														
Latin America and Carib.														
North America														
Other countries/areas														
World														

14.3 Public expenditure on education

	Public expenditure per pupil in primary education, % of GDP per capita				Public expenditure per pupil in secondary education, % of GDP per capita				Public expenditure per pupil in tertiary education, % of GDP per capita			
	Earliest	2000	2005	Latest	Earliest	2000	2005	Latest	Earliest	2000	2005	Latest
East and North-East Asia												
China					11.5 (99)				90.1 (99)			
DPR Korea												
Hong Kong, China		12.4 (01)	14.7	12.5 (07)		17.7 (01)	19.6	16.5 (07)		65.0 (03)	59.7	47.3 (07)
Japan	21.1 (99)	21.6	22.2		20.9 (99)	21.2	22.4		15.1 (99)	17.7	19.2	
Macao, China		8.8	8.0 (03)			11.9			64.1 (99)	64.0	22.2	19.2 (06)
Mongolia		31.8 (02)		14.9 (07)		18.2 (02)		14.8 (07)		33.2 (02)		2.2 (07)
Republic of Korea	18.4 (99)		18.8		15.7 (99)		23.4		8.4 (99)		9.3	
South-East Asia												
Brunei Darussalam												
Cambodia		5.9	5.6 (04)			6.4 (01)				43.7 (01)		8.5 (07)
Indonesia												
Lao PDR	2.2 (99)	3.9	9.1		4.3 (99)	5.5	4.7		66.5 (99)	68.3	25.2	
Malaysia		13.0	14.0 (04)			22.6	20.3 (04)			84.3	68.3 (04)	
Myanmar			2.5 (03)			6.8 (01)	2.7 (03)			27.5 (01)		
Philippines		12.6	8.6			10.8	9.1			15.1	11.5	
Singapore		11.4 (01)										
Thailand		17.3	13.8 (04)		15.5 (01)		15.2 (04)			35.1	24.5	28.0 (06)
Timor-Leste				27.6 (07)								
Viet Nam												
South and South-West Asia												
Afghanistan												
Bangladesh	7.9 (99)	8.6	8.3		13.4 (99)	11.9	16.0		50.1 (99)	45.4	54.0	46.2 (06)
Bhutan		9.8				70.1						
India	11.9 (99)	14.5	8.9		24.7 (99)	24.4	16.7			90.8	57.8	
Iran (Islamic Rep. of)	9.1 (01)		9.9	15.4 (07)	9.9 (01)		11.2	22.3 (07)	34.6 (01)		23.2	27.7 (07)
Maldives	18.9 (03)		21.5	21.8 (06)				28.9 (06)				
Nepal	9.1 (99)	10.3	11.4 (03)		13.1 (99)	11.6	9.6 (03)			141.6	65.4 (03)	
Pakistan												
Sri Lanka												
Turkey		11.2	14.1 (04)		14.3 (01)		17.8 (04)		45.5 (00)	45.5	40.7 (04)	
North and Central Asia												
Armenia												
Azerbaijan	6.9 (99)	7.6	6.0	5.2 (06)	17.0 (99)	18.2	9.6	8.0 (06)	19.1 (99)	15.9	9.8	11.2 (07)
Georgia												
Kazakhstan		12.0 (02)	9.8			9.9 (02)	7.7			11.4 (02)	5.6	
Kyrgyzstan	6.2 (99)	5.3	7.6 (02)		11.9 (99)	9.9	14.3 (02)		27.7 (99)	16.7	21.8	22.3 (06)
Russian Federation										12.1 (03)	12.6	
Tajikistan		7.3 (02)	8.8			8.9 (02)	11.4			24.8 (02)	14.3	11.8 (07)
Turkmenistan												
Uzbekistan												
Pacific												
American Samoa												
Australia	16.9 (99)	17.0	17.3		15.4 (99)	14.7	15.4		27.2 (99)	26.8	23.1	
Cook Islands	1.0 (99)	0.9			1.2 (99)	1.0						
Fiji			17.5 (04)				16.2 (04)				63.0 (04)	
French Polynesia												
Guam												
Kiribati	37.1 (99)	37.3										
Marshall Islands	71.7 (99)	25.7 (02)			28.0 (99)	30.4 (02)				80.7 (02)		
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	20.1 (99)	20.2	19.5	17.8 (06)	24.3 (99)	23.0	22.6	20.6 (06)	41.6 (99)		25.4	26.4 (06)
Niue												
Northern Mariana Islands												
Palau		44.8 (01)				9.5 (01)				81.5 (01)		
Papua New Guinea												
Samoa	9.2 (99)	8.2	12.1 (02)		10.1 (99)	9.6	10.5 (01)		213.0 (99)	137.5		
Solomon Islands												
Tonga		13.8 (02)	12.2 (04)			9.8 (02)	9.4 (04)				159.6 (04)	
Tuvalu												
Vanuatu	12.3 (99)	15.1			76.4 (99)	70.0			128.9 (99)	166.4		
Asia and the Pacific												
LLDC												
LDC												
ASEAN												
ECO												
SAARC												
Central Asia												
Pacific island dev. econ.												
Low income												
Middle income												
High income												
Africa												
Europe												
Latin America and Carib.												
North America												
Other countries/areas												
World												

15 Research and development

Over the five years from 2002 to 2007, Asia and the Pacific increased its overall share of global spending on research and development more than any other world region. The main contributor to this expansion was research in China.

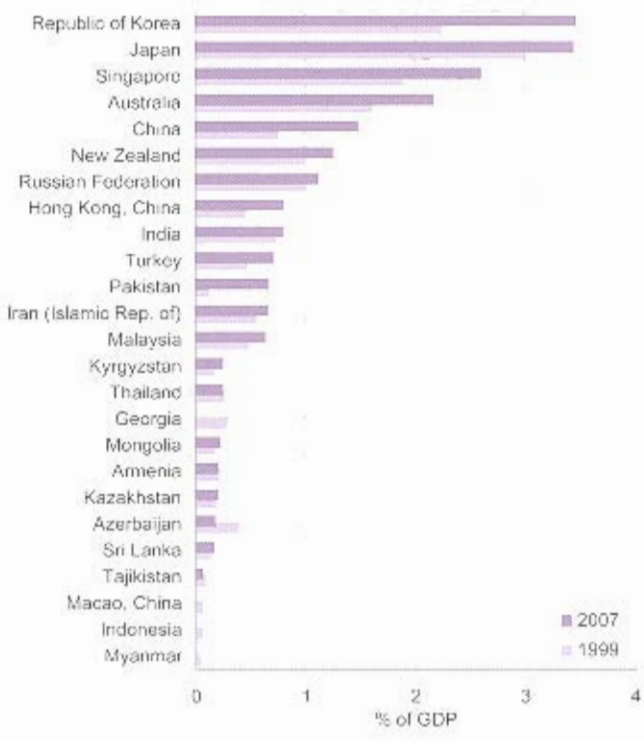
Many countries and areas have adopted as an informal development target that one% of GDP should be spent on research and development (R&D). Among the Asia-Pacific economies where data are available, seven countries – Australia, Japan, the Republic of Korea, New Zealand, the Russian Federation, Singapore and China – have already surpassed this. Since 1999, all these countries, except the Russian Federation, have seen steady growth in R&D spending. Other countries have also seen steady growth, but have yet to reach 1% of GDP – including India, Turkey, Pakistan and Hong Kong, China. Only one of the countries in Asia for which there are data, Azerbaijan, has shown a consistent decline, with a drop between 1999 and 2007, from 0.4 to 0.2% of GDP.

The expenditure on R&D, and certainly the quality of scientific output, depends on having a strong, well-trained group of scientists. Singapore and New Zealand have over 7,000 researchers per million inhabitants while Japan and the Republic of Korea have over 6,000. On this measure, despite its very rapid growth in research, China is still some way behind, at 1,000 researchers per million inhabitants. Among the countries for which data were available, Tajikistan has proportionately the smallest research cadre, at 191. However, no country in the Asia-Pacific region has shown a consistent decline in the relative number of researchers and some have seen steady increases, as in the Republic of Korea, Singapore, Pakistan, Turkey and New Zealand. China belongs to that group of countries based on full-time equivalent researcher data from UNESCO (not shown in the table).

Despite the rapid growth in research in the last ten years Asia and the Pacific still has a lower proportion of researchers per million population than all other regions except Africa. Thus, it still has a lot to do in terms of training and job creation to catch up with the leading countries.

Figure 15.1

Gross domestic expenditure on research and development (% of GDP), Asia and the Pacific, 1999 and 2007

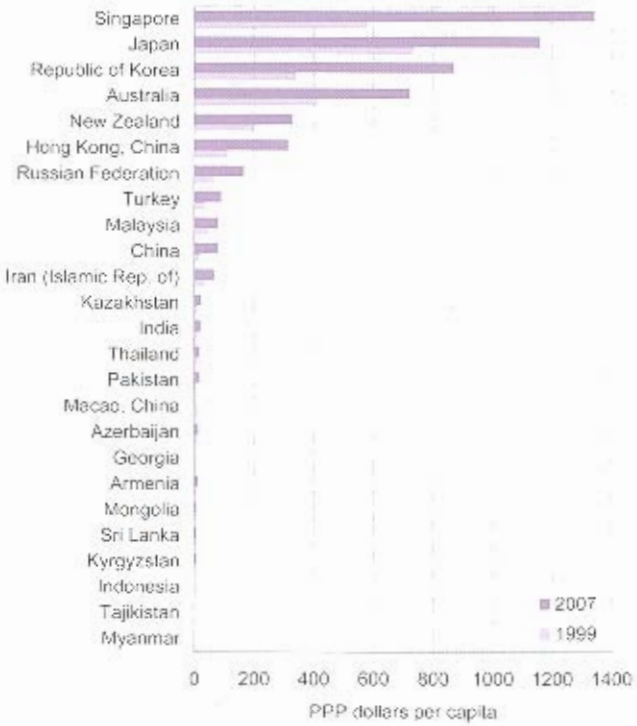


R&D intensity, which is the gross expenditure on R&D as a percentage of GDP, measures the relative importance of R&D in the national economy. Asia and the Pacific has seen steady increases in a number of countries measured in current PPP dollars per capita; some starting in 1999 from a low intensity; others starting from a higher intensity. China, Republic of Korea, Singapore and Pakistan have seen particularly rapid growth. China's R&D spending now exceeds that of a large number of European Union countries. In

1999, Pakistan's relative spending was similar to that of Sri Lanka, Indonesia and Tajikistan; now it exceeds that of several Latin American and eastern European countries.

Figure 15.2

Gross domestic expenditure on research and development (current PPP dollars per capita), Asia and the Pacific, 1999 and 2007



The data series on R&D presented in this chapter do not include expenditure on training. R&D is usually understood as an "input" to science – in that it may, or may not, lead to a new discovery that has an impact on the economy. And even when R&D does succeed in this way, the results may not be felt until long after the original R&D was completed since it usually need to be followed by extensive field testing and work to marketable applications.

Researchers per million inhabitants (number)
Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the planning and management of research and development projects. Postgraduate students at the PhD level (ISCED level 6) engaged in research and development are also considered as researchers. The series presents headcount data, reflecting the total number of persons employed in research and development, regardless of whether they work on a part- or full-time basis. Data are presented in number of researchers per million inhabitants. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 9 December 2009.

Gross Domestic Expenditure on Research and Development (% of GDP; PPP dollars per capita)
Gross domestic expenditure on R&D (GERD) is the total intramural expenditure on R&D performed on the national territory during a given period. It includes research and development funds allocated by: (1) firms, organizations and institutions whose primary activity is the market production of goods and services for sale to the general public; (2) the central (federal), state, or local government authorities. These include all departments, offices and other bodies which furnish, but normally do not sell to the community, those common services, other than higher education; (3) institutions of higher education comprising all universities, colleges of technology, other institutions of post-secondary education, and all research institutes, experimental stations and clinics operating under the direct control of or administered by or associated with higher education establishments; (4) non-market, private non-profit institutions serving the general public, as well as by private individuals and households; (5) institutions and individuals located outside the political borders of a country, except vehicles, ships, aircraft and space satellites operated by domestic organizations and testing grounds acquired by such organizations, and by all international organizations (except business enterprises) including their facilities and operations within the country's borders. Total expenditure on R&D is presented as a share of GDP per capita in current PPP Dollars. **Source:** UNESCO Institute for Statistics, Data Centre. Online database accessed on 9 December 2009.

15.1 Research and development

	Researchers per million inhabitants			Gross domestic expenditure on research and development					
	Number			% of GDP			PPP dollars per capita		
	1999	2005	2007	1999	2005	2007	1999	2005	2007
East and North-East Asia									
China				0.8	1.3	1.5	16	54	79
DPR Korea									
Hong Kong, China	1 539 (01)	3 107	2 984 (06)	0.5	0.8	0.8 (06)	112	279	314 (06)
Japan	6 246 (01)	6 763	6 934	3.0	3.3	3.4	733	1 010	1 158
Macao, China	363 (01)	1 150		0.1 (01)	0.1		15 (01)	38	
Mongolia	760	679	666	0.2	0.3	0.2	3	7	7
Republic of Korea	2 918	4 934	6 028	2.3	3.0	3.5	342	644	868
South-East Asia									
Brunei Darussalam									
Cambodia									
Indonesia	471 (03)	162		0.1 (00)	0.0		2 (00)	2	
Lao PDR									
Malaysia	645 (00)		729 (06)	0.5 (00)		0.6 (06)	45 (00)		80 (06)
Myanmar	62			0.0			0		
Philippines		125			0.1			3	
Singapore	3 513	6 555	7 059	1.9	2.3	2.6	578	996	1 342
Thailand	313	517		0.3	0.2	0.2 (06)	12	16	18 (06)
Timor-Leste									
Viet Nam									
South and South-West Asia									
Afghanistan									
Bangladesh									
Bhutan									
India				0.7	0.8	0.8	10	17	21
Iran (Islamic Rep. of)			947 (06)	0.6 (01)	0.7	0.7 (06)	38 (01)	67	66 (06)
Maldives									
Nepal									
Pakistan		187	310	0.1	0.4	0.7	2	9	16
Sri Lanka	416 (00)		229 (06)	0.1 (00)		0.2 (06)	4 (00)		7 (06)
Turkey	887	1 178	1 397	0.5	0.6	0.7	37	62	90
North and Central Asia									
Armenia	1 436	1 650	1 339	0.2	0.2	0.2	4	9	12
Azerbaijan	1 317	1 429	1 358	0.4	0.2	0.2	8	10	14
Georgia	2 662	1 817		0.3	0.2		6	6	
Kazakhstan	638	784	695 (06)	0.2	0.3	0.2	8	25	23
Kyrgyzstan	468	419	380	0.2	0.2	0.3	2	3	5
Russian Federation	2 855	2 732	2 768	1.0	1.1	1.1	67	127	165
Tajikistan	296 (01)	305	191	0.1 (01)	0.1	0.1	1 (01)	1	1
Turkmenistan									
Uzbekistan									
Pacific									
American Samoa									
Australia				1.6 (00)		2.2 (06)	414 (00)		721 (06)
Cook Islands									
Fiji									
French Polynesia									
Guam									
Kiribati									
Marshall Islands									
Micronesia (F.S.)									
Nauru									
New Caledonia									
New Zealand	5 635 (01)	6 707	7 084	1.0	1.2	1.3	199	289	331
Niue									
Northern Mariana Islands									
Palau									
Papua New Guinea									
Samoa									
Solomon Islands									
Tonga									
Tuvalu									
Vanuatu									
Asia and the Pacific									
LLDC									
LDC									
ASEAN									
ECO									
SAARC									
Central Asia									
Pacific island dev. econ									
Low income									
Middle income									
High income									
Africa									
Europe									
Latin America and Carib.									
North America									
Other countries/areas									
World									

16 Economic growth

Following extraordinary GDP growth rates in recent decades, the Asia-Pacific region has, since 2006, become the world's second largest aggregated economy – accounting for 29% of global GDP.

Between 1990 and 2008, the region's aggregate GDP nearly doubled – to $17.7 trillion, and is now not far behind that of the largest region, Europe, at $19.7 trillion. In 2008, the real GDP of Asia and the Pacific grew at 3.8%, faster than the world average of 2.2%. Other fast growing regions included Africa (5.9%) and Latin America and the Caribbean (4.3%).

The picture changes somewhat when considering GDP per capita. Of the global regions, Africa had the highest population growth rate, which reduced its GDP per capita growth rate in 2008 to 3.5%, compared with Latin America and the Caribbean's 3.2%, and Asia and the Pacific's 2.7%. The remaining two regions were some way behind in this regard – Europe at 0.6% and North America at 0.1%.

Figure 16.1

Index of change in GDP, world regions, 1990-2008

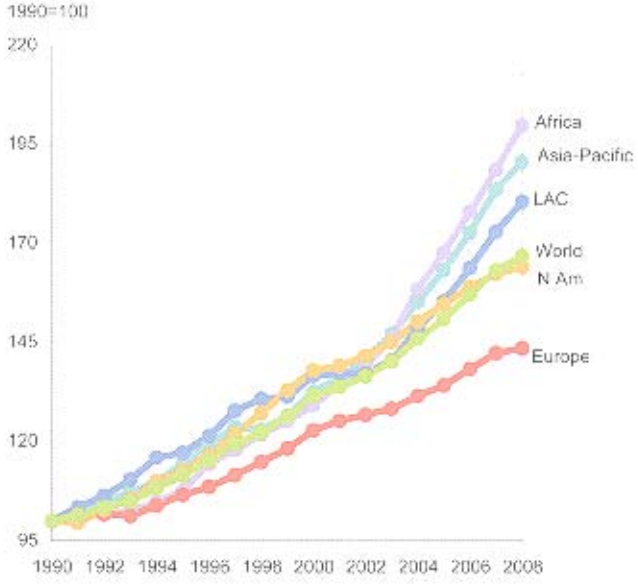
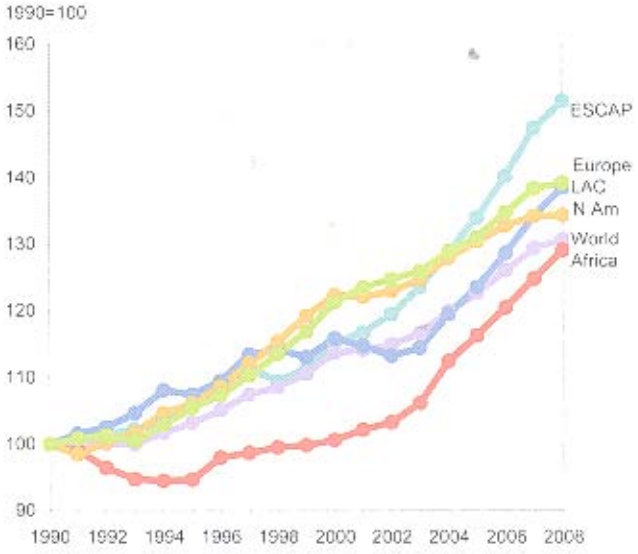


Figure 16.2

Index of change in GDP per capita, world regions, 1990-2008



Within Asia and the Pacific, the highest growth rates in 2008 were achieved by the group of middle-income economies, at 6.9%. The low-income economies reached 5.7%, while the high-income economies only managed a modest 0.8% increase. This pattern reflects the fact that the middle-income economies have been the best performers since the early 1990s – some having graduated to the higher group from among low-income economies. Since the Asian crisis in 1997, the high-income economies have had the slowest growth.

China has been one of the fastest growers, averaging 11.2% annually in the period 2005-2008. In 2008, however, mainly due to decreased export demand and declining real estate investment, China's GDP growth sank to 9.0% – its lowest rate since 2002. Other fast-growing economies included Macao, China (13.2%) and Azerbaijan (10.8%).

At the other end of the scale, the economy of the small Pacific island of Nauru contracted by 12.1% in 2008, as consumer demand decreased and private-sector investment slackened. Negative economic growth was also recorded for the

Figure 16.3

Index of change in GDP, by income groupings of Asia-Pacific countries, 1990-2008

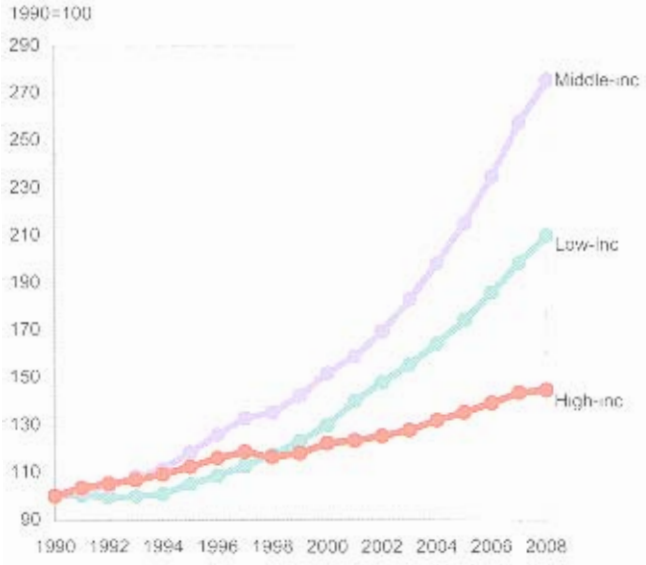
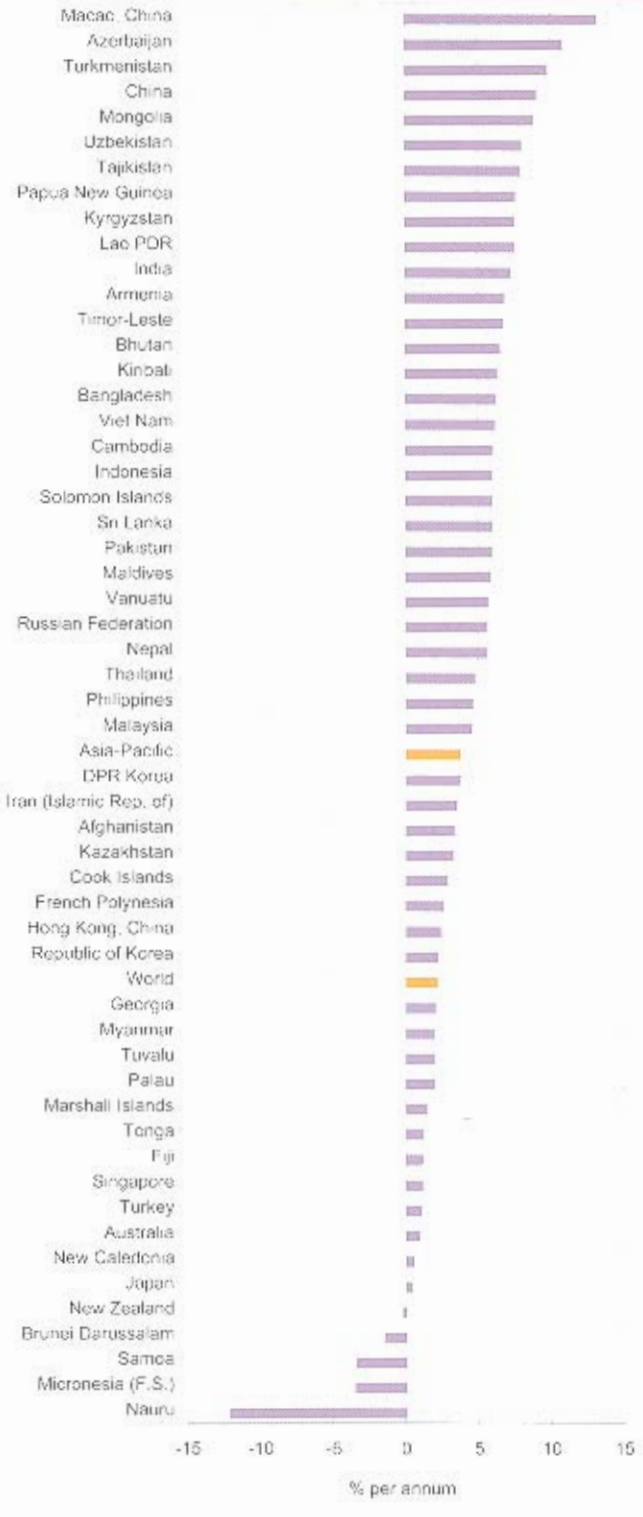


Figure 16.4

GDP growth rate, Asia and the Pacific, 2008



Federated States of Micronesia, Samoa, Brunei Darussalam and New Zealand.

Among the subregions, North and Central Asia had the highest GDP growth in 2008, 5.7%. Azerbaijan, thanks to its booming construction sector, held the subregion's top position for a fourth consecutive year. Nevertheless, between 2007 and 2008 its growth decreased from 25.1 to 10.8%. Growth in the Russian Federation reached 5.6% of GDP – a consequence of rising agricultural production, growing retail turnover and investment in fixed capital.

In the Pacific, aggregate GDP growth slowed significantly between 2007 and 2008, from 3.8 to 0.9%, giving it the slowest growth rate of all the subregions. This was mostly due to slowdowns in the region's two main economies, Australia and New Zealand, with the latter facing negative growth in 2008.

Among the South and South-West Asian countries, only Nepal saw its GDP growth rate increasing in 2008. Most economies still grew by more than 5%. India's growth, of 7.3%, was aided by increases in investment and consumer demand, as well as by robust exports.

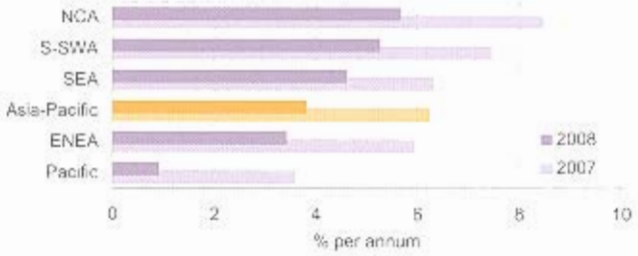
East and North-East Asia's aggregate rate fell between 2007 and 2008 from 5.9% to 3.4%. This was mainly attributable to the slower growth rate of the Japanese economy, at only 0.4% in 2008, which was not sufficiently offset by strong GDP growth in Macao, China at 13.2%, China at 9.0%, and Mongolia at 8.9%.

In South-East Asia, aggregate GDP growth fell from 6.3% in 2007 to 4.6% in 2008, as all the region's economies slowed down. Brunei Darussalam performed the worst: having had positive growth of 0.6% in 2007, it experienced negative growth of 1.5% in 2008.

The Asia-Pacific region has high rates of gross domestic investment – which is gross fixed capital formation as a proportion of GDP. For many years its rates were the highest of the world regions. In

Figure 16.5

GDP growth rate of Asia-Pacific subregions, 2007-2008



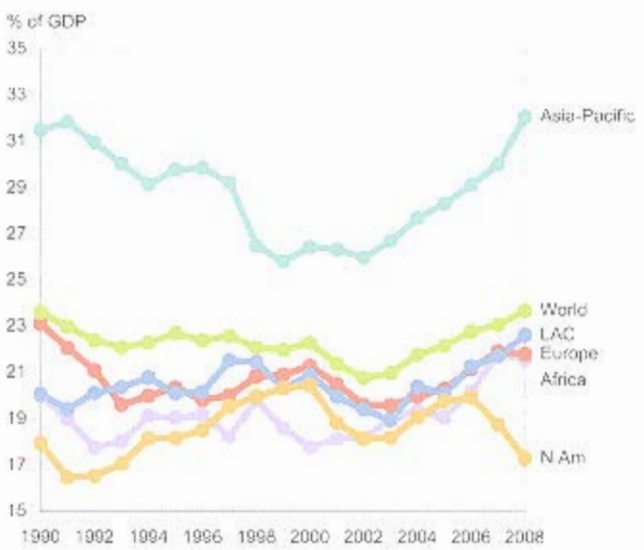
2008, it pulled even further ahead, increasing the rate to 32.1% from 30.1% in 2007. Meanwhile the rates dropped in Europe, North America and Africa.

Within Asia and the Pacific, growth in aggregate investment differed substantially between groups of countries. While in 2008 Central Asia and the landlocked developing countries decreased investment by 18.2% and 16.9% respectively, the ASEAN countries increased their aggregate investment by 7.6%.

In 2008, with 15.9% growth, Chinese investment grew faster than that of any other major economy, and was a main contributor to the aggregate investment growth of 6.9% in the Asia-Pacific economies.

Figure 16.6

Gross domestic investment, world regions, 1990-2008

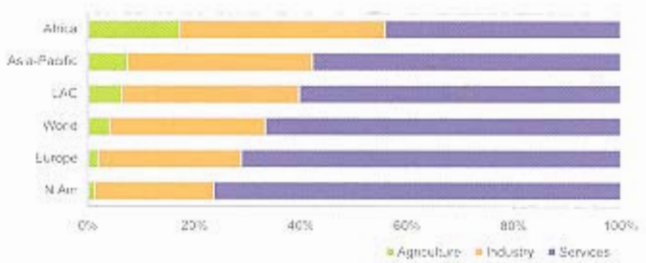


Generally the level of GDP per capita is connected to the structure of the economy, and particularly to the shares of agriculture and services. Africa, with the lowest GDP per capita, has the largest percentage of agricultural value added. Similarly, North America, with the highest GDP per capita, has the lowest share of agricultural value added. The contribution of the service sector to total value added follows the reverse pattern.

The Asia-Pacific region has seen a long-term decrease in the contribution of agriculture to total value added. Between 2007 and 2008, however, it increased somewhat, from 7.0 to 7.3%. The share of the service sector peaked in 2002, subsequently falling to 57.9% in 2008, while the contribution of the industrial sector increased. In 2008, the growth of value added in the agricultural sector amounted to 9.7%, while growth in both the industrial and service sectors were pegged at 3.4% and 3.3%, respectively.

Figure 16.7

Value added by sector, the regions of the world, 2008



It is important to remember, however, that although in Asia and the Pacific agriculture is less than 8% of value added, the sector still employs around 40% of the working population. Details can be found in Chapter 17 on employment.

Gross Domestic Product (Million 1990 US dollars; Million US dollars)
Gross domestic product (GDP) (million 1990 United States dollars): The total market value of all final goods and services produced within a country's borders in a given period of time, expressed in millions of constant 1990 United States dollars. Gross domestic product (GDP) (Million US dollars) is the GDP prices of the current reporting period. Also known as nominal GDP. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

Average annual GDP (1990 US dollars) growth rate (% per annum)
Annual growth rates are calculated as an annual average on the basis of GDP at 1990 constant price. See Statistical methods for the growth rates calculation. **Aggregates:** Calculated by ESCAP as the average annual rate of change of the regional sums. **Source:** Calculated by ESCAP using data from UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

GDP per capita (1990 US dollars; 2005 PPP dollars)
GDP per head calculated as the aggregate of production (GDP) divided by the population size, expressed in constant 1990 US dollars and in 2005 international PPP dollars. **Aggregates:** Calculated by ESCAP using the total population figures (from the World Population Prospects: The 2008 Revision Population Database) as weight. **Source:** UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

Average annual GDP per capita (1990 US dollars) growth rate (% per annum)
Annual growth rates of per capita GDP are calculated as an annual average using constant 1990 prices. **Aggregates:** Calculated by ESCAP as the average annual rate of change of the regional sums. **Source:** Calculated by ESCAP using data from UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

Gross domestic investment rate (% of GDP)
The ratio of gross domestic investment to GDP is calculated as the sum of gross fixed capital formation and changes in stocks divided by the total GDP. **Aggregates:** Calculated by ESCAP using the GDP in current US dollars (from UNSD, National Accounts Main Aggregates Database) as weight. **Source:** Calculated by ESCAP using data from UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

Average annual gross domestic investment growth rate (% per annum)
The gross domestic investment average annual rate of change is calculated using GDP in national currencies. **Aggregates:** Calculated by ESCAP as the average annual rate of change of the regional sums. **Source:** Calculated by ESCAP using data from UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

GDP by sector: agriculture, industry, and services (% of total value added)
Describes the generation of gross value added by industrial classification of economic activities according to the International Standard Industrial Classification. Agriculture covers: agriculture, hunting, forestry and fishing; Industry: construction, mining, manufacturing and utilities; and Services: transport, storage and communication; wholesale, retail, restaurant, hotels and other activities. **Aggregates:** Calculated by ESCAP using GDP in constant 1990 United States dollars (from UNSD, National Accounts Main Aggregates Database) as weight. **Source:** UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

Average annual growth rate of value added: agriculture, industry and services (% per annum)
The average annual rates of change of the total value added by agriculture, industry, and services are calculated on the basis of constant 1990 United States dollars. **Aggregates:** Calculated by ESCAP as the average annual-rate of change of the regional sums. **Source:** Calculated by ESCAP using data from UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

16.1 Gross domestic product (GDP)

	Gross domestic product (GDP)						Average annual GDP (1990 US dollars) growth rate			
	Million 1990 US dollars					Million US dollars	% per annum			
	1990	1995	2000	2005	2008	2008	90-95	95-00	00-05	2008
East and North-East Asia	**3 794 023**	**4 493 476**	**5 134 007**	**6 147 711**	**7 083 464**	**10 422 791**	**3.4**	**2.7**	**3.7**	**3.4**
China	404 494	721 467	1 090 626	1 723 332	2 370 256	4 327 024	12.3	8.6	9.6	9.0
DPR Korea	14 702	12 005	11 538	13 077	13 115	13 337	-4.0	-0.8	2.5	3.7
Hong Kong, China	76 890	99 151	112 630	137 913	160 794	215 558	5.2	2.6	4.1	2.4
Japan	3 018 271	3 254 782	3 417 385	3 645 894	3 825 852	4 910 692	1.5	1.0	1.3	0.4
Macao, China	3 235	4 305	4 212	7 477	12 436	21 798	5.9	-0.4	12.2	13.2
Mongolia	1 454	1 260	1 448	1 983	2 583	5 259	-2.8	2.8	6.5	8.9
Republic of Korea	274 976	400 507	496 167	618 034	698 424	929 124	7.8	4.4	4.5	2.2
South-East Asia	**355 597**	**514 304**	**582 058**	**737 562**	**870 066**	**1 515 823**	**7.7**	**2.5**	**4.8**	**4.6**
Brunei Darussalam	3 520	4 112	4 393	4 867	5 036	14 533	3.2	1.3	2.1	-1.5
Cambodia	1 404	1 920	2 711	4 237	5 485	11 193	6.5	7.1	9.3	6.0
Indonesia	125 720	183 279	190 071	239 450	264 758	510 779	7.8	0.7	4.7	6.0
Lao PDR	866	1 181	1 593	2 164	2 719	5 326	6.4	6.2	6.3	7.5
Malaysia	45 716	71 878	90 829	114 492	134 641	221 437	9.5	4.8	4.7	4.5
Myanmar	5 179	6 878	9 534	13 253	16 067	28 663	5.8	6.8	6.8	2.0
Philippines	44 312	49 325	59 822	74 486	88 052	168 580	2.2	3.9	4.5	4.6
Singapore	36 901	56 791	77 443	95 796	113 143	181 939	9.0	6.4	4.3	1.1
Thailand	85 361	129 105	132 031	169 318	195 876	282 158	8.6	0.4	5.1	4.8
Timor-Leste	146	237	196	205	246	569	10.2	-3.7	0.9	6.8
Viet Nam	6 472	9 600	13 433	19 292	24 044	90 645	8.2	7.0	7.5	6.2
South and South-West Asia	**721 406**	**891 697**	**1 129 582**	**1 514 166**	**1 852 853**	**2 669 066**	**4.3**	**4.8**	**6.0**	**5.3**
Afghanistan	3 622	3 236	2 713	6 793	9 069	12 679	-2.2	-3.5	20.1	3.4
Bangladesh	28 137	34 631	44 641	58 157	70 097	78 999	4.2	5.2	5.4	6.2
Bhutan	279	336	468	679	929	1 327	3.8	6.9	7.7	6.6
India	326 796	420 046	556 705	779 921	1 000 818	1 253 860	5.1	5.8	7.0	7.3
Iran (Islamic Rep. of)	90 370	108 724	132 594	172 847	204 141	346 611	3.8	4.0	5.4	3.5
Maldives	198	274	409	518	712	1 260	6.8	8.3	4.8	5.8
Nepal	4 097	5 275	6 676	7 779	8 875	13 406	5.2	4.8	3.1	5.6
Pakistan	57 159	71 252	81 353	108 069	128 610	178 762	4.5	2.7	5.8	6.0
Sri Lanka	8 204	10 700	13 680	16 657	20 293	40 713	5.5	5.0	4.0	6.0
Turkey	202 546	237 223	290 344	362 746	409 310	741 448	3.2	4.1	4.6	1.1
North and Central Asia	**639 731**	**394 460**	**431 698**	**589 298**	**730 426**	**1 922 135**	**-9.2**	**1.8**	**6.4**	**5.7**
Armenia	2 157	1 140	1 464	2 606	3 596	11 929	-12.0	5.1	12.2	6.8
Azerbaijan	6 515	2 728	3 835	7 214	13 443	46 257	-16.0	7.0	13.5	10.8
Georgia	8 435	2 394	3 180	4 529	5 679	12 792	-22.3	5.8	7.3	2.0
Kazakhstan	29 659	18 207	20 594	33 730	41 879	132 474	-9.3	2.5	10.4	3.3
Kyrgyzstan	2 608	1 322	1 737	2 091	2 518	5 059	-12.7	5.6	3.8	7.6
Russian Federation	569 709	353 709	382 917	515 344	633 309	1 676 588	-9.1	1.6	6.1	5.6
Tajikistan	2 869	1 091	1 091	1 733	1 728	2 480	-17.6	0.0	9.7	7.9
Turkmenistan	3 069	1 939	2 413	3 094	4 223	8 845	-8.8	4.5	5.1	9.8
Uzbekistan	14 710	11 931	14 469	18 955	24 052	25 712	-4.1	3.9	5.5	8.0
Pacific	**364 933**	**428 937**	**513 801**	**606 715**	**653 799**	**1 171 662**	**3.3**	**3.7**	**3.4**	**0.9**
American Samoa										
Australia	310 528	364 664	441 453	520 746	563 166	1 016 897	3.3	3.9	3.4	1.0
Cook Islands	59	59	78	94	99		3.2	2.5	4.0	2.9
Fiji	1 320	1 500	1 667	1 878	1 835	3 599	2.6	2.1	2.4	1.2
French Polynesia	2 322	2 493	2 926	3 218	3 442	4 724	1.4	3.3	1.9	2.6
Guam										
Kiribati	23	24	37	41	41	78	0.4	9.4	1.7	6.3
Marshall Islands	79	103	86	101	108	166	5.4	-3.6	3.4	1.5
Micronesia (F.S.)	145	177	165	165	151	238	4.0	-1.3	0.0	-3.5
Nauru	29	21	17	16	9	24	-6.6	-3.7	-1.6	-12.1
New Caledonia	2 529	2 914	2 978	3 057	3 107	9 280	2.9	0.4	0.5	0.6
New Zealand	43 915	51 174	58 368	70 708	74 049	126 388	3.1	2.7	3.9	-0.2
Niue										
Northern Mariana Islands										
Palau	77	72	79	84	94	160	-1.2	1.8	1.3	2.0
Papua New Guinea	3 286	4 961	5 151	5 730	6 699	8 007	8.6	0.8	2.2	7.6
Samoa	112	118	144	186	193	534	1.1	4.1	5.3	-3.4
Solomon Islands	208	287	253	266	332	656	6.7	-2.5	1.1	6.0
Tonga	135	161	177	188	190	299	3.7	1.8	1.3	1.2
Tuvalu	10	11	12	16	17	32	3.0	1.9	5.7	2.0
Vanuatu	157	189	210	219	266	556	3.8	2.2	0.9	5.7
Asia and the Pacific	**5 875 691**	**6 722 876**	**7 791 145**	**9 595 451**	**11 190 609**	**17 701 478**	**2.7**	**3.0**	**4.3**	**3.8**
LLDC	71 905	49 646	58 499	88 822	115 613	270 753	-7.1	3.3	8.7	6.0
LDC	44 437	54 596	69 598	94 514	115 048	155 282	4.2	5.0	6.3	5.3
ASEAN	355 451	514 067	581 861	737 357	869 820	1 515 254	7.7	2.5	4.9	4.6
ECO	413 127	457 653	551 141	717 272	838 972	1 500 326	2.1	3.8	5.4	2.9
SAARC	428 491	545 750	706 644	978 572	1 239 402	1 581 007	5.0	5.3	6.7	7.0
Central Asia	70 022	40 751	48 782	73 954	97 117	245 547	-10.3	3.7	8.7	6.0
Pacific island dev. econ	10 491	13 099	13 980	15 261	16 583	28 377	4.5	1.3	1.8	4.0
Low income	84 666	89 069	110 137	147 532	177 768	287 499	1.0	4.3	6.0	5.7
Middle income	2 017 840	2 392 813	3 062 948	4 340 082	5 553 263	9 982 990	3.5	5.1	7.2	6.9
High income	3 773 088	4 240 893	4 617 954	5 107 711	5 459 452	7 430 934	2.4	1.7	2.0	0.8
Africa	**500 823**	**539 015**	**646 626**	**840 145**	**999 394**	**1 522 761**	**1.5**	**3.7**	**5.4**	**5.9**
Europe	**7 854 936**	**8 368 343**	**9 643 707**	**10 530 746**	**11 268 143**	**19 695 625**	**1.3**	**2.9**	**1.8**	**0.9**
Latin America and Carib.	**1 227 654**	**1 438 336**	**1 676 008**	**1 907 808**	**2 215 407**	**4 410 400**	**3.2**	**3.1**	**2.6**	**4.3**
North America	**6 341 932**	**7 142 987**	**8 748 178**	**9 807 785**	**10 402 268**	**15 605 347**	**2.4**	**4.1**	**2.3**	**1.1**
Other countries/areas	**303 200**	**365 820**	**449 552**	**553 118**	**645 007**	**1 490 662**	**3.8**	**4.2**	**4.2**	**5.0**
World	**22 262 124**	**24 811 807**	**29 265 998**	**33 598 970**	**37 124 191**	**60 817 624**	**2.2**	**3.4**	**2.8**	**2.2**

16.2 Gross domestic product per capita

	GDP per capita						Average annual GDP per capita (1990 US dollars) growth rate			
	1990 US dollars					2005 PPP dollars	% per annum			
	1990	1995	2000	2005	2008	2008	90-95	95-00	00-05	2008
East and North-East Asia	**2 838**	**3 183**	**3 487**	**4 043**	**4 579**	**8 487**	**4.2**	**3.3**	**4.8**	**2.8**
China	354	596	861	1 313	1 772	5 511	10.9	7.6	8.9	8.4
DPR Korea	730	553	505	556	551					3.3
Hong Kong, China	13 479	15 957	16 894	20 038	23 029	40 599	3.6	1.0	3.7	1.9
Japan	24 501	25 947	26 971	28 607	30 055	31 484	1.2	0.8	1.2	0.5
Macao, China	8 694	10 455	9 554	15 333	23 638	54 932	3.9	-1.8	9.7	10.4
Mongolia	656	555	606	778	978	3 297	-4.3	1.6	5.1	7.6
Republic of Korea	6 397	8 970	10 686	12 993	14 504	25 498	6.7	3.5	4.0	1.8
South-East Asia	**809**	**1 072**	**1 125**	**1 331**	**1 512**	**4 635**	**5.2**	**1.1**	**3.6**	**3.3**
Brunei Darussalam	13 698	13 940	13 173	13 152	12 837		0.3	-1.1	-0.2	-3.4
Cambodia	145	169	212	306	377	1 760		4.9	7.4	4.3
Indonesia	709	957	926	1 092	1 253	3 674	6.2	-0.7	3.3	4.8
Lao PDR	206	246	295	368	438	1 986	3.4	3.7	4.5	5.5
Malaysia	2 525	3 490	3 903	4 467	4 984	13 139	6.7	2.3	2.7	2.8
Myanmar	127	157	205	274	324		4.3	6.4	6.0	1.1
Philippines	710	705	770	871	975	3 244	-0.1	1.8	2.5	2.7
Singapore	12 234	16 318	19 272	22 451	24 516	45 553	5.7	3.5	3.2	-1.7
Thailand	1 506	2 147	2 118	2 668	2 907	7 120	7.3	-0.3	3.9	4.1
Timor-Leste	197	279	241	207	224	740			-4.0	3.5
Viet Nam	98	132	171	229	276	2 574	6.1	5.6	6.1	5.0
South and South-West Asia	**574**	**640**	**739**	**910**	**1 063**	**3 318**	**2.4**	**3.1**	**4.3**	**3.7**
Afghanistan	288	179	132	277	333					-0.1
Bangladesh	243	270	317	380	438	1 233	2.3	3.2	3.7	4.7
Bhutan	508	660	833	1 045	1 352	4 395	5.5	4.2	4.6	4.9
India	379	441	534	690	847	2 747	3.1	4.0	5.4	5.8
Iran (Islamic Rep. of)	1 593	1 748	1 962	2 443	2 785	10 783	1.7	2.4	4.0	2.3
Maldives	917	1 106	1 503	1 771	2 333	5 087		6.2	4.7	4.3
Nepal	214	244	273	286	308	1 028	2.6	2.3	1.2	3.7
Pakistan	494	546	549	652	727	2 444	2.0	0.8	2.5	3.7
Sri Lanka	475	587	729	853	1 012	4 215	4.2	4.3	2.9	5.0
Turkey	3 611	3 876	4 369	5 097	5 538	12 264	1.4	2.3	3.1	-0.2
North and Central Asia	**2 980**	**1 810**	**1 981**	**2 712**	**3 358**	**11 492**	**-9.5**	**1.9**	**6.7**	**5.6**
Armenia	609	354	476	851	1 169	5 611	-10.3	6.1	12.3	6.7
Azerbaijan	903	350	472	853	1 540	8 102	-17.2	6.1	12.5	9.6
Georgia	1 545	472	670	1 014	1 319	4 526	-21.1	7.2	8.5	3.2
Kazakhstan	1 794	1 143	1 377	2 220	2 698	10 458	-8.7	3.7	10.0	2.5
Kyrgyzstan	594	288	351	401	465	2 023	-13.3	4.2	2.8	6.2
Russian Federation	3 848	2 382	2 611	3 600	4 479	14 917	-9.1	1.9	6.6	6.0
Tajikistan	541	189	177	265	253	1 761	-19.0	-1.3	8.1	6.2
Turkmenistan	837	463	536	639	837	6 138	-11.4	2.6	15.0	8.4
Uzbekistan	717	521	584	720	885	2 455	-6.1	2.2	4.2	6.8
Pacific	**13 561**	**14 772**	**16 498**	**18 088**	**18 722**	**24 383**	**1.1**	**2.5**	**1.6**	**-0.4**
American Samoa										
Australia	18 169	20 127	23 027	25 533	26 723	33 369	1.1	3.1	1.8	-0.1
Cook Islands	3 292	3 706	4 412	4 932	5 018					2.1
Fiji	1 825	1 953	2 080	2 268	2 174	4 051	1.4	1.3	1.8	0.6
French Polynesia	11 885	11 550	12 401	12 605	12 953					1.3
Guam										
Kiribati	325	308	442	441	422	2 296	-0.8	7.1	-0.1	4.7
Marshall Islands	1 665	2 010	1 641	1 787	1 776					-0.8
Micronesia (F.S.)	1 505	1 647	1 545	1 512	1 371	2 615	2.1	-1.8	-0.6	-3.8
Nauru	3 191	2 080	1 706	1 562	893					-12.4
New Caledonia	14 786	15 092	13 836	13 017	12 616					-1.0
New Zealand	12 971	13 886	15 089	17 201	17 506	24 642	1.6	1.7	2.4	-1.1
Niue										
Northern Mariana Islands										
Palau	5 150	4 236	4 097	4 190	4 594					1.6
Papua New Guinea	795	1 053	956	937	1 019	2 041	5.8	-2.8	-0.8	5.1
Samoa	694	702	816	1 040	1 081	4 145	0.2	3.3	4.6	-3.4
Solomon Islands	664	794	606	562	651	2 413	4.9	-5.4	-1.0	3.4
Tonga	1 425	1 656	1 792	1 845	1 836	3 535	3.0	1.5	0.4	0.7
Tuvalu	1 072	1 202	1 276	1 643	1 705					1.6
Vanuatu	1 049	1 096	1 108	1 014	1 138	3 677	0.4	0.2	-1.6	3.1
Asia and the Pacific	**1 795**	**1 903**	**2 068**	**2 405**	**2 718**	**6 072**	**1.4**	**2.6**	**4.4**	**2.7**
LLDC	720	444	486	681	842	3 855	-9.6	2.5	7.7	4.2
LDC	218	237	275	343	397	1 285	2.9	3.7	4.3	3.7
ASEAN	810	1 073	1 127	1 333	1 614	4 643	5.2	1.1	3.6	3.3
ECO	1 383	1 374	1 508	1 798	1 997	6 320	-0.4	1.9	3.7	1.2
SAARC	375	430	506	643	777	2 547	3.0	3.5	4.8	5.4
Central Asia	1 051	587	684	998	1 276	5 130	-11.6	3.1	8.9	5.0
Pacific island dev. econ	1 631	1 811	1 725	1 689	1 725	2 375	4.2	-1.9	-0.4	1.9
Low income	266	250	284	352	407	1 722	0.7	4.0	4.9	4.0
Middle income	731	805	966	1 292	1 602	4 972	1.6	3.8	6.1	5.8
High income	19 197	20 900	22 169	24 063	25 507	30 843	2.0	1.4	1.9	0.5
Africa	**784**	**742**	**789**	**912**	**1 012**	**2 630**	**-1.2**	**1.8**	**2.3**	**3.5**
Europe	**13 710**	**14 456**	**16 630**	**17 963**	**19 093**	**25 993**	**0.3**	**2.8**	**1.9**	**0.6**
Latin America and Carib.	**2 776**	**2 982**	**3 216**	**3 428**	**3 846**	**9 925**	**1.6**	**1.5**	**1.4**	**3.2**
North America	**22 439**	**23 809**	**27 458**	**29 267**	**30 152**	**42 491**	**1.1**	**3.0**	**1.4**	**0.1**
Other countries/areas	**3 801**	**3 920**	**4 164**	**4 462**	**4 810**	**10 943**	**2.0**	**1.4**	**2.1**	**2.3**
World	**4 208**	**4 343**	**4 786**	**5 159**	**5 500**	**9 634**	**0.7**	**2.2**	**2.3**	**1.0**

16.3 Domestic investment

	Gross domestic investment rate					Average annual gross domestic investment growth rate			
	% of GDP					% per annum			
	1990	1995	2000	2005	2008	90-95	95-00	00-05	2008
East and North-East Asia	**33.5**	**30.6**	**27.7**	**29.8**	**34.8**	**-1.8**	**-2.0**	**1.5**	**10.1**
China	34.9	40.3	35.3	42.7	49.0	2.9	-2.6	3.9	15.9
DPR Korea									
Hong Kong, China	27.0	34.1	27.5	20.6	20.2	4.7	-4.2	-5.6	-4.8
Japan	33.1	28.4	25.4	23.6	23.5	-3.0	-2.2	-1.5	-2.5
Macao, China	25.4	29.5	11.6	27.3	28.8	3.0	-17.0	18.7	-20.6
Mongolia	32.8	25.3	29.0	37.0	45.6	-5.1	2.8	5.0	13.2
Republic of Korea	37.0	37.1	30.6	29.7	31.4	0.1	-3.8	-0.6	6.7
South-East Asia	**31.2**	**33.6**	**24.6**	**23.5**	**25.7**	**1.5**	**-6.0**	**-0.9**	**7.6**
Brunei Darussalam	18.7	36.7	13.1	11.4	11.6	14.4	-18.7	-2.7	-10.5
Cambodia	8.3	13.2	18.3	18.9	23.0	9.7	6.8	0.6	18.8
Indonesia	27.9	29.1	22.2	25.1	27.8	0.8	-5.2	2.4	11.8
Lao PDR									
Malaysia	31.8	42.9	26.9	20.0	19.1	6.2	-9.0	-5.7	-12.8
Myanmar	13.4	14.2	12.4	13.2	16.9	1.3	-2.7	1.2	4.2
Philippines	24.2	22.5	21.2	14.6	15.3	-1.4	-1.2	-7.2	0.5
Singapore	36.4	34.2	33.3	20.2	30.9	-1.3	-0.5	-9.5	48.9
Thailand	40.4	41.1	22.0	26.9	26.6	0.3	-11.8	5.6	0.4
Timor-Leste	21.0	21.0	41.3	20.7	23.2	0.0	14.5	-12.9	-17.6
Viet Nam	14.4	27.1	29.6	35.6	41.1	13.6	1.8	3.7	-4.6
South and South-West Asia	**26.5**	**26.4**	**23.7**	**28.7**	**31.8**	**-0.1**	**-2.1**	**3.9**	**1.7**
Afghanistan									
Bangladesh	18.3	19.1	23.0	24.5	24.2	0.9	3.8	1.3	-1.2
Bhutan	36.3	48.6	47.3	51.2	39.4	6.0	-0.6	1.6	1.5
India	27.8	29.3	24.2	34.8	39.1	1.0	-3.8	7.6	0.9
Iran (Islamic Rep. of)	38.2	30.1	34.3	30.5	32.7	-4.6	2.6	-2.3	6.5
Maldives	31.5	31.3	26.3	61.1	44.7	-0.1	-3.4	18.3	-14.3
Nepal	17.0	23.2	22.3	26.6	29.0	6.4	-0.7	3.7	-9.3
Pakistan	20.4	20.4	17.0	22.1	21.6	0.0	-3.6	5.4	0.0
Sri Lanka	20.6	25.4	25.6	26.1	27.5	4.3	0.1	0.4	1.2
Turkey	22.3	23.3	20.8	20.0	22.8	0.9	-2.3	-0.8	2.8
North and Central Asia	**30.9**	**25.7**	**19.3**	**21.5**	**25.8**	**-3.6**	**-5.6**	**2.3**	**1.6**
Armenia	47.2	18.4	18.6	30.5	39.9	-17.1	0.2	10.3	7.1
Azerbaijan	26.5	23.8	20.7	41.5	20.2	-2.2	-2.8	15.0	-6.1
Georgia	30.6	24.0	26.6	33.5	27.0	-4.7	2.0	4.7	-15.8
Kazakhstan	46.7	23.3	18.1	31.0	26.3	-13.0	-4.9	11.3	-26.0
Kyrgyzstan	24.1	18.3	20.0	16.4	24.8	-5.3	1.8	-3.9	-7.1
Russian Federation	30.1	25.9	19.0	20.3	25.9	-3.0	-6.0	1.4	5.3
Tajikistan	12.3	26.7	9.4	11.6	17.4	18.4	-20.0	4.4	-29.3
Turkmenistan	40.1	33.7	34.7	22.9	23.3	-3.4	0.6	-8.0	0.3
Uzbekistan	32.2	24.2	19.6	23.0	21.1	-5.5	-4.2	3.3	-3.2
Pacific	**22.1**	**22.9**	**22.0**	**26.6**	**27.6**	**0.6**	**-0.7**	**3.9**	**-1.3**
American Samoa									
Australia	22.3	22.8	22.1	27.0	28.3	0.4	-0.7	4.1	-1.2
Cook Islands	24.0	18.8	16.8	16.7	17.1	-4.8	-2.2	-0.1	-3.3
Fiji	18.6	13.7	17.3	16.1	15.0	-5.8	4.7	-1.4	6.8
French Polynesia	25.6	21.4	21.6	25.3	25.4	-3.5	0.4	3.0	-0.8
Guam									
Kiribati	93.1	60.5	50.7	81.9	78.0	-8.3	-3.5	10.1	-0.3
Marshall Islands	57.0	37.0	38.6	39.9		-8.3	0.8	0.7	
Micronesia (F.S.)	37.7	37.7	37.7	37.7	37.7	0.0	0.0	0.0	0.0
Nauru	93.1	60.5	50.7	81.9	78.0	-8.3	-3.5	10.1	-0.3
New Caledonia	23.3	21.8	22.9	26.2	26.3	-1.3	1.0	2.7	1.2
New Zealand	20.1	23.3	21.6	24.8	23.2	3.1	-1.5	2.8	-3.6
Niue									
Northern Mariana Islands									
Palau									
Papua New Guinea	24.0	21.9	21.9	17.5	13.9	-1.8	0.0	-4.4	-5.8
Samoa	22.9	19.6	14.2	10.4	8.7	-3.1	-6.3	-6.0	-5.3
Solomon Islands	20.1	19.2	19.6	13.8	13.9	-1.0	0.5	-6.9	4.7
Tonga	18.5	19.6	18.7	18.4	17.7	1.2	-1.0	-0.3	-4.3
Tuvalu									
Vanuatu	42.1	33.1	32.4	31.4	33.0	-4.7	-0.4	-0.6	1.5
Asia and the Pacific	**31.5**	**29.8**	**26.5**	**28.3**	**32.1**	**-1.1**	**-2.3**	**1.4**	**6.9**
LLDC	36.8	24.1	20.9	30.0	25.7	-8.1	-2.8	7.5	-16.9
LDC	17.5	18.8	21.8	23.3	23.3	1.4	3.0	1.4	-2.5
ASEAN	31.2	33.6	24.6	23.5	25.7	1.5	-6.0	-0.9	7.6
ECO	27.8	24.5	23.0	23.6	25.1	-2.5	-1.3	0.6	0.3
SAARC	25.9	26.9	23.2	32.4	35.9	0.8	-2.9	6.9	0.8
Central Asia	37.3	24.0	20.7	30.2	25.1	-8.4	-2.9	7.8	-18.2
Pacific island dev. econ.	24.4	21.2	22.0	22.2	20.9	-2.7	0.7	0.2	-1.5
Low income	20.3	21.4	23.4	26.9	29.2	1.1	1.8	2.8	-3.0
Middle income	30.4	32.2	27.9	32.8	37.3	1.1	-2.8	3.3	9.8
High income	32.2	29.0	25.8	24.6	25.2	-2.1	-2.3	-0.9	-0.6
Africa	**20.0**	**19.1**	**17.8**	**19.1**	**21.6**	**-0.9**	**-1.4**	**1.4**	**-1.2**
Europe	**23.1**	**20.4**	**21.3**	**20.3**	**21.8**	**-2.5**	**0.9**	**-0.9**	**-0.6**
Latin America and Carib.	**20.1**	**20.1**	**20.9**	**20.1**	**22.7**	**0.1**	**0.8**	**-0.7**	**4.2**
North America	**18.0**	**18.2**	**20.5**	**19.8**	**17.3**	**0.3**	**2.4**	**-0.7**	**-7.9**
Other countries/areas	**17.6**	**23.0**	**19.6**	**20.1**	**21.0**	**5.4**	**-3.1**	**0.5**	**-8.7**
World	**23.6**	**22.7**	**22.3**	**22.2**	**23.7**	**-0.8**	**-0.3**	**-0.1**	**1.5**

16.4 Value added by sector

	Agriculture					Industry					Services				
	% of total value added					% of total value added					% of total value added				
	1990	1995	2000	2005	2008	1990	1995	2000	2005	2008	1990	1995	2000	2005	2008
East and North-East Asia	**5.5**	**5.2**	**4.9**	**4.7**	**5.0**	**38.3**	**35.5**	**34.7**	**34.8**	**35.8**	**56.2**	**59.3**	**60.4**	**60.5**	**59.2**
China	26.0	19.7	15.2	12.2	11.6	39.7	46.6	46.4	47.7	48.3	34.3	33.7	38.4	40.1	40.1
DPR Korea	27.4	27.6	30.4	25.0	21.6	54.6	42.0	37.1	42.8	46.3	18.0	30.3	32.4	32.2	32.2
Hong Kong, China	0.2	0.1	0.1	0.1	0.1	24.4	15.2	13.4	9.3	8.6	75.4	84.7	86.5	90.6	91.3
Japan	2.5	1.9	1.7	1.5	1.4	38.4	33.2	31.1	29.1	28.8	59.1	64.9	67.2	69.4	69.7
Macao, China						23.8	15.6	14.8	14.3	16.5	76.2	84.4	85.2	85.7	83.5
Mongolia	16.0	38.8	31.9	23.9	22.3	28.2	24.8	19.8	33.3	38.0	55.8	36.4	48.2	42.8	39.7
Republic of Korea	8.6	6.1	4.6	3.3	3.1	38.9	39.2	38.4	38.0	37.7	52.5	54.7	57.0	58.7	59.2
South-East Asia	**16.2**	**13.6**	**11.9**	**11.1**	**11.3**	**36.8**	**38.6**	**41.3**	**42.0**	**41.9**	**47.0**	**47.7**	**46.8**	**46.8**	**46.8**
Brunei Darussalam	1.0	1.1	1.0	0.9	0.8	68.5	58.1	63.7	71.6	72.0	30.5	40.8	35.3	27.5	27.2
Cambodia	48.7	50.6	37.8	32.4	32.0	14.0	13.9	23.0	26.4	26.9	37.3	35.5	39.1	41.2	41.1
Indonesia	17.6	15.4	15.6	13.1	13.3	39.0	41.6	45.9	46.5	46.7	43.5	43.0	38.5	40.3	40.0
Lao PDR	61.2	44.5	44.4	36.5	34.1	14.5	12.1	16.1	24.5	27.3	24.3	43.5	39.5	39.0	38.7
Malaysia	14.8	12.5	8.3	8.2	10.1	40.0	39.1	46.8	48.7	47.6	45.2	48.4	44.9	43.1	42.3
Myanmar	57.3	60.0	57.2	51.2	50.4	10.5	9.9	9.7	14.5	14.9	32.2	30.1	33.1	34.3	34.7
Philippines	21.9	21.6	15.8	14.3	14.7	34.5	32.1	32.3	31.9	31.6	43.6	46.3	52.0	53.8	53.7
Singapore	0.2	0.1	0.1	0.1	0.0	34.4	35.5	33.7	31.0	26.0	65.4	64.4	66.3	69.0	74.0
Thailand	14.4	10.8	9.0	10.3	9.2	35.9	40.2	42.0	44.0	47.0	49.7	49.0	49.0	45.8	43.8
Timor-Leste	29.5	29.4	25.8	31.8	30.8	25.4	25.5	18.5	15.2	14.0	45.1	45.1	55.8	53.0	55.2
Viet Nam	38.7	27.2	24.5	21.0	22.1	22.7	28.8	36.7	41.0	39.7	38.6	44.1	38.7	38.0	38.2
South and South-West Asia	**23.5**	**21.7**	**19.1**	**16.2**	**15.9**	**30.4**	**31.0**	**28.3**	**30.1**	**29.6**	**46.1**	**47.3**	**52.6**	**53.8**	**54.5**
Afghanistan	35.7	65.7	57.0	40.9	40.0	23.7	10.5	23.2	26.2	26.5	40.5	23.8	19.8	32.9	33.5
Bangladesh	31.5	26.4	25.5	20.1	19.1	21.4	24.6	25.3	27.2	28.6	47.2	49.1	49.2	52.6	52.3
Bhutan	39.0	34.0	28.4	23.6	21.9	26.0	34.8	35.5	37.1	40.6	33.0	31.2	36.2	39.2	37.6
India	30.0	26.8	23.2	18.9	19.0	27.6	28.0	26.4	29.0	28.6	42.4	45.2	50.4	52.1	52.4
Iran (Islamic Rep. of)	17.9	18.3	13.3	9.7	9.7	28.2	34.1	36.6	42.7	42.4	53.9	47.6	50.1	47.6	47.9
Maldives	14.6	11.0	8.4	9.7	6.0	12.4	13.0	14.5	17.3	17.5	73.0	76.0	77.1	73.0	76.6
Nepal	47.2	37.8	36.6	33.6	32.9	12.3	17.7	17.3	16.7	16.4	40.5	44.5	46.1	49.7	50.7
Pakistan	24.9	24.7	24.1	20.4	20.4	25.9	24.2	24.0	26.9	26.7	49.2	51.1	51.9	52.8	52.9
Sri Lanka	25.3	20.5	17.6	13.5	13.2	29.6	30.1	29.9	32.2	32.2	44.9	49.4	52.5	54.3	54.6
Turkey	13.4	11.9	10.8	10.6	8.8	38.9	38.4	30.0	28.0	27.0	47.6	49.8	59.2	61.3	64.2
North and Central Asia	**19.6**	**9.2**	**8.2**	**6.7**	**6.0**	**46.8**	**36.3**	**37.5**	**38.1**	**36.7**	**33.6**	**54.5**	**54.3**	**55.2**	**57.3**
Armenia	17.3	40.4	25.1	20.6	17.4	52.6	32.8	38.3	44.7	44.5	30.1	26.7	36.5	34.6	38.1
Azerbaijan	29.7	26.9	17.0	9.8	6.2	33.0	32.9	45.1	63.2	69.4	37.3	40.2	37.9	27.0	24.4
Georgia	31.5	44.4	21.7	16.5	10.2	34.3	12.7	22.1	26.5	21.5	34.3	43.0	56.1	57.0	68.4
Kazakhstan	33.6	12.8	8.6	6.6	5.4	32.2	31.2	40.1	39.2	41.5	34.2	56.0	51.3	54.2	53.1
Kyrgyzstan	33.7	43.1	36.6	31.3	28.8	37.7	20.1	31.3	22.0	19.1	28.6	36.8	32.1	46.7	52.1
Russian Federation	18.1	7.6	6.7	5.4	4.9	48.4	37.0	37.9	38.2	36.1	33.6	55.5	55.4	56.4	59.0
Tajikistan	30.1	35.9	27.3	23.8	23.2	36.4	36.4	36.4	30.7	30.3	31.5	27.7	34.3	45.6	46.5
Turkmenistan	32.2	16.9	22.9	22.7	22.6	29.6	64.8	41.8	42.5	41.9	38.2	18.3	35.2	34.7	35.5
Uzbekistan	33.2	31.4	34.6	26.1	26.2	34.8	28.1	22.6	28.8	30.4	32.0	40.5	42.9	43.1	43.4
Pacific	**4.5**	**4.7**	**4.9**	**3.9**	**3.5**	**28.6**	**27.9**	**26.0**	**27.6**	**28.2**	**66.9**	**67.4**	**69.2**	**68.6**	**68.3**
American Samoa															
Australia	3.8	3.8	4.0	3.1	2.7	29.0	28.4	26.1	28.0	28.7	67.1	67.8	69.9	68.9	68.6
Cook Islands	11.3	9.5	13.0	12.4	11.9	8.0	7.6	8.1	8.3	8.7	80.7	83.0	78.9	79.3	79.4
Fiji	18.7	18.8	16.5	13.9	13.1	20.4	22.8	21.5	21.3	21.1	60.9	58.3	62.0	64.8	65.8
French Polynesia	4.4	4.1	4.0	2.6	2.7	16.0	13.3	14.5	13.5	13.6	80.5	82.6	81.5	83.9	83.7
Guam															
Kiribati	9.4	11.9	4.4	3.8	5.0	9.0	6.2	11.1	7.1	10.1	81.6	81.9	84.5	89.1	84.8
Marshall Islands	13.9	14.9	10.0	10.0	10.0	12.9	15.0	19.2	19.1	19.2	73.2	70.0	70.9	70.9	70.8
Micronesia (F.S.)	19.1	19.1	19.1	19.1	19.1	4.0	4.0	4.0	4.0	4.0	76.9	76.9	76.9	76.9	76.9
Nauru	11.0	10.9	11.0	10.6	12.2	-2.9	-2.9	-4.4	6.2	5.4	92.0	91.9	93.4	83.2	82.4
New Caledonia	2.0	1.8	2.4	2.0	1.9	25.2	22.2	26.0	25.2	25.7	72.8	76.0	71.6	72.8	72.3
New Zealand	6.7	7.2	8.6	6.6	6.5	26.8	25.9	24.4	24.2	24.2	66.6	66.9	66.9	69.3	69.3
Niue															
Northern Mariana Islands															
Palau	25.9	5.9	3.9	3.2	3.2	15.5	9.4	15.3	19.2	20.0	58.6	84.7	80.8	77.6	76.8
Papua New Guinea	29.7	35.1	35.2	34.0	33.3	31.2	33.3	40.7	44.3	45.2	39.0	31.6	24.1	21.7	21.5
Samoa	20.5	18.4	16.6	12.6	12.1	28.8	29.4	26.0	27.6	27.0	50.6	52.2	57.4	59.8	60.9
Solomon Islands	45.5	38.3	38.5	34.5	35.3	7.9	9.9	10.0	8.1	7.7	46.6	51.8	51.4	57.4	57.0
Tonga	35.1	28.2	27.1	27.4	26.4	14.4	17.1	15.6	14.0	13.8	50.4	54.7	57.2	58.6	59.7
Tuvalu	26.0	24.3	17.3	16.5	16.6	13.3	13.2	13.1	13.7	13.7	60.7	62.5	69.7	69.8	69.7
Vanuatu	20.0	15.6	14.9	13.3	13.7	13.5	11.6	8.9	8.4	8.2	66.5	72.8	76.3	78.3	78.1
Asia and the Pacific	**9.8**	**8.2**	**7.7**	**7.1**	**7.3**	**37.6**	**34.7**	**33.8**	**34.4**	**34.9**	**52.6**	**57.1**	**58.5**	**58.6**	**57.9**
LLDC	33.4	27.8	24.9	19.6	17.6	31.9	28.3	31.2	35.2	38.4	34.8	43.9	43.9	45.3	44.0
LDC	37.3	35.3	33.0	28.0	27.1	19.0	20.5	21.9	24.3	25.3	43.6	44.3	45.2	47.7	47.5
ASEAN	16.2	13.6	11.9	11.1	11.3	36.8	38.6	41.3	42.0	41.9	47.0	47.7	46.8	46.8	46.8
ECO	19.0	16.6	14.3	12.6	11.6	33.9	34.4	31.0	32.3	32.3	47.2	49.0	54.6	55.1	56.2
SAARC	29.5	26.7	23.6	19.4	19.3	26.8	27.1	26.0	28.6	28.4	43.7	46.2	50.4	52.1	52.3
Central Asia	32.2	23.6	20.4	15.3	13.1	34.0	30.7	33.8	37.7	40.8	33.8	45.7	45.8	47.0	46.1
Pacific island dev. econ.	15.7	18.7	18.1	17.1	17.5	22.9	23.8	27.2	28.3	29.4	61.4	57.4	54.6	54.6	53.1
Low income	34.8	33.1	32.1	26.9	26.0	29.4	25.5	25.7	28.8	29.5	35.8	41.4	42.2	44.3	44.5
Middle income	21.5	17.5	14.9	12.5	12.1	36.7	38.3	38.4	40.2	40.6	39.8	44.2	46.6	47.3	47.3
High income	3.0	2.5	2.3	1.9	1.8	37.2	32.9	31.0	29.5	29.2	59.8	64.7	66.8	68.6	69.0
Africa	**19.0**	**18.3**	**16.7**	**16.9**	**17.1**	**35.6**	**33.3**	**35.3**	**38.1**	**38.7**	**46.0**	**48.4**	**48.0**	**45.0**	**44.1**
Europe	**4.1**	**3.1**	**2.5**	**2.0**	**1.8**	**33.0**	**29.8**	**28.2**	**26.6**	**26.9**	**62.9**	**67.1**	**69.3**	**71.5**	**71.3**
Latin America and Carib.	**9.2**	**6.5**	**5.7**	**5.9**	**6.3**	**36.5**	**30.6**	**31.4**	**33.3**	**33.3**	**54.3**	**63.0**	**63.0**	**60.8**	**60.3**
North America	**2.0**	**1.7**	**1.1**	**1.2**	**1.1**	**27.7**	**26.2**	**24.3**	**22.7**	**22.4**	**70.3**	**72.2**	**74.6**	**76.2**	**76.4**
Other countries/areas	**5.9**	**5.3**	**4.4**	**3.4**	**2.9**	**45.1**	**42.6**	**46.8**	**49.4**	**52.5**	**49.0**	**52.4**	**48.9**	**47.2**	**44.6**
World	**5.6**	**5.1**	**4.9**	**4.9**	**4.0**	**33.1**	**32.2**	**31.8**	**31.6**	**29.2**	**61.3**	**62.7**	**63.2**	**63.5**	**66.8**

16.5 Change in value added by sector

Average annual growth rate of value added

	Agriculture % per annum				Industry % per annum				Services % per annum			
	90-95	95-00	00-05	2008	90-95	95-00	00-05	2008	90-95	95-00	00-05	2008
East and North-East Asia	**0.9**	**2.6**	**2.3**	**12.8**	**2.5**	**3.2**	**4.3**	**3.4**	**4.2**	**2.4**	**3.1**	**3.4**
China	4.2	3.5	3.9	18.1	16.6	9.8	10.5	7.5	10.8	9.5	10.2	8.7
DPR Korea	-3.2	1.5	4.3	8.2	-7.5	-3.3	2.6	2.8	1.8	0.1	0.6	0.7
Hong Kong, China	-5.8	9.4	-0.4	-16.5	-4.3	0.1	-3.2	-1.6	7.7	2.8	5.3	2.5
Japan	-4.4	1.2	-1.5	-0.2	-0.5	0.6	0.7	-0.1	3.2	1.3	1.6	1.9
Macao, China					-5.5	-1.8	9.7	10.9	5.0	-0.6	10.5	15.6
Mongolia	-0.5	0.5	-0.4	5.7	-3.8	2.6	8.0	11.6	-2.7	5.7	8.1	7.3
Republic of Korea	2.1	1.4	0.8	5.4	7.6	5.7	5.9	2.4	7.4	4.2	4.1	2.5
South-East Asia	**2.2**	**2.3**	**15.0**	**1.4**	**9.4**	**3.1**	**5.9**	**4.5**	**7.9**	**2.6**	**8.0**	**3.5**
Brunei Darussalam	1.7	6.5	7.0	7.5	0.2	2.0	1.3	3.7	5.2	3.6	3.3	-8.1
Cambodia	4.4	2.9	5.1	11.4	9.7	18.1	13.9	4.9	5.7	7.3	10.5	6.3
Indonesia	3.1	1.4	3.2	6.7	10.0	1.6	3.9	7.5	7.9	-0.5	6.5	3.5
Lao PDR	4.1	5.2	3.2	5.8	12.2	10.1	12.0	10.2	6.2	6.1	6.2	7.1
Malaysia	-0.2	1.7	3.2	3.0	10.6	5.9	3.9	0.9	10.8	5.7	5.6	7.6
Myanmar	4.6	7.1	65.6	0.0	9.4	12.0	73.8	-1.2	5.6	8.4	69.3	-0.5
Philippines	1.5	2.2	3.7	3.2	2.1	4.0	2.7	4.9	2.5	4.7	5.9	4.9
Singapore	-3.0	-2.3	-0.1	-4.0	9.3	6.6	2.4	-0.3	9.2	7.4	5.2	4.4
Thailand	0.9	2.3	2.3	-13.4	11.4	0.6	6.3	6.6	8.1	-0.4	4.5	0.4
Timor-Leste	6.6	-0.2	5.3	21.6	11.8	-6.6	-3.7	4.2	11.2	-3.2	0.4	1.8
Viet Nam	4.3	4.4	3.8	4.1	12.6	10.9	10.2	6.7	9.2	5.7	6.9	7.1
South and South-West Asia	**2.5**	**2.4**	**3.1**	**12.6**	**4.9**	**4.6**	**6.3**	**3.6**	**5.4**	**6.0**	**7.1**	**3.8**
Afghanistan	10.4	-6.2	10.2	7.9	-16.9	13.1	20.5	9.1	-12.1	-7.0	33.2	-7.4
Bangladesh	1.4	4.9	2.5	3.6	7.6	6.4	7.4	6.9	4.5	4.8	5.7	6.7
Bhutan	0.4	2.9	2.4	23.0	11.8	14.4	10.0	5.8	3.7	10.5	10.7	15.4
India	2.3	2.5	2.8	17.9	6.2	5.0	7.4	6.5	7.0	8.1	8.6	4.2
Iran (Islamic Rep. of)	4.4	1.9	5.7	5.3	3.1	4.4	6.3	2.9	5.4	4.2	5.4	3.3
Maldives	1.6	2.6	7.5	-1.6	8.5	10.5	8.3	6.7	8.3	8.5	3.4	6.0
Nepal	1.5	3.3	3.3	5.7	10.0	5.5	2.6	7.3	7.4	5.6	3.5	3.9
Pakistan	5.4	2.1	3.9	9.9	4.5	3.2	7.8	6.2	5.0	3.4	6.3	3.9
Sri Lanka	3.0	1.5	0.7	8.9	7.9	6.9	3.4	4.3	6.1	5.3	4.9	4.2
Turkey	0.6	2.2	1.6	2.8	4.0	3.9	4.5	-1.9	3.2	4.3	5.3	2.6
North and Central Asia	**-8.0**	**0.3**	**4.6**	**7.1**	**-13.6**	**2.2**	**15.2**	**3.2**	**-6.2**	**2.2**	**5.9**	**7.0**
Armenia	-1.3	2.0	8.9	1.3	-20.2	6.3	16.7	5.6	-7.0	4.0	12.0	9.6
Azerbaijan	-15.6	4.0	7.1	6.1	-17.0	16.9	26.6	26.6	-15.9	4.8	6.9	11.0
Georgia	-16.9	-4.3	4.0	-2.1	-36.4	19.6	10.9	-4.7	-18.6	9.2	8.4	3.7
Kazakhstan	-11.1	-2.3	5.7	-6.2	-17.8	6.5	12.4	2.7	-3.7	0.6	10.9	4.0
Kyrgyzstan	-6.3	8.1	2.6	0.7	-21.9	5.0	0.3	7.6	-10.3	0.9	4.1	10.7
Russian Federation	-7.7	0.5	4.6	7.9	-13.4	2.1	15.3	2.6	-5.7	1.6	5.5	7.3
Tajikistan	-14.3	-7.3	10.0	9.1	-18.1	-1.1	8.4	13.1	-19.3	2.1	10.1	4.5
Turkmenistan	-20.6	12.1	3.1	9.3	5.8	-3.5	3.7	10.4	-21.9	20.1	3.0	7.6
Uzbekistan	-0.9	-1.3	1.9	17.5	-7.6	-6.1	10.7	0.5	-15.6	22.9	6.1	7.2
Pacific	**1.8**	**4.3**	**1.3**	**9.1**	**2.6**	**2.4**	**2.8**	**0.5**	**3.6**	**4.3**	**3.7**	**-0.1**
American Samoa												
Australia	1.0	5.2	1.6	12.2	2.5	2.5	2.9	0.5	3.6	4.5	3.7	0.0
Cook Islands	-0.5	11.4	5.1	0.1	1.8	7.6	5.1	-1.1	5.0	1.4	3.7	4.2
Fiji	1.9	-0.6	0.0	1.2	4.3	2.8	2.6	1.4	2.3	2.3	3.0	0.6
French Polynesia	-0.2	2.3	-5.6	2.1	-1.1	5.0	0.7	2.5	1.7	2.9	2.9	2.8
Guam												
Kiribati	-5.2	-18.2	-14.9	-2022.8	0.3	20.0	1.1	10.2	6.2	9.0	3.4	4.5
Marshall Islands	6.7	-10.7	3.4	1.5	8.4	1.6	3.4	1.6	4.3	-3.0	3.5	1.8
Micronesia (F.S.)	4.2	-1.7	-0.3	-3.9	4.2	-1.7	-0.3	-3.9	4.2	-1.7	-0.3	-3.9
Nauru	-6.7	-3.6	-2.2	-11.5	-7.1	5.0	-205.2	246.0	-6.6	-3.4	-3.9	-16.3
New Caledonia	0.6	4.5	-3.3	0.6	0.3	2.3	-0.2	-0.7	3.8	-2.0	0.7	1.1
New Zealand	2.3	2.2	0.3	-0.2	2.7	1.2	2.6	-0.2	3.5	3.4	4.1	-1.6
Niue												
Northern Mariana Islands												
Palau	-26.9	-6.0	-2.9	-0.3	-10.8	12.7	5.7	-1.9	6.0	0.9	0.5	2.8
Papua New Guinea	9.1	3.2	1.1	7.5	12.2	1.0	1.3	6.6	4.7	-2.7	3.2	8.8
Samoa	1.7	-2.7	-3.2	1.6	0.8	2.6	5.4	-0.1	0.8	6.0	5.8	1.3
Solomon Islands	6.4	-5.4	4.4	5.2	16.4	32.8	-28.9	5.0	34.4	-0.5	2.4	6.6
Tonga	3.4	-0.3	1.8	0.4	3.4	1.0	1.3	-0.4	3.6	3.3	1.3	1.6
Tuvalu	-0.6	0.2	1.3	2.0	2.7	5.9	4.9	2.1	4.2	8.4	4.3	2.1
Vanuatu	1.4	2.3	0.5	2.5	-0.1	-1.4	1.4	6.0	9.2	2.4	3.2	7.7
Asia and the Pacific	**0.0**	**2.3**	**4.6**	**9.7**	**1.7**	**3.2**	**5.3**	**3.4**	**3.9**	**3.0**	**4.1**	**3.3**
LLDC	-5.7	-0.3	4.7	4.7	-12.2	3.4	13.2	9.6	-7.2	5.9	9.0	4.8
LDC	3.1	4.0	30.1	1.2	6.4	7.8	22.9	2.6	4.3	5.0	22.4	2.0
ASEAN	2.2	2.3	15.0	1.4	9.4	3.1	5.9	4.5	7.9	2.6	8.0	3.5
ECO	0.6	1.5	3.8	5.5	1.9	3.8	6.0	1.3	2.9	4.2	5.8	3.2
SAARC	2.7	2.5	3.0	15.3	6.0	5.0	7.4	6.5	6.4	7.2	8.2	4.3
Central Asia	-9.3	-0.7	4.4	3.3	-15.1	3.1	13.6	9.0	-9.8	6.8	8.7	5.6
Pacific island dev. econ	6.4	2.0	0.7	6.0	6.3	2.5	0.6	4.1	4.0	0.2	2.4	3.6
Low income	1.1	3.0	23.1	2.2	-1.3	4.0	17.5	3.0	1.3	6.2	18.2	2.7
Middle income	0.5	2.3	3.6	12.5	4.2	6.0	9.2	5.8	4.6	5.5	7.7	5.8
High income	-2.7	1.3	-0.8	1.4	0.3	1.2	1.4	0.3	3.7	1.7	2.1	2.0
Africa	**0.5**	**4.5**	**5.3**	**6.8**	**0.5**	**4.2**	**5.2**	**4.4**	**1.5**	**3.8**	**5.3**	**4.7**
Europe	**-1.4**	**1.4**	**0.1**	**4.5**	**-0.1**	**2.4**	**1.3**	**-0.8**	**1.9**	**3.1**	**2.1**	**1.3**
Latin America and Carib.	**2.6**	**2.6**	**3.4**	**4.2**	**3.2**	**2.9**	**2.2**	**5.2**	**3.3**	**3.3**	**2.9**	**4.7**
North America	**0.6**	**6.0**	**3.9**	**0.5**	**2.3**	**3.9**	**0.8**	**1.3**	**2.3**	**4.6**	**3.0**	**0.7**
Other countries/areas	**3.1**	**3.7**	**2.7**	**9.8**	**3.5**	**4.1**	**2.7**	**6.3**	**4.1**	**4.7**	**5.3**	**3.8**
World	**0.0**	**2.7**	**3.5**	**6.8**	**1.4**	**3.2**	**2.7**	**1.9**	**2.6**	**3.6**	**3.1**	**1.9**

17 Employment

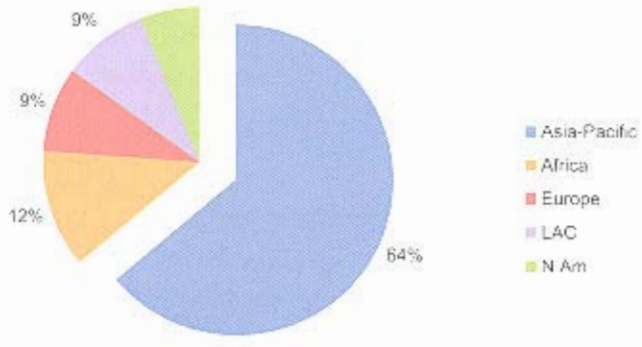
The Asia-Pacific economies employ around two thirds of the world's workforce, though over the past two decades that proportion has been falling.

In 2008, China with 752 million workers, India with 452 million, and Indonesia with 103 million, accounted for 43.4% of world employment, and 68% of employment in the Asia-Pacific region. Among the subregions, the shares of East and North-East Asia and North and Central Asia of the region's total employment are declining, while that of South and South-West Asia and South-East Asia are increasing in line with their growth in population and their rates of labour force participation.

While employment has been increasing, the growth has slowed. From the high rates registered in 2006, average annual growth in employment fell in 2008. Compared to the 2% growth in the two previous years, world employment in 2008 grew by only 1.4%. Of the world regions, Africa registered the highest growth in employment in 2008 (2.9%) – a slight decline from the average growth of 3.0% since 2000. The Asia-Pacific region experienced its slowest growth in employment since 1991, with a drop from 1.9% in 2007 to 1.3% in 2008, and continued to grow at a rate slower than the world average.

Figure 17.1

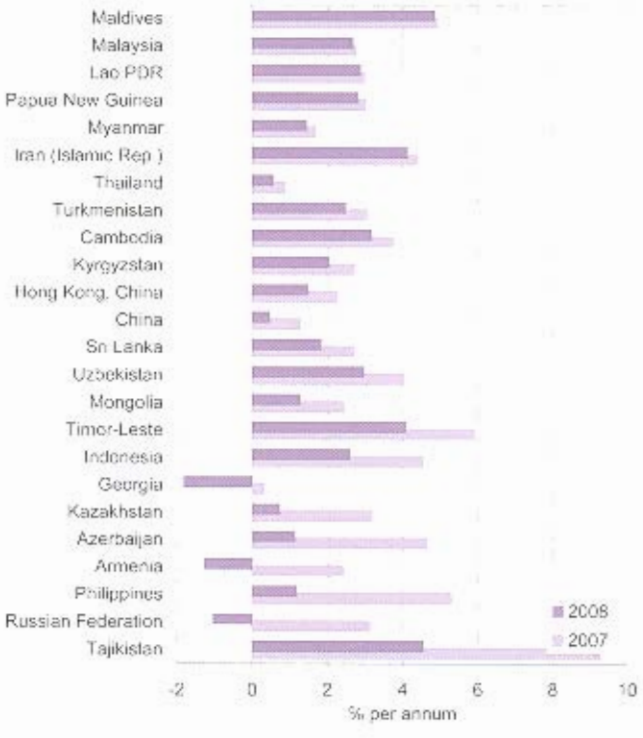
Share of world employment: 2008



Among the Asia-Pacific subregions, employment in 2008 grew more rapidly only in South and South-West Asia, where all countries except Pakistan and Sri Lanka had higher growth rates than in 2007. In Sri Lanka, employment growth decelerated rapidly – from 3.2% in 2006 to 1.8% in 2008. North and Central Asia suffered a reversal. After recording the highest growth in employment in 2007, of 3.4%, the subregion registered a negative growth of -0.2% in 2008 – with all the countries experiencing slowdowns.

Figure 17.2

Asian economies with declining employment growth between 2007 and 2008



In South-East Asia, employment growth was slower for all countries except for Brunei Darussalam, Viet Nam and Singapore. The Philippines, with a 4.1 percentage point decline from 2007 to 2008, changed from being the subregion's fastest-growing labour market to one of

its slowest. In East and North-East Asia, employment growth has been declining since 2000. In 2008 its growth of only 0.4% reflected slower growth in Mongolia and China.

Labour productivity

Annual labour productivity decelerated in 2008 in all global regions. Of these, Asia and the Pacific still had the fastest growth – despite seeing its growth rate fall from 5.7% in 2007 to 3.1% in 2008. Among the Asia-Pacific subregions, labour productivity growth slowed in almost all in 2008; the exception was North and Central Asia where between 2007 and 2008 its growth rate increased from 5.3 to 5.8%. In South-East Asia, productivity growth has been slower than in other subregions, having decelerated in all countries from the high rates attained in the early 2000s.

In North and Central Asia, eight of the nine countries belonged to the 10 countries in Asia with the highest rates of productivity growth. In this subregion, productivity growth in Kazakhstan decelerated to a standstill in 2008. The high-income economies of Australia, Japan, Turkey, New Zealand and Singapore all had negative productivity growth.

Employment by sector

Agriculture remains a major employer, though its significance is declining. In 2008, it employed 56% of the workforce in Africa, and 40% of that in Asia and the Pacific. Elsewhere, most employment is generated by the services sector: in North America, 8.1%; in Europe, 65.7%; and in Latin America and the Caribbean, 62.6%.

In the Asian and Pacific subregions, the declining share of agricultural employment has been mainly taken up by the services sector, with at least a 30% share for all subregions. This is particularly true for North and Central Asia where employment in agricultural has historically been much lower than that in services; in 2008, services accounted for 57% of total employment.

Industry remains the smallest employer. Since 2000, the share of employment in the industrial sector for the Asia-Pacific region as a whole has been rising but in 2008 it still accounted for less than a quarter of total employment.

Estimates of total employment are based on counts of persons in the "working age" population, which for international comparisons is defined as persons aged 15 years old and above who were economically active during a brief reference period. Worldwide, the proportion of the working age population who are employed – the employment-to-population ratio – has hovered around 61% over the last 18 years. Throughout that period, the Asia-Pacific region had the highest proportion, although between 1991 and 2008, it fell from 65.5 to 62.3%.

Figure 17.3

Growth rates in labour productivity, Asia and the Pacific, 2000-2005 and 2008

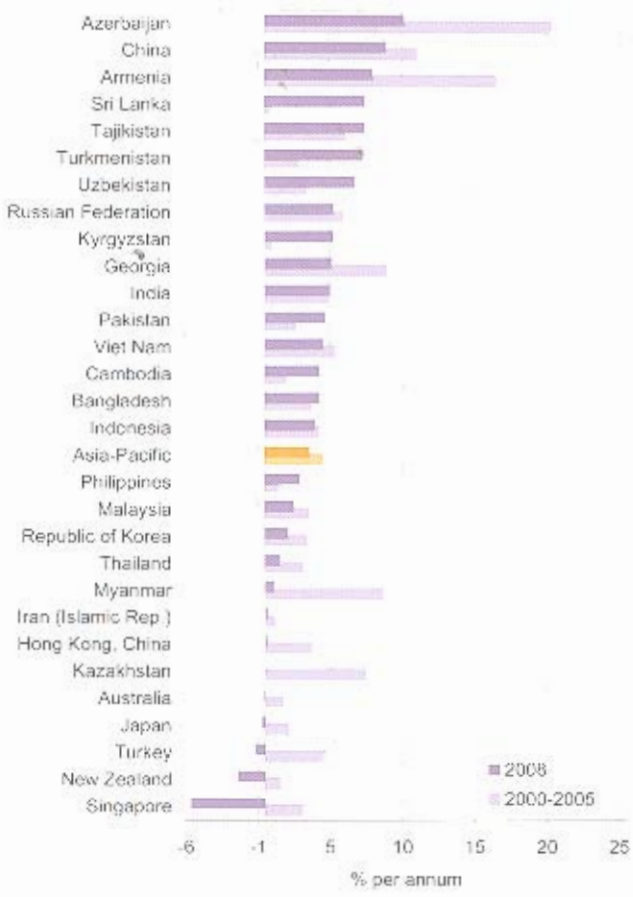
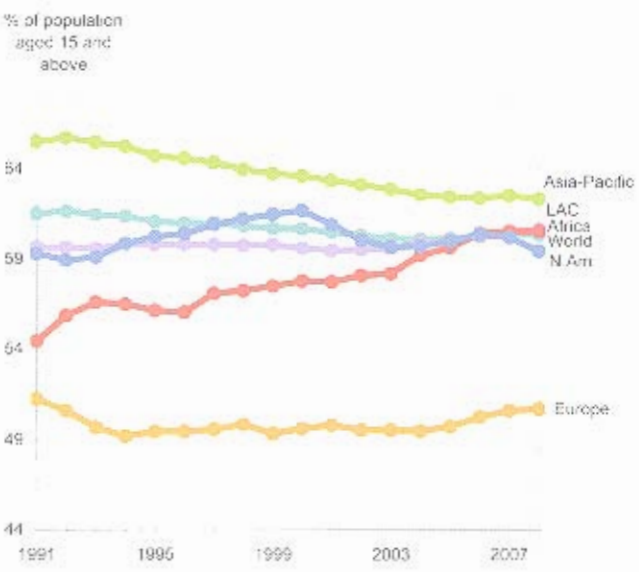


Figure 17.4

Employment-to-population ratio, 1991-2008

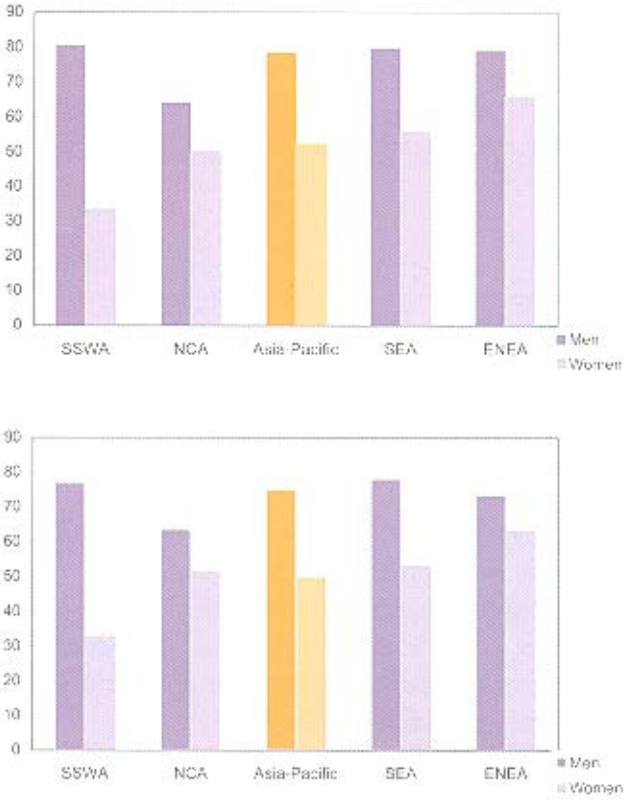


In East and North-East Asia and South-East Asian in 2008, around two thirds of the working age population were employed. In North and Central Asia, and South and South-West Asia, the proportion has historically been lower – and in 2008 was 57.1% and 55.5% respectively.

Women of working age are less likely to be employed than men. This is especially so in South and South-West Asia. In 2008, while 77% of men of working age were employed, for women the proportion was only 32.9% – and this was a drop from 33.5% in 1991. In 2008 this subregion had eight of the ten countries with the lowest proportions of women employed – 44% or less. In contrast, for the same eight countries, at least 70% of working age men were employed – or 1.5 times higher than the figure for women.

Figure 17.5

Employment-to-population ratio, 1991 and 2008



A number of countries have seen falls in the proportion of women employed. Although women in the Lao People's Democratic Republic, Cambodia, Myanmar, Viet Nam, Thailand and China had at least a 60% chance of being employed in 2008, these chances are lower than they were in 1991. This drop is most pronounced in Afghanistan where the proportion of working-age women who are employed has historically been low.

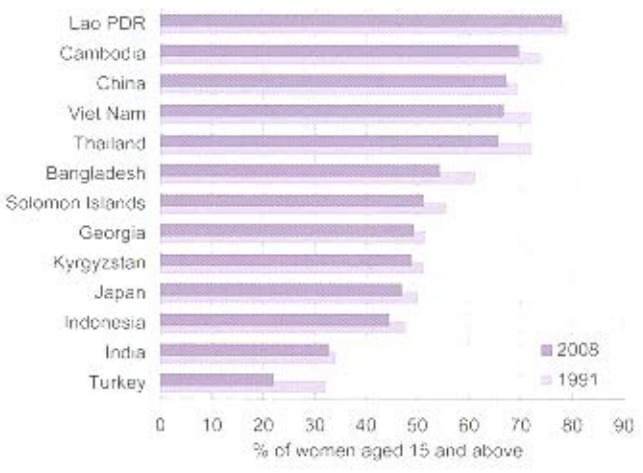
Figure 17.6

Female employment-to-population ratio, 2008



Figure 17.7

Countries where women's employment-to-population ratio declined between 1991 and 2008



Vulnerable employment

Most employed persons in the Asia-Pacific region, as in Africa, are own-account or contributing family workers. These workers are often in "vulnerable employment" – generating low incomes and having no social protection. In other regions of the world, on the other hand, the bulk of employed persons are employees.

In Asia and the Pacific, employment status differs between subregions. In South and South-West Asia in 2008, over 70% of workers were in vulnerable employment while in North and Central Asia 82% were employees. High-income countries generally have only a small proportion of worker in vulnerable employment.

Figure 17.8

Status in employment, 2008

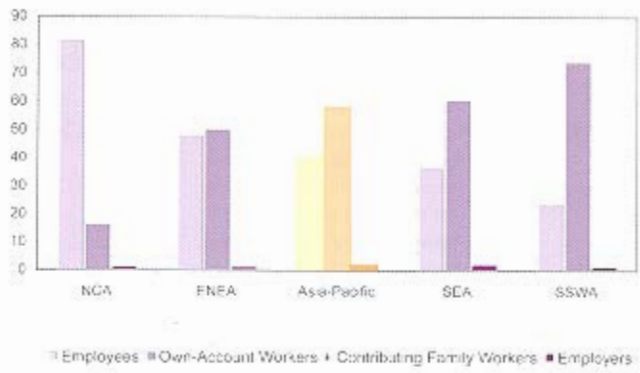
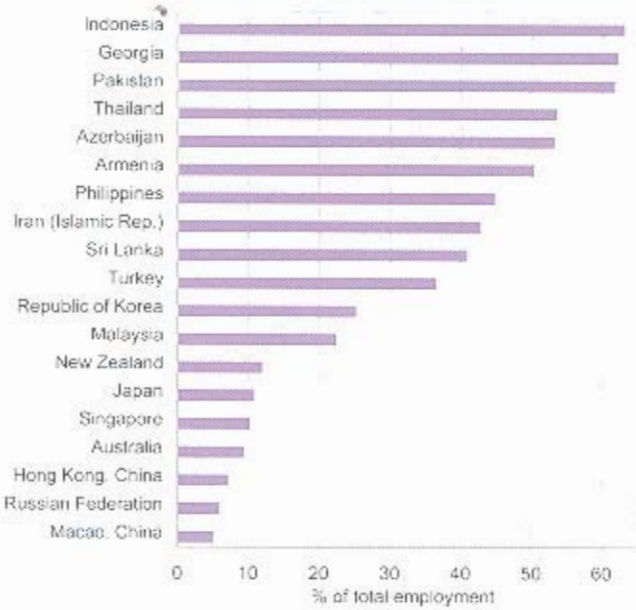


Figure 17.9

Proportion of workers in vulnerable employment, 2008

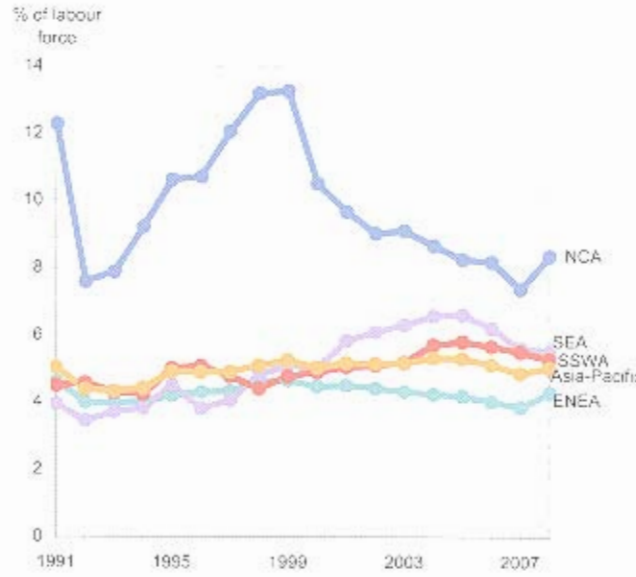


Unemployment

Since 62.3% of the working age population in Asia and the Pacific were working in 2008, the remaining 37.7% were either unemployed or not economically active. The Asia-Pacific unemployment rate has been lower than the world average and since 1991 has been stable at around 5.0% – largely because the bulk of the workforce is absorbed by own-account work in the informal sector and in subsistence farming.

Figure 17.10

Unemployment rate, 1991-2008

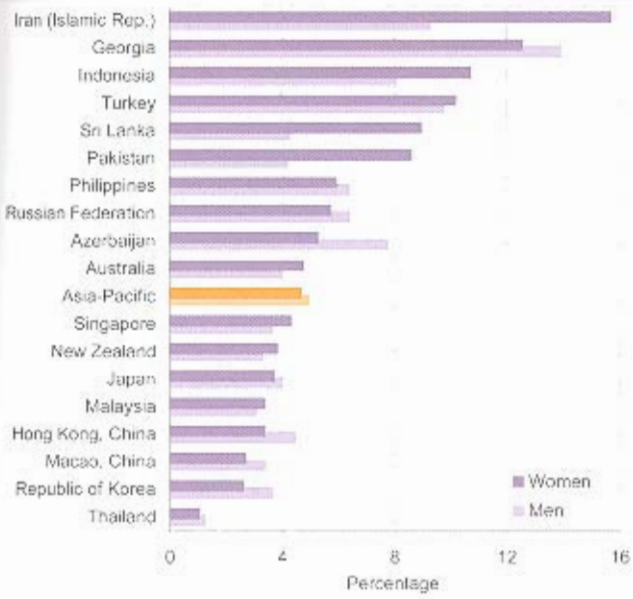


Among all Asian subregions, unemployment has been highest in North and Central Asia, where most workers are in paid employment. The unemployment rate has fluctuated along with the economic downturns in the last two decades. The decreasing trend since 2000 was halted by an upturn in 2008. In South-East Asia, by contrast, unemployment increased between 2000 and 2005, but started to decline thereafter.

The gender pattern varies between subregions. Women were more likely to be unemployed than men in South and South-West Asia and in South-East Asian, while the opposite was true in the other subregions. Among individual countries, Sri Lanka, Pakistan, the Islamic Republic of Iran and Indonesia, female unemployment rates exceed those for males.

Figure 17.11

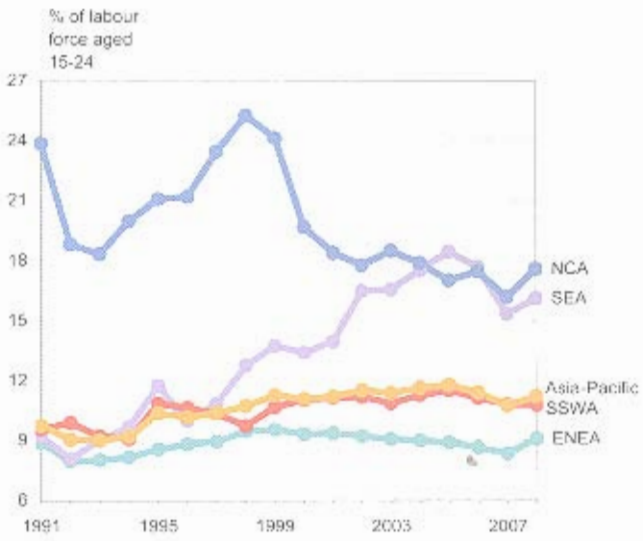
Unemployment rate by sex, 2008



Unemployment is usually higher for younger people. Worldwide, and in the Asia-Pacific region, the unemployment rate for the 15-24 age group is twice as high as for the workforce as a whole, and it has been increasing over the last 18 years. However, in this age group there are only small gender differences – and even these have been diminishing.

Figure 17.12

Youth unemployment rates, Asia-Pacific sub-regions, 1991-2008



In North and Central Asia and in East and North-East Asia, youth unemployment rates have declined since the late 1990s though between 2007 and 2008 they rose. After rising from 1996 to 2005, youth unemployment in South-East Asia started to decline, but registered an upturn in 2008.

Total employment (thousand people)
The number of persons of working age who, during a specified brief period, either one week or one day, were in either paid employment or self-employment. **Aggregates:** Calculated by ILO Employment Sector Department **Source:** International Labour Organization, Key Indicators of the Labour Market, Sixth Edition. Online database accessed on 14 September 2009.

Average annual employment growth rate (% per annum)
The average annual rate of change of total employment. **Aggregates:** Calculated by ILO Employment Sector Department **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market, Sixth Edition. Online database accessed on 14 September 2009.

Average annual labour productivity growth rate (% per annum)
The output (measured as value added in 1990 PPP dollars) divided by the total number of employed persons, express as the average annual rate of change. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 17 September 2009.

Employment by sector: agriculture, industry, and services (% of total employment)
The proportion of employment in: (1) agriculture: agriculture, hunting, forestry and fishing; (2) industry: construction, mining, manufacturing and utilities; and (3) services: transport, storage and communication; wholesale, retail, restaurant, hotels and other activities, expressed as a share of total employment. **Aggregates:** Calculated by ILO Employment Sector Department **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment to population ratio: both sexes, women, men (% of population aged 15 and above)
The proportion of the working-age population that is employed of the working-age population. For most countries, the working-age population is defined as persons aged 15 and above, although this may vary slightly from country to country. **Aggregates:** Calculated by ILO Employment Sector Department. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market, Sixth Edition and World population Prospects: The 2008 Revision Population Database. Online database accessed on 14 September 2009 and May 2009.

Unemployment rate: total, women, men (% of labour force)
The number of persons of working age who, during the reference period, were without work, currently available for work and seeking work, divided by the total labour force. National definitions and coverage of unemployment may vary. Data are presented disaggregated by sex. **Aggregates:** Calculated by ILO Employment Sector Department **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Youth unemployment rate: total, female (% of labour force aged 15-24)
The number of young persons aged 15-24 who are without work, currently available for work and seeking work, divided by the total labour force of that age group. Data are presented disaggregated by sex. **Aggregates:** Calculated by ILO Employment Sector Department **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 27 July 2009.

Employment by status: employees (% of total employment)
Employees are all those workers who hold the type of job defined as "paid employment jobs". Paid employment jobs are those jobs where the incumbents hold explicit (written or oral) or implicit employment contracts which give them a basic remuneration which is not directly dependent upon the revenue of the unit for which they work (this unit can be a corporation, a non-profit institution, a government unit or a household). Some or all of the tools, capital equipment, information systems and/or premises used by the incumbents may be owned by others, and the incumbents may work under direct supervision of, or according to strict guidelines set by the owner(s) or persons in the owners' employment. (Persons in "paid employment jobs" are typically remunerated by wages and salaries, but, may be paid by commission from sales, by piece-rates, bonuses or in-kind payments such as food, housing or training.).The number of employees divided by the total employment by status, expressed as a percentage. **Aggregates:** Calculated by ILO Employment Sector Department **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment by status: employers (% of total employment)
Employers are those workers who, working on their own account or with one or a few partners, hold the type of job defined as a "self-employment job", and, in this capacity, on a continuous basis (including the reference period) have engaged one or more persons to work for them in their business as "employee(s)". Self-employment jobs are those jobs where the remuneration is directly dependent upon the profits (or the potential for profits) derived from the goods and services produced (where own consumption is considered to be part of profits). The incumbents make the operational decisions affecting the enterprise, or delegate such decisions while retaining responsibility for the welfare of the enterprise. (In this context "enterprise" includes one-person operations. The number of employers divided by the total employment by status, expressed as a percentage. **Aggregates:** Calculated by ILO Employment Sector Department. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

Employment by status: other self-employed (% of total employment)
The number of own-account workers, members of producer's cooperatives, and contributing family workers divided by the total employment by status, expressed as a percentage. **Source:** Calculated by ESCAP using data from International Labour Organization, Key Indicators of the Labour Market Sixth Edition. Online database accessed on 14 September 2009.

17.1 Employment and labour productivity

	Total employment (Thousand people)					Average annual employment growth rate (% per annum)				Average annual labour productivity growth rate (% per annum)			
	1991	1995	2000	2005	2008	91-95	95-00	00-05	2008	91-95	95-00	00-05	2008
East and North-East Asia	**723 729**	**763 315**	**802 335**	**845 595**	**867 876**	**1.3**	**1.0**	**1.1**	**0.4**				
China	618 503	653 667	691 204	731 756	752 995	1.4	1.1	1.1	0.5	10.0	3.4	10.6	8.4
DPR Korea	9 425	10 106	10 568	11 537	11 996	1.8	0.9	1.8	1.2				
Hong Kong, China	2 867	2 991	3 216	3 394	3 590	1.1	1.5	1.1	1.5	3.6	0.6	3.3	0.2
Japan	64 220	65 619	65 274	64 588	63 673	0.5	-0.1	-0.2	-0.8	0.7	1.0	1.6	-0.2
Macao, China	161	176	207	257	297	2.1	3.3	4.5	4.2				
Mongolia	666	732	800	946	1 009	2.4	1.8	3.4	1.3				
Republic of Korea	19 252	20 882	21 528	22 955	23 603	2.1	0.6	1.3	0.9	5.0	3.6	3.0	1.6
South-East Asia	**194 624**	**211 276**	**235 410**	**256 154**	**274 273**	**2.1**	**2.2**	**1.7**	**2.0**				
Brunei Darussalam	109	125	148	169	182	3.5	3.4	2.7	2.4				
Cambodia	4 265	4 690	5 766	6 544	7 196	2.4	4.2	2.6	3.2	-0.7	5.9	1.5	3.8
Indonesia	74 011	79 676	91 072	94 611	103 090	1.9	2.7	0.8	2.6	6.3	-0.7	3.8	3.5
Lao PDR	1 966	2 156	2 438	2 763	3 004	2.3	2.5	2.5	2.9				
Malaysia	7 038	7 940	9 478	10 674	11 548	3.1	3.6	2.4	2.7	6.6	1.7	3.1	2.0
Myanmar	19 907	21 763	24 399	26 138	27 266	2.3	2.3	1.4	1.5	5.0	5.2	8.2	0.6
Philippines	22 635	25 858	28 408	33 163	35 931	3.4	1.9	3.1	1.2	0.0	2.6	1.0	2.4
Singapore	1 568	1 696	1 941	2 123	2 407	2.0	2.7	1.8	4.5	8.5	2.0	2.6	-5.2
Thailand	31 714	32 670	33 917	37 306	38 106	0.7	0.8	1.9	0.6	7.2	0.1	2.6	1.0
Timor-Leste	293	319	269	350	404	2.1	-3.4	5.4	4.1				
Viet Nam	31 119	34 383	37 576	42 314	45 140	2.5	1.8	2.4	2.3	6.3	4.2	4.9	4.0
South and South-West Asia	**456 604**	**495 342**	**554 046**	**616 920**	**662 751**	**2.1**	**2.3**	**2.2**	**2.5**				
Afghanistan	3 919	5 202	5 863	7 058	8 087	7.3	2.4	3.8	4.7				
Bangladesh	50 474	53 857	60 878	69 454	74 288	1.6	2.5	2.7	2.4	2.8	2.9	3.2	3.8
Bhutan	167	146	174	254	291	-3.4	3.7	7.8	4.7				
India	322 344	349 273	386 775	425 247	452 278	2.0	2.1	1.9	2.2	4.1	4.2	4.4	4.5
Iran (Islamic Rep. of)	14 907	17 220	20 912	24 497	27 350	3.7	4.0	3.2	4.1	1.0	-0.8	0.7	0.2
Maldives	53	63	81	112	125	4.2	5.2	6.8	4.9				
Nepal	6 765	7 561	8 611	10 155	11 205	2.8	2.6	3.4	3.2				
Pakistan	32 270	34 943	41 655	50 065	57 676	2.0	3.6	3.7	3.9	2.3	1.1	2.2	4.2
Sri Lanka	6 235	6 413	7 403	7 837	8 459	0.7	2.9	1.1	1.6	3.9	1.6	0.4	6.9
Turkey	19 470	20 665	21 693	22 242	22 992	1.5	1.0	0.5	1.7	2.2	2.8	4.1	-0.7
North and Central Asia	**91 427**	**90 287**	**92 156**	**99 332**	**102 917**	**-0.3**	**0.4**	**1.5**	**-0.2**				
Armenia	945	830	867	943	959	-3.2	0.9	1.7	-1.3	-5.4	8.2	16.0	7.5
Azerbaijan	2 735	2 843	3 229	3 674	3 995	1.0	2.6	2.6	1.2	-18.8	6.8	19.9	9.7
Georgia	2 404	2 194	2 137	2 036	2 001	-2.3	-0.5	-1.0	-1.8	-15.0	5.3	8.5	4.7
Kazakhstan	7 244	6 931	6 629	7 275	7 645	-1.1	-0.9	1.9	0.7	-5.1	3.6	6.9	0.1
Kyrgyzstan	1 631	1 679	1 894	2 094	2 246	0.7	2.4	2.0	2.1	-12.4	4.0	0.5	4.8
Russian Federation	66 751	65 715	65 576	69 391	70 550	-0.4	0.0	1.1	-1.0	-7.7	2.2	5.4	4.8
Tajikistan	1 675	1 493	1 626	2 014	2 390	-2.8	1.7	4.4	4.6	-16.2	-0.2	5.6	6.9
Turkmenistan	1 263	1 444	1 708	1 925	2 077	3.4	3.4	2.4	2.5	-12.8	2.7	2.3	6.8
Uzbekistan	6 751	7 158	8 489	9 983	11 056	1.4	3.5	3.3	3.0	-5.5	2.7	2.9	6.3
Pacific													
American Samoa													
Australia	7 749	8 308	9 052	10 085	10 593	1.8	1.7	2.2	1.6	2.3	2.1	1.2	-0.1
Cook Islands													
Fiji	246	276	297	315	326	2.9	1.5	1.2	1.2				
French Polynesia													
Guam													
Kiribati													
Marshall Islands													
Micronesia (F.S.)													
Nauru													
New Caledonia													
New Zealand	1 512	1 720	1 833	2 108	2 195	3.3	1.3	2.8	1.0	1.4	1.4	1.0	-1.9
Niue													
Northern Mariana Islands													
Palau													
Papua New Guinea	1 734	1 914	2 233	2 553	2 780	2.5	3.1	2.7	2.8				
Samoa													
Solomon Islands	120	138	160	185	201	3.5	3.0	2.9	2.9				
Tonga													
Tuvalu													
Vanuatu													
Asia and the Pacific	**1 477 746**	**1 572 577**	**1 697 521**	**1 833 247**	**1 923 910**	**1.6**	**1.5**	**1.6**	**1.3**				
LLDC													
LDC													
ASEAN	194 331	210 957	235 141	255 804	273 868	2.1	2.2	1.7	2.0				
ECO	91 893	99 578	113 698	130 825	145 513	2.0	2.7	2.8	3.3				
SAARC	422 227	457 457	511 441	570 182	612 409	2.0	2.3	2.2	2.4				
Central Asia	24 676	24 572	26 580	29 941	32 367	-0.1	1.6	2.4	1.8				
Pacific island dev. econ													
Low income													
Middle income	1 233 747	1 311 868	1 416 674	1 527 354	1 602 786	1.5	1.5	1.5	1.3				
High income	97 439	101 516	103 199	105 679	106 538	1.0	0.3	0.5	0.1				
Africa	**217 860**	**245 735**	**282 574**	**326 958**	**357 203**	**3.1**	**2.8**	**3.0**	**2.9**				
Europe	**245 333**	**241 916**	**246 536**	**255 444**	**264 673**	**-0.4**	**0.4**	**0.7**	**0.6**				
Latin America and Carib.	**159 165**	**180 640**	**208 076**	**236 681**	**253 613**	**3.2**	**2.9**	**2.6**	**1.8**				
North America	**137 391**	**146 433**	**161 020**	**167 031**	**171 494**	**1.6**	**1.9**	**0.7**	**-0.1**				
Other countries/areas	**29 528**	**34 052**	**39 492**	**45 872**	**50 288**	**3.6**	**3.0**	**3.0**	**2.9**				
World	**2 258 390**	**2 412 209**	**2 625 680**	**2 855 071**	**3 010 468**	**1.7**	**1.7**	**1.7**	**1.4**				

17.2 Employment by sector

	Agriculture				Industry				Services			
	% of total employment				% of total employment				% of total employment			
	1991	1995	2000	2007	1991	1995	2000	2007	1991	1995	2000	2007
East and North-East Asia	**52.9**	**46.8**	**46.9**	**39.1**	**24.1**	**25.2**	**21.8**	**23.7**	**22.9**	**28.0**	**31.4**	**37.1**
China	64.7	59.3	60.6		23.0	25.7	22.7		12.3	15.0	16.7	
DPR Korea												
Hong Kong, China	0.8	0.6	0.3	0.2	34.9	27.0	20.3	14.2	64.3	72.4	79.4	85.6
Japan	6.7	5.7	5.1	4.3	34.6	33.7	31.4	28.2	58.7	60.6	63.5	67.5
Macao, China	0.1	0.2	0.2	0.1	42.2	32.1	28.2	21.3	57.7	67.6	71.6	78.7
Mongolia		46.1	48.6	37.7		17.9	14.1	17.9		35.9	37.2	44.5
Republic of Korea	16.4	12.4	10.6	7.4	36.0	33.3	28.2	25.9	47.7	54.3	61.2	66.7
South-East Asia	**60.2**	**52.5**	**49.4**	**43.1**	**12.7**	**16.0**	**16.5**	**19.2**	**27.0**	**31.5**	**34.1**	**37.7**
Brunei Darussalam	2.0				24.1				73.8			
Cambodia			73.8				8.4				17.7	
Indonesia	54.0	44.0	45.3	41.3	14.6	18.4	17.4	16.8	31.4	37.6	37.3	39.9
Lao PDR		85.4				3.5				11.1		
Malaysia	26.5	20.0	18.4	14.8	27.6	32.3	32.2	28.5	45.8	47.7	49.5	56.7
Myanmar												
Philippines	45.3	44.1	37.5	36.1	16.0	15.6	16.0	15.1	38.7	40.3	46.5	48.8
Singapore	0.3	0.2		1.1	35.2	31.2	34.0	22.6	64.5	68.5	65.9	76.2
Thailand	59.7	51.6	48.5	41.8	15.0	19.0	17.9	20.7	25.3	29.4	33.6	37.5
Timor-Leste												
Viet Nam			65.3				12.4				22.3	
South and South-West Asia	**59.2**	**57.9**	**56.3**	**47.1**	**16.2**	**16.2**	**17.1**	**22.0**	**24.6**	**25.9**	**26.7**	**30.9**
Afghanistan												
Bangladesh	69.5		64.8		13.6		10.7		16.9		24.5	
Bhutan												
India												
Iran (Islamic Rep. of)				22.8				32.1				45.1
Maldives		21.8	13.3			23.5	18.5			49.5	48.8	
Nepal	82.3				2.8				14.9			
Pakistan	47.5	46.8	48.4	43.6	19.8	18.5	18.0	21.0	32.7	34.6	33.5	35.4
Sri Lanka	42.8	39.5		32.4	26.6	24.8		27.5	30.6	35.6		40.0
Turkey	47.8	43.4	36.0	26.4	20.2	22.3	24.0	25.5	32.0	34.3	40.0	48.0
North and Central Asia	**21.9**	**21.1**	**22.5**	**17.6**	**30.8**	**27.7**	**24.9**	**25.9**	**47.2**	**51.2**	**52.5**	**56.4**
Armenia												
Azerbaijan	36.7	36.3	41.0	38.7	25.7	21.0	10.9	12.8	37.2	42.2	48.1	48.5
Georgia			52.2	53.5			9.8	10.4			37.9	36.1
Kazakhstan												
Kyrgyzstan	35.5	47.2	53.1		26.5	16.7	10.5		38.0	36.1	36.5	
Russian Federation	14.2	15.8	14.5	9.0	40.0	34.1	28.4	29.2	45.8	50.1	57.1	61.8
Tajikistan	47.9	61.4			24.7	16.1			27.4	22.5		
Turkmenistan												
Uzbekistan		43.3				20.1				36.6		
Pacific	**16.4**	**16.0**	**16.6**	**15.7**	**20.0**	**19.4**	**18.3**	**17.6**	**60.4**	**61.2**	**61.8**	**63.3**
American Samoa												
Australia	5.5	5.0	5.0	3.4	23.8	22.8	21.7	21.2	70.7	72.2	73.3	75.3
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati			2.8				7.4				89.8	
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	10.8	9.7	8.7	7.2	23.8	25.1	23.3	22.0	65.5	65.2	68.0	70.8
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea			73.3				3.7				23.0	
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**53.7**	**49.3**	**48.7**	**41.1**	**20.5**	**21.2**	**19.7**	**22.6**	**25.8**	**29.4**	**31.6**	**36.4**
LLDC												
LDC												
ASEAN	60.2	52.5	49.4	43.0	12.8	16.0	16.5	19.2	27.0	31.5	34.1	37.8
ECO	42.9	41.3	40.1	35.0	20.8	21.2	21.4	23.6	36.3	37.6	38.5	41.4
SAARC	60.9	59.9	58.4	48.9	15.5	15.4	16.2	21.4	23.6	24.8	25.3	29.6
Central Asia	39.2	42.1	42.3	37.0	18.2	16.7	16.3	18.6	42.6	41.3	41.3	44.4
Pacific island dev. econ.												
Low income												
Middle income	55.7	51.0	50.6	42.9	20.0	21.0	19.4	22.6	24.3	27.9	30.0	34.5
High income	8.3	6.9	6.1	4.7	33.8	32.3	29.3	26.3	57.8	60.8	64.6	69.0
Africa	**63.9**	**63.7**	**60.8**	**56.6**	**10.8**	**9.6**	**9.7**	**10.9**	**25.4**	**26.7**	**29.6**	**32.4**
Europe	**15.3**	**13.3**	**11.7**	**7.4**	**31.8**	**31.6**	**29.4**	**27.1**	**52.9**	**55.1**	**58.9**	**65.4**
Latin America and Carib.	**28.0**	**25.2**	**21.1**	**18.1**	**19.9**	**19.2**	**20.3**	**20.0**	**52.2**	**55.5**	**58.6**	**61.9**
North America	**3.1**	**3.0**	**2.7**	**1.5**	**25.2**	**24.1**	**23.2**	**20.7**	**71.7**	**72.9**	**74.1**	**77.8**
Other countries/areas												
World	**45.3**	**42.3**	**41.2**	**35.3**	**21.1**	**21.1**	**19.8**	**21.3**	**33.6**	**36.6**	**39.0**	**43.4**

17.3 Employment to population ratio

	Both sexes				Female				Male			
	% of population aged 15 and above				% of women aged 15 and above				% of men aged 15 and above			
	1991	1995	2000	2008	1991	1995	2000	2008	1991	1995	2000	2008
East and North-East Asia	**72.5**	**72.5**	**71.1**	**68.5**	**65.7**	**66.2**	**65.3**	**63.6**	**79.0**	**78.7**	**76.8**	**73.4**
China	74.4	74.5	73.4	70.8	69.4	70.0	69.3	67.3	79.1	78.8	77.4	74.3
DPR Korea	62.4	63.6	62.1	64.7	49.6	51.0	51.3	56.9	76.0	77.1	73.6	73.0
Hong Kong, China	62.8	59.7	58.0	58.8	47.4	46.0	47.5	52.3	77.7	73.8	69.5	66.2
Japan	63.1	62.3	60.3	57.8	50.2	49.1	47.9	46.9	76.9	76.2	73.5	69.4
Macao, China	56.9	57.7	60.5	65.3	44.5	47.3	52.9	59.3	70.8	69.5	69.1	72.0
Mongolia	50.6	52.8	51.3	52.0	46.5	48.5	48.4	51.1	54.8	57.2	54.3	53.0
Republic of Korea	59.2	60.7	58.6	59.3	46.5	48.0	47.6	48.7	72.2	73.7	70.0	70.4
South-East Asia	**67.6**	**66.6**	**66.1**	**65.5**	**55.8**	**54.6**	**54.3**	**53.2**	**79.7**	**79.0**	**78.4**	**78.1**
Brunei Darussalam	62.7	63.4	64.5	63.7	44.3	47.9	52.5	55.8	78.8	77.3	75.4	71.0
Cambodia	77.5	76.8	77.8	75.0	74.1	73.1	73.5	69.6	81.7	81.1	82.7	80.9
Indonesia	63.4	62.1	63.7	62.4	47.7	45.9	47.2	44.5	79.3	78.5	80.4	80.7
Lao PDR	80.7	79.6	79.3	78.3	79.2	78.5	78.6	78.0	82.1	80.6	80.0	78.7
Malaysia	60.2	60.3	61.2	61.0	41.5	41.2	43.0	43.7	78.7	79.1	79.0	78.0
Myanmar	75.0	74.8	74.9	75.4	66.1	66.0	66.3	67.5	84.4	83.9	83.8	83.9
Philippines	59.5	61.0	58.7	60.5	42.2	44.7	43.9	46.4	76.7	77.4	73.6	74.6
Singapore	64.5	62.7	61.7	62.9	50.2	48.4	48.9	52.2	78.8	77.0	74.6	73.6
Thailand	78.2	74.7	72.7	72.5	72.0	66.7	65.9	66.5	84.5	83.1	79.9	79.7
Timor-Leste	63.9	64.5	65.0	67.2	49.2	49.7	52.2	54.6	78.0	78.7	77.4	79.3
Viet Nam	75.6	75.2	71.8	70.5	72.1	72.0	68.2	66.6	79.6	78.7	75.7	74.7
South and South-West Asia	**57.8**	**56.7**	**55.9**	**55.5**	**33.5**	**32.9**	**32.4**	**32.9**	**80.5**	**79.1**	**78.1**	**77.0**
Afghanistan	54.3	54.0	53.9	55.4	24.8	24.1	23.8	25.2	81.5	81.5	81.7	83.2
Bangladesh	74.4	70.2	68.5	68.3	61.1	54.7	53.1	54.3	87.1	85.2	83.5	82.1
Bhutan	53.6	50.9	52.2	61.6	23.5	19.3	23.2	43.1	81.7	81.1	80.1	77.6
India	58.7	57.9	57.1	56.1	33.9	33.9	33.2	32.7	81.7	80.2	79.5	78.1
Iran (Islamic Rep. of)	46.2	46.3	46.0	49.4	18.3	22.1	24.1	28.3	72.5	69.7	67.2	69.6
Maldives	45.2	46.6	49.3	57.6	17.6	23.0	30.8	43.1	71.6	69.2	67.3	71.9
Nepal	59.9	60.2	59.7	61.9	45.9	47.8	49.2	55.1	73.9	73.1	70.7	69.1
Pakistan	48.0	47.2	47.9	52.0	11.6	10.8	13.6	19.9	81.2	80.7	79.8	82.1
Sri Lanka	52.0	49.8	53.7	55.7	33.2	30.8	34.3	39.9	70.6	68.9	73.7	72.3
Turkey	52.9	50.6	47.0	42.7	32.0	28.9	25.1	22.0	73.7	72.2	68.9	63.6
North and Central Asia	**56.6**	**54.5**	**53.9**	**57.1**	**50.2**	**47.9**	**48.0**	**51.6**	**64.2**	**62.4**	**60.9**	**63.7**
Armenia	38.6	36.5	38.0	39.2	31.4	30.3	32.4	33.2	46.7	43.8	44.8	46.6
Azerbaijan	56.9	55.3	57.7	60.7	52.2	51.2	54.0	56.7	62.0	59.9	61.9	65.1
Georgia	58.8	57.1	57.7	56.0	51.7	50.9	50.2	49.2	67.0	64.3	66.4	64.0
Kazakhstan	63.8	61.9	61.3	64.5	56.1	54.8	55.3	59.1	72.3	69.9	68.0	70.8
Kyrgyzstan	58.9	58.6	58.8	59.1	51.2	50.7	50.4	48.8	67.3	67.0	67.7	69.9
Russian Federation	58.3	56.3	54.7	58.5	52.3	49.8	48.9	53.6	65.3	64.0	61.4	64.4
Tajikistan	54.5	45.9	45.7	56.0	49.0	42.6	43.2	51.3	60.2	49.2	48.3	60.8
Turkmenistan	56.2	57.0	59.6	58.9	50.7	51.7	54.6	54.5	61.9	62.7	64.8	63.6
Uzbekistan	54.6	52.4	54.7	58.2	49.2	47.6	50.2	53.3	60.4	57.3	59.4	63.2
Pacific												
American Samoa												
Australia	57.2	58.4	59.5	62.2	47.2	49.4	51.4	55.7	67.5	67.6	67.9	68.9
Cook Islands												
Fiji	53.8	55.9	56.1	56.7	28.2	34.8	36.3	37.0	79.0	76.5	75.6	76.1
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	57.2	60.6	61.3	65.4	48.7	51.9	53.8	58.9	66.0	69.7	69.3	72.2
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea	70.0	69.3	70.6	70.5	67.3	67.2	68.7	68.8	72.5	71.3	72.5	72.2
Samoa												
Solomon Islands	67.6	67.6	66.4	64.9	55.5	55.3	53.2	51.2	79.0	79.4	78.8	77.8
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**65.5**	**64.7**	**63.6**	**62.3**	**52.1**	**51.4**	**50.5**	**49.6**	**78.6**	**77.8**	**76.5**	**74.9**
LLDC												
LDC												
ASEAN	67.6	66.6	66.1	65.5	55.9	54.6	54.3	53.2	79.7	79.0	78.4	78.1
ECO	50.5	49.3	48.8	50.8	25.9	25.0	25.4	28.2	74.3	72.9	71.6	72.9
SAARC	58.7	57.5	56.8	56.5	34.3	33.6	33.2	33.7	81.3	79.9	79.1	78.1
Central Asia	56.3	54.1	55.2	57.9	49.8	48.3	49.9	52.3	63.4	60.4	61.1	64.1
Pacific island dev. econ.												
Low income												
Middle income	65.5	64.6	63.7	62.3	51.7	51.2	50.2	49.0	78.9	78.0	76.9	75.3
High income	60.2	59.7	57.8	55.9	47.5	47.0	46.1	45.6	73.7	73.3	70.4	67.2
Africa	**59.6**	**59.8**	**59.6**	**60.6**	**45.8**	**46.1**	**46.6**	**48.7**	**73.9**	**74.0**	**73.0**	**72.8**
Europe	**51.2**	**49.4**	**49.6**	**50.7**	**41.2**	**40.3**	**41.2**	**43.6**	**62.5**	**59.7**	**59.1**	**58.6**
Latin America and Carib.	**54.4**	**56.1**	**57.8**	**60.5**	**34.2**	**38.1**	**42.2**	**47.5**	**75.5**	**75.0**	**74.1**	**74.3**
North America	**59.3**	**60.2**	**61.7**	**59.4**	**51.0**	**52.6**	**54.4**	**53.3**	**68.2**	**68.5**	**69.5**	**66.0**
Other countries/areas	**18.8**	**18.3**	**17.3**	**16.4**	**16.5**	**18.3**	**18.8**	**20.4**	**71.7**	**72.1**	**72.0**	**70.7**
World	**61.5**	**61.1**	**60.7**	**60.3**	**48.0**	**47.9**	**48.0**	**48.4**	**75.2**	**74.4**	**73.5**	**72.4**

17.4 Unemployment rate

	Total				Female				Male			
	% of labour force				% of female labour force				% of male labour force			
	1991	1995	2000	2007	1991	1995	2000	2007	1991	1995	2000	2007
East and North-East Asia	**4.6**	**4.2**	**4.5**	**3.8**	**3.9**	**3.6**	**3.8**	**3.2**	**5.2**	**4.7**	**5.1**	**4.4**
China	2.3	2.9	3.1	4.0								
DPR Korea												
Hong Kong, China	1.8	3.2	4.9	4.0	1.6	2.9	4.0	3.4	1.9	3.4	5.6	4.5
Japan	2.1	3.2	4.8	3.9	2.2	3.3	4.5	3.7	1.9	3.1	5.0	4.0
Macao, China	3.0	3.6	6.7	3.0	3.7	3.0	4.6	2.7	2.5	4.1	8.6	3.4
Mongolia				2.8								
Republic of Korea	2.4	2.1	4.4	3.2	2.0	1.7	3.6	2.6	2.7	2.3	5.0	3.7
South-East Asia	**4.0**	**4.5**	**5.0**	**5.6**	**4.1**	**5.0**	**4.9**	**6.0**	**3.8**	**4.1**	**5.1**	**5.4**
Brunei Darussalam	4.7				6.7				3.7			
Cambodia			2.5				2.8				2.1	
Indonesia				9.1				10.8				8.1
Lao PDR		2.6				2.6				2.6		
Malaysia			3.0	3.2			3.1	3.4			2.9	3.1
Myanmar												
Philippines	9.0	8.4	10.1	6.3	10.5	9.4	9.9	6.0	8.1	7.7	10.3	6.4
Singapore	1.9	2.7	6.0	4.0	1.8	2.8	6.6	4.3	2.0	2.6	5.6	3.7
Thailand	2.7		2.4	1.2	3.5		2.3	1.1	2.0		2.4	1.3
Timor-Leste												
Viet Nam			2.3				2.1				2.4	
South and South-West Asia	**4.5**	**5.0**	**4.9**	**5.5**	**5.1**	**5.5**	**5.3**	**6.3**	**4.3**	**4.8**	**4.8**	**5.2**
Afghanistan												
Bangladesh			3.3				3.3				3.2	
Bhutan												
India		2.2	4.3			1.7	4.1			2.4	4.4	
Iran (Islamic Rep. of)	11.1			10.5	24.4			15.7	9.5			9.3
Maldives		0.8	2.0			1.3	2.7			0.6	1.6	
Nepal												
Pakistan	5.9	5.0	7.2	5.1	16.3	14.0	15.8	8.6	4.2	3.7	5.5	4.2
Sri Lanka	14.7	12.2	7.7	5.0	21.2	18.7	11.3	9.0	10.0	9.0	5.9	4.3
Turkey	8.2	7.6	6.5	9.9	7.1	7.3	6.3	10.2	8.7	7.8	6.6	9.8
North and Central Asia	**12.3**	**10.6**	**10.5**	**7.4**	**12.2**	**10.6**	**10.5**	**7.1**	**12.3**	**10.6**	**10.5**	**7.6**
Armenia				28.4								
Azerbaijan				6.5				5.3				7.8
Georgia			10.8	13.3			10.5	12.6			11.1	13.9
Kazakhstan		11.0	12.8	7.3								
Kyrgyzstan				8.2								
Russian Federation		9.7		6.1		9.5		5.8		9.8		6.4
Tajikistan				2.5								
Turkmenistan												
Uzbekistan												
Pacific												
American Samoa			5.0				6.0				4.9	
Australia	9.6	8.5	6.3	4.4	9.2	8.1	6.1	4.8	9.9	8.8	6.5	4.0
Cook Islands	7.2				9.3				6.1			
Fiji	5.9	5.4										
French Polynesia												
Guam	3.5		11.5				11.5				11.5	
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	10.3	6.3	5.9	3.6	9.5	6.3	5.8	3.9	10.9	6.2	6.1	3.3
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea			2.8				1.3				4.3	
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**5.0**	**4.9**	**5.0**	**4.9**	**4.9**	**4.8**	**4.8**	**4.7**	**5.1**	**5.0**	**5.2**	**5.0**
LLDC												
LDC												
ASEAN	4.0	4.5	5.0	5.6	4.1	5.0	4.9	6.0	3.8	4.1	5.1	5.4
ECO	8.5	8.0	8.7	7.9	11.7	11.6	12.2	10.0	7.4	6.8	7.4	7.0
SAARC	4.1	4.7	4.6	5.1	4.7	5.1	4.8	5.9	3.9	4.6	4.5	4.8
Central Asia	12.8	13.1	12.2	10.1	13.3	13.4	12.5	10.2	12.4	12.7	11.9	10.0
Pacific island dev. econ												
Low income												
Middle income	5.4	5.1	5.2	5.0	5.3	5.0	4.9	4.7	5.4	5.2	5.3	5.1
High income	2.9	3.4	4.9	3.8	2.9	3.4	4.5	3.6	3.0	3.5	5.1	3.9
Africa	**8.6**	**8.7**	**9.0**	**8.1**	**9.4**	**9.4**	**9.6**	**9.1**	**8.0**	**8.2**	**8.5**	**7.5**
Europe	**9.2**	**10.4**	**9.6**	**7.5**	**10.5**	**11.5**	**10.7**	**8.2**	**8.2**	**9.5**	**8.7**	**7.0**
Latin America and Carib.	**8.7**	**8.2**	**8.6**	**7.1**	**12.3**	**10.5**	**10.8**	**9.2**	**7.0**	**7.0**	**7.2**	**5.7**
North America	**7.2**	**6.0**	**4.3**	**4.8**	**6.7**	**5.9**	**4.3**	**4.6**	**7.5**	**6.0**	**4.2**	**4.9**
Other countries/areas												
World	**6.3**	**6.2**	**6.2**	**5.7**	**6.6**	**6.5**	**6.4**	**6.0**	**6.0**	**6.0**	**6.0**	**5.5**

17.5 Youth unemployment rate

	Total							Female						
	% of labour force aged 15-24							% of women labour force aged 15-24						
	1991	1995	2000	2005	2006	2007	2008	1991	1995	2000	2005	2006	2007	2008
East and North-East Asia	**8.8**	**8.5**	**9.3**	**8.9**	**8.6**	**8.3**	**9.1**	**7.3**	**7.1**	**7.7**	**7.4**	**7.2**	**6.9**	**7.5**
China														
DPR Korea														
Hong Kong, China	4.2	6.9	11.2	10.7	10.4	9.0		3.6	5.9	10.4	7.9	8.1	7.2	
Japan	4.5	6.1	9.2	8.7	8.0	7.7		4.2	6.1	7.9	7.4	7.2	7.1	
Macao, China			9.9	8.2	7.1	6.2				6.7	5.8	5.8	4.0	
Mongolia			22.8							23.0				
Republic of Korea	7.4	6.3	11.8	10.2	10.0	8.9		6.0	5.3	9.6	9.0	9.0	7.2	
South-East Asia	**9.2**	**11.7**	**13.4**	**18.4**	**17.7**	**15.3**	**16.1**	**9.3**	**12.3**	**13.1**	**20.1**	**18.9**	**16.0**	**17.3**
Brunei Darussalam														
Cambodia														
Indonesia			19.9	32.4	30.4	25.1				20.1	37.7	34.3	27.3	
Lao PDR		5.0							3.9					
Malaysia			8.3			10.9				8.3			11.5	
Myanmar														
Philippines	17.6	16.1	21.2	16.4	16.9	14.9		21.6	19.1	23.6	18.9	18.4	16.5	
Singapore		5.0	6.6		6.9	6.9			5.5	11.2		11.6	11.1	
Thailand			6.6	4.8	4.8	4.5				6.0	4.6	5.3	4.3	
Timor-Leste														
Viet Nam			4.6							4.6				
South and South-West Asia	**9.5**	**10.8**	**11.0**	**11.5**	**11.1**	**10.8**	**10.8**	**9.9**	**11.5**	**11.9**	**12.8**	**12.5**	**12.1**	**12.1**
Afghanistan														
Bangladesh			10.7	9.3						10.3	13.6			
Bhutan				6.3							7.2			
India			10.1							10.2				
Iran (Islamic Rep. of)				23.1		22.3					32.1		30.2	
Maldives		1.9	4.4		22.2				2.9	5.1		30.5		
Nepal														
Pakistan	10.1	8.9	13.3		8.6	7.5		21.8	18.1	29.2		9.6	8.9	
Sri Lanka		32.8	23.6	21.7	21.6	21.2			41.3	30.9	29.7	28.2	28.1	
Turkey	15.3	15.6	13.1	19.3	18.7	19.6		11.7	13.1	11.9	19.3	19.8	20.0	
North and Central Asia	**23.8**	**21.1**	**19.7**	**17.0**	**17.5**	**16.2**	**17.6**	**24.7**	**22.1**	**21.0**	**18.0**	**18.0**	**16.4**	**18.2**
Armenia														
Azerbaijan						14.0							10.4	
Georgia			21.1	26.3		31.6				20.5	30.6		36.8	
Kazakhstan														
Kyrgyzstan				14.5	14.6						16.2	16.2		
Russian Federation		20.4		15.7	16.5	14.5			21.6		17.2	17.3	14.7	
Tajikistan														
Turkmenistan														
Uzbekistan														
Pacific														
American Samoa														
Australia	17.5	15.4	12.1	10.8	10.0	9.4		16.4	14.8	11.3	10.5	9.5	9.3	
Cook Islands	14.7							19.8						
Fiji														
French Polynesia														
Guam														
Kribati														
Marshall Islands														
Micronesia (F.S.)														
Nauru														
New Caledonia														
New Zealand	16.8	11.9	13.2	9.4	9.6	9.7		16.8	11.8	12.0	9.8	10.0	9.8	
Niue														
Northern Mariana Islands														
Palau														
Papua New Guinea			5.3											
Samoa														
Solomon Islands														
Tonga														
Tuvalu														
Vanuatu														
Asia and the Pacific	**9.7**	**10.3**	**11.1**	**11.8**	**11.4**	**10.7**	**11.2**	**8.9**	**9.7**	**10.4**	**11.5**	**11.1**	**10.3**	**10.9**
LLDC														
LDC														
ASEAN	9.2	11.7	13.4	18.5	17.7	15.4	16.1	9.3	12.3	13.1	20.1	19.0	16.0	17.3
ECO	15.2	14.9	16.1	16.2	14.6	13.3	13.2	19.1	19.2	21.7	19.9	18.5	16.7	17.0
SAARC	8.8	10.2	10.4	10.6	10.2	10.1	10.1	9.1	10.7	10.9	11.4	11.0	11.0	11.0
Central Asia	21.2	22.0	20.5	18.7	18.5	18.0	18.2	22.0	22.7	20.8	19.0	18.8	18.4	18.8
Pacific island dev. econ														
Low income														
Middle income	10.1	10.7	11.4	12.2	11.8	11.0	11.5	9.4	10.1	10.8	11.9	11.4	10.5	11.2
High income	7.1	7.5	10.1	9.5	8.9	8.3	8.2	6.3	7.1	8.8	8.4	8.2	7.6	7.5
Africa	**14.6**	**14.7**	**14.4**	**14.1**	**13.5**	**13.4**	**13.2**	**15.2**	**15.1**	**14.8**	**15.1**	**14.6**	**14.2**	**14.0**
Europe	**18.5**	**20.8**	**18.9**	**19.0**	**17.9**	**16.2**	**16.3**	**19.5**	**22.0**	**19.7**	**19.2**	**18.2**	**16.7**	**16.2**
Latin America and Carib.	**16.6**	**14.6**	**15.8**	**16.2**	**15.2**	**14.8**	**15.2**	**21.9**	**18.4**	**19.9**	**20.8**	**19.8**	**19.1**	**19.8**
North America	**13.6**	**12.2**	**9.5**	**11.3**	**10.5**	**10.4**	**12.5**	**12.4**	**11.6**	**9.0**	**10.0**	**9.6**	**9.3**	**10.9**
Other countries/areas														
World	**11.7**	**12.1**	**12.5**	**13.0**	**12.5**	**11.9**	**12.3**	**11.6**	**12.1**	**12.5**	**13.4**	**12.9**	**12.2**	**12.7**

17.6 Employment by status

	Employees				Employers				Other self-employed			
	% of total employment				% of total employment				% of total employment			
	1991	1995	2000	2007	1991	1995	2000	2007	1991	1995	2000	2007
East and North-East Asia	**32.9**	**36.4**	**42.7**	**45.9**	**2.4**	**1.9**	**1.9**	**1.4**				
China												
DPR Korea												
Hong Kong, China		89.2	89.5	88.7		5.4	4.9	4.1		5.4	5.7	7.1
Japan	78.5	81.5	83.1	86.1	3.0	3.0	2.8	2.6	18.2	15.3	13.8	10.8
Macao, China			86.2	91.4			3.4	3.5			8.4	5.2
Mongolia			41.2				1.3				57.0	
Republic of Korea	84.9	86.7	63.1	68.2			6.9	6.7	15.1	13.3	30.0	25.2
South-East Asia	**28.5**	**30.8**	**32.7**	**35.7**	**2.6**	**2.3**	**2.4**	**2.4**				
Brunei Darussalam	94.9				1.0				4.1			
Cambodia			15.2				0.2				84.5	
Indonesia			32.8	34.0			2.3	2.9			64.9	63.1
Lao PDR		9.7				0.2				90.1		
Malaysia	66.2	72.6	74.3	74.2	3.1	2.5	3.0	3.4	28.8	24.9	22.8	22.3
Myanmar												
Philippines			49.5	51.1			4.6	4.2			45.6	44.7
Singapore	86.6	88.5	89.6	84.7	5.2	5.0	5.8	5.1	8.1	6.6	4.6	10.2
Thailand	30.7	36.7	39.6	43.6	2.1	2.9	3.3	3.0	67.2	61.4	57.1	53.5
Timor-Leste												
Viet Nam			18.4				0.2				80.1	
South and South-West Asia	**17.4**	**18.4**	**19.8**	**23.2**	**2.7**	**2.1**	**2.1**	**1.6**				
Afghanistan												
Bangladesh			12.6				0.2				68.9	
Bhutan												
India												
Iran (Islamic Rep. of)				51.4				5.4				42.7
Maldives		24.5	20.5			3.2	2.9			53.9	57.3	
Nepal												
Pakistan		34.1	35.6	37.4		1.0	0.8	0.8		64.9	63.6	61.8
Sri Lanka			56.2	56.5			2.3	2.8			41.4	40.7
Turkey	54.1	59.3	48.6	58.1			5.1	5.5	45.9	40.7	46.3	36.4
North and Central Asia	**88.3**	**85.2**	**78.5**	**80.3**	**1.6**	**1.0**	**1.4**	**1.6**		**11.8**	**13.8**	**11.6**
Armenia			52.8	49.7							47.2	50.3
Azerbaijan				41.8				5.0				53.2
Georgia			37.2	36.7			1.5	1.1			60.5	62.2
Kazakhstan												
Kyrgyzstan												
Russian Federation		93.2	89.9	92.7		0.4	0.9	1.4		6.4	9.2	6.0
Tajikistan												
Turkmenistan												
Uzbekistan												
Pacific												
American Samoa												
Australia	84.3	84.6	85.9	88.0	4.6	4.4	3.7	2.7	11.0	11.0	10.4	9.3
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	79.1	78.8	79.0	82.6	7.8	8.2	7.1	5.3	12.7	12.8	13.6	11.9
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**31.3**	**33.1**	**36.0**	**38.8**	**2.5**	**2.0**	**2.0**	**1.6**				
LLDC												
LDC												
ASEAN	26.5	30.8	32.7	35.7	2.6	2.3	2.4	2.4				
ECO	40.2	39.2	40.4	45.6	4.2	3.1	2.7	2.6				
SAARC	15.7	16.8	17.8	20.7	2.4	1.8	1.8	1.3				
Central Asia	61.0	52.3	47.1	52.2	5.5	2.7	2.4	2.1				
Pacific island dev. econ.												
Low income												
Middle income	29.0	31.0	34.6	37.7	2.5	1.9	2.0	1.6				
High income	76.1	78.2	79.5	82.6	4.2	4.1	3.9	3.7				
Africa	**21.5**	**23.0**	**24.3**	**29.5**	**3.1**	**3.0**	**2.9**	**2.8**				
Europe	**82.5**	**81.2**	**81.6**	**82.9**	**4.6**	**4.4**	**4.7**	**4.3**				
Latin America and Carib.	**61.0**	**61.5**	**62.0**	**64.0**	**3.8**	**4.0**	**4.4**	**4.8**				
North America	**87.5**	**88.1**	**89.1**	**89.6**	**4.5**	**4.3**	**3.9**	**3.7**				
Other countries/areas												
World	**41.7**	**42.7**	**44.8**	**47.1**	**3.0**	**2.6**	**2.7**	**2.4**				

18 Poverty and inequality

The Asia-Pacific region as a whole has had remarkable success in reducing poverty. In 1990, almost half of the region's people lived in extreme poverty but by 2005 the proportion was down to a quarter. Nevertheless, Asia and the Pacific is still home to 60% of the world's poor.

Between 1990 and 2005, the share of the Asia-Pacific region's population living in extreme poverty – defined as those living on $PPP 1.25 or less a day – fell from 48.8 to 25.3%. In absolute terms, this represented a drop in the number of poor people from 1.6 billion to 1 billion. Even more impressive, this fall took place during a period when the region's population grew significantly – from 3.3 to 4.1 billion. In other words, while the total number of people increased by one-fifth, the number of poor people dropped by one-third. By 2009, on the basis of a trend projection, the number of people living in poverty in the Asia-Pacific region was around 979 million.

The region's achievement also stands out in the global context. In 1990, of the world's 5.3 billion inhabitants, 2.3 billion lived below the international poverty line, representing a poverty rate of 43.1%. At that point, the Asia-Pacific poverty rate was 48.8%. A decade and a half later, of the world's 6.5 billion inhabitants, 1.7 billion were poor, representing a poverty rate of 26.2%. Over the same period, however, Asia and the Pacific had brought its poverty rate below the global average, to 25.3%.

Countries leading the region in reducing poverty over that period include Viet Nam, Pakistan, and China. At the beginning of the 1990s, in these three countries, three in five people lived below the poverty line, but by 2005, that number was down to one in five. Between 1993 and 2006, Viet Nam's poverty rate went down from 63.7 to 21.5%. Between 1991 and 2005, Pakistan's poverty rate went down from 64.7 to 22.6%. Thus, in both Viet Nam and Pakistan, the prevalence of poverty in 2005 or 2006 was about one-third the level at the beginning of the 1990s. The most spectacular result, however, was in China, where the population living below the international poverty line fell between 1990 and 2005 from 60.2 per to 15.9% – reducing the prevalence of poverty by three quarters. Given the size of its population, China's success in drastically reducing poverty has been a key factor in the lowering of overall poverty rates at both regional and global levels.

Progress was also significant, albeit at a slower pace, in a number of other countries where extreme poverty was widespread at the beginning of the 1990s. In Bangladesh, for instance, in 1992, almost two thirds of the population, 66.8%, lived below the international poverty line, but by 2005 that proportion was down to half, 49.6%. In the Philippines, the proportion of population considered to be poor went down from 30.7% in 1991 to 22.6% in 2006.

Several other countries also made progress in reducing extreme poverty, although available data only allow for an assessment over a shorter period. Cambodia and India may have very different population sizes, but over the 10-year period ending in 2005 they had similar experiences, in both the prevalence of poverty and rate of poverty reduction. In 1994, almost half of the population in both Cambodia and India (48.6% and 49.4% respectively) were in poverty. In 2004, that proportion went down to 40.2% for Cambodia and 41.6% for India. Nepal had a higher poverty level, but has seen a somewhat steeper fall: between 1996 and 2004 the rate fell from 68.4 to 55.1%. Progress was even more rapid in another of the region's poorest countries: in 1999, Tajikistan's poverty rate stood at 44.5%, but by 2004 it had more than halved.

Compared with these countries, Armenia and Azerbaijan had considerably lower poverty rates in mid-1990s – 17.5% and 15.6% respectively. By 2003, the rate in Armenia declined to 10.6%. Progress was swifter in Azerbaijan, where the poverty rate by 2005 has dropped to 2.0%.

Quite a number of countries in the region had very low poverty rates in the early 1990s, such as Thailand (5.5% in 1992), Islamic Republic of Iran (3.9% in 1990), Kazakhstan (4.2% in 1993) and the Russian Federation (2.8% in 1993). By around 2005, however, the poverty rates in all these countries had fallen even further.

Other countries in the region, by contrast, suffered reversals – as poverty became more widespread. In 1998, Uzbekistan, for example, had 32.1% of its population in extreme poverty, but by 2003, the rate had climbed to 46.3%. In Mongolia too, the situation deteriorated: the percentage of population living below the international poverty line increased from 18.8% in 1995 to 22.4% in 2005.

It should be pointed out that in 15 out of the 37 countries or territories in Asia, data on poverty rates are unavailable, making it impossible to evaluate the prevalence of extreme poverty. The data situation was even worse for the Pacific subregion, where data are unavailable for almost all the countries.

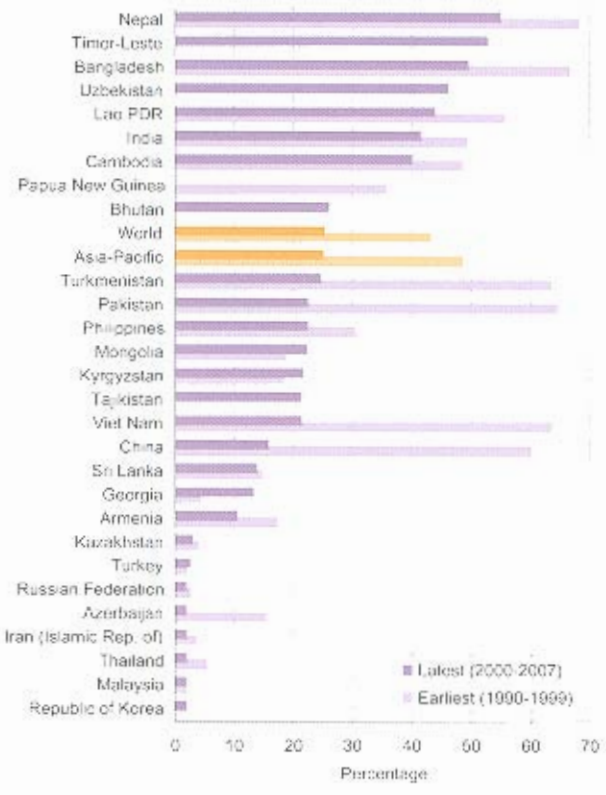
Available data also highlight the challenges that the Asia-Pacific region as a whole faces in fighting poverty. Despite the impressive achievements, in 2005 one out of every four people in the region still lived in extreme poverty. The problems were greatest in the region's least developed countries, where almost every other person – 49.1% – remained in extreme poverty. In absolute terms, over one billion of the region's inhabitants still lived below the international poverty line, accounting for almost 60% of the world's 1.7 billion poor people.

The data presented so far refer to the international poverty line of 1.25 SPPP per day. This is useful for comparing rates across countries. However, for their own policy purposes, most countries have national poverty lines. These have the advantage that they are based on national minimum standards of living and better reflect local circumstances. However, they are not comparable across countries and may not even be comparable over time, so assessments based on national poverty lines are likely to differ from international poverty figures.

Of the 14 countries for which data are available from both the 1990s and the 2000s, 11 reduced the share of their population living below their national poverty line. The exceptions were Sri Lanka, which experienced an increase, and Mongolia and Indonesia, where there was little

Figure 18.1

Percentage of the population living below $1.25 a day, Asia and the Pacific, 1990-2006

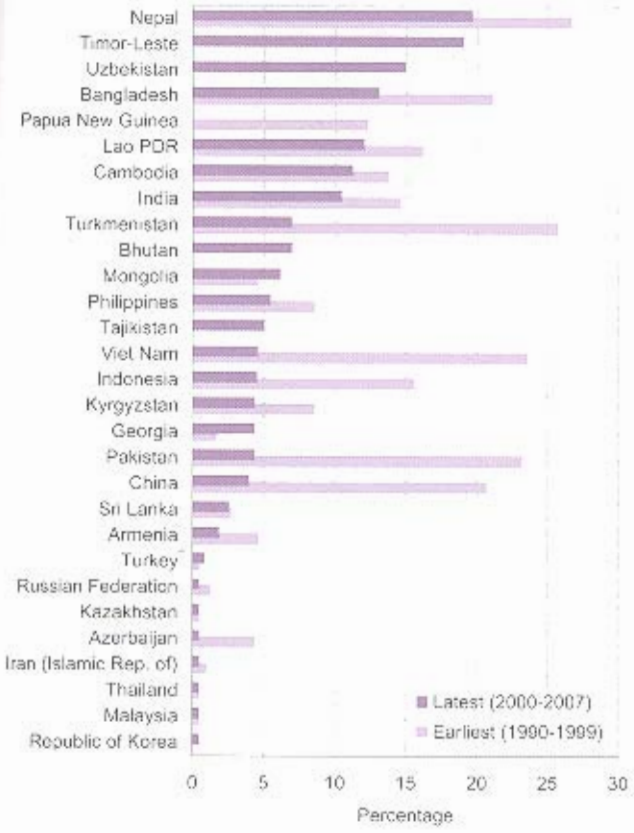


change. This is similar to trends based on the international poverty line, according to which poverty was increasing in Mongolia while it was decreasing only slightly in Sri Lanka. For Indonesia, the national poverty line indicates fewer poor people than the international line, though it suggests that recent reductions have been smaller.

Another important measure is the poverty gap ratio, which measures the extent of extreme poverty, indicating how far the extreme poor fall below the poverty line. Although many observations are several years old and there have been no new data points since the previous *Yearbook*, in most Asian countries the poverty gap appears to have narrowed during the last decade. The highest poverty gap ratios in the region are found in the least developed countries – confirming that the pockets of extreme poverty are concentrated among the poorest and most vulnerable countries. Among the countries that provide data, the highest poverty gap ratios are in Nepal, with 20%, and Timor-Leste with 19%. Ratios are also high in Bangladesh with 13%, Cambodia with 11% and the Lao People's Democratic Republic with 12% – even if these ratios have declined over the past decade. In Central Asia, the highest poverty gap ratio is in

Figure 18.2

Poverty gap ratio, Asia and the Pacific countries, earliest and latest available values for the period 1990-2006



Uzbekistan at 15%. No country in the Pacific has recent data for this indicator.

Extreme poverty is more pronounced in rural areas, as indicated by poverty gap ratios for China, India and Indonesia disaggregated by urban and rural areas. This is especially true in China: since the early 1990s, both urban and rural poverty gaps have declined consistently but, compared with the urban poor, the rural poor fall much further below the poverty line. The urban-rural differences are much less marked in India and Indonesia.

The region has thus seen fairly consistent declines in the extent and depth of poverty. But the trend is less clear for income inequality. This can be assessed by considering the proportion of national

Rural and urban poverty gap ratios and Gini indices of the three largest countries in Asia and the Pacific

Country		Poverty gap ratio		Gini index	
		Rural	Urban	Rural	Urban
China	1990	27	5	31	26
	2005	6	0	36	35
India	1993	14	11	29	34
	2005	11	10	30	38
Indonesia	1990	16	15	26	35
	2005	5	4	30	40

output consumed by the poorest 20%, or "quintile", of the population. This proportion ranges from 10.6% in Japan to 5.7% in China. The poorest tend to receive the smallest share in the middle- and higher-income countries, such as Turkey, the Islamic Republic of Iran, Thailand, Malaysia and Singapore. On the other hand, those in the poorest quintile do better in India, with 8.1%, in Pakistan, with 9.1%, and in Bangladesh, with 9.4%.

A more comprehensive measure of inequality is the Gini index. This gives similar results. On this basis, the greatest inequality is in Papua New Guinea (with data from 1996), Nepal, the Philippines, Turkey and Thailand.

Unlike the situation with poverty, for inequality there is no clear regional trend. Since the early 1990s, inequality seems to have increased in Sri Lanka, Bangladesh, Nepal, Cambodia and Indonesia, but decreased in the Islamic Republic of Iran, Malaysia and Thailand, as well as in the Russian Federation and in most North and Central Asian countries.

In the region's three largest countries the Gini index can be disaggregated for rural and urban areas. In all three, this indicates that inequality has increased in both rural and urban areas. In India and Indonesia, most of the wealthy people are in the cities, so inequality is notably lower in rural than in urban areas. In China, the position is different: inequality in the cities and the countryside is now similar, largely because between 1990 and 2005 there was a notable increase in urban inequality, as the Gini index increased from 26 to 35.

Population living below $1.25 (2005 PPP) a day (percentage)
The poverty rate at $1.25 a day is the proportion of the population living on less than $1.25 a day, measured at 2005 international prices, adjusted for purchasing power parity (PPP). The purchasing power parity conversion factor is the number of units of a country's currency required to buy the same amounts of goods and services in the domestic market as the United States dollar would buy in the United States. **Aggregates:** Calculated by ESCAP (MDG Report) **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 3 September 2009.

Population living below the national poverty line (percentage)
The national poverty rate is the percentage of the total population living below the national poverty line. The figures are not comparable across countries and may not be comparable over time within a country. **Aggregates:** Calculated by ESCAP (MDG Report) **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 3 September 2009

Poverty gap (ratio)
Poverty gap is the mean shortfall of the total population from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. This measure reflects the depth of poverty as well as its incidence. Data reported with a value of 0.5 signify a poverty gap of 0.5 per cent or less. **Aggregates:** World, is from World Bank, Povcal Net (online database, accessed on 12 November 2008). **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 18 September 2009.

Share of poorest quintile in national income or consumption (percentage)
Percentage share of income or consumption is the share that accrues to subgroups of population indicated by quintiles. **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 18 September 2009.

Gini index
The Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of zero represents perfect equality and 100, perfect inequality. **Source:** World Bank, World Development Indicators. Online database accessed on 18 September 2009.

18.1 Poverty

	Population living below $1.25 (2005 PPP) a day				Population living below the national poverty line			
	Percentage				Percentage			
	1990	1996	2002	2005	Earliest		Latest	
East and North-East Asia	**58.0**	**35.2**	**27.4**	**15.4**	**6.4**	**(95)**	**2.9**	**(04)**
China	60.2	36.4	28.4	15.9	6.0	(96)	2.8	(04)
DPR Korea								
Hong Kong, China								
Japan								
Macao, China								
Mongolia		18.8 (95)	15.5	22.4	36.3	(95)	36.1	(02)
Republic of Korea		2.0 (98)						
South-East Asia					**28.0**	**(93)**	**18.9**	**(04)**
Brunei Darussalam								
Cambodia	48.6 (94)			40.2 (04)	47.0	(94)	35.0	(04)
Indonesia					17.5	(96)	16.7	(04)
Lao PDR	55.7 (92)	49.3 (97)	44.0		45.0	(93)	33.0	(03)
Malaysia	2.0 (92)	2.1 (95)		2.0 (04)				
Myanmar								
Philippines	30.7 (91)	28.1 (94)	22.0 (03)	22.6 (06)	32.1	(94)		
Singapore								
Thailand	5.5 (92)	2.0	2.0	2.0 (04)	9.8	(94)	13.6	(98)
Timor-Leste			52.9 (01)					
Viet Nam	63.7 (93)	49.7 (98)	40.1	21.5 (06)			28.9	(02)
South and South-West Asia	**51.3**	**46.0**	**41.8**	**38.4**	**39.9**	**(91)**	**26.6**	**(05)**
Afghanistan								
Bangladesh	66.8 (92)	59.4	57.8 (00)	49.6	51.0	(96)	40.0	(05)
Bhutan				26.2 (03)				
India		49.4 (94)		41.6	36.0	(94)	28.6	(00)
Iran (Islamic Rep. of)	3.9	2.0 (98)		2.0				
Maldives								
Nepal		68.4		55.1 (04)	41.8	(96)	30.9	(04)
Pakistan	64.7 (91)	48.1 (97)	35.9	22.6	28.6	(93)	32.6	(99)
Sri Lanka	15.0 (91)	16.3	14.0		20.0	(91)	22.7	(02)
Turkey		2.1 (94)	2.0	2.7	28.3	(94)	27.0	(02)
North and Central Asia		**9.3**	**9.5**	**9.9**	**35.5**	**(94)**	**21.7**	**(05)**
Armenia		17.5	15.0	10.6 (03)			50.9	(01)
Azerbaijan		15.6 (95)	6.3 (01)	2.0	68.1	(95)	49.6	(01)
Georgia		4.5	15.1	13.4			54.5	(03)
Kazakhstan	4.2 (93)	5.0	5.2	3.1 (03)	34.6	(96)	15.4	(02)
Kyrgyzstar	18.6 (93)	15.5 (99)	34.0	21.8 (04)			43.1	(05)
Russian Federation	2.8 (93)	3.5	2.0	2.0	30.9	(94)	19.6	(02)
Tajikistan		44.5 (99)		21.5 (04)			44.4	(03)
Turkmenistan	63.5 (93)	24.8 (98)						
Uzbekistan		32.1 (98)	42.3	46.3 (03)			27.5	(00)
Pacific								
American Samoa								
Australia								
Cook Islands								
Fiji								
French Polynesia								
Guam								
Kiribati								
Marshall Islands								
Micronesia (F.S.)								
Nauru								
New Caledonia								
New Zealand								
Niue								
Northern Mariana Islands								
Palau								
Papua New Guinea		35.8			37.5	(96)		
Samoa								
Solomon Islands								
Tonga								
Tuvalu								
Vanuatu								
Asia and the Pacific	**48.8**	**36.8**	**31.7**	**25.3**	**26.7**	**(91)**	**16.5**	**(05)**
LLDC		35.1	34.3	33.6	47.9	(93)	28.7	(05)
LDC		59.3	53.2	49.1	53.5	(93)	37.8	(05)
ASEAN					28.0	(93)	18.9	(04)
ECO	26.7	21.9	21.0	15.6	33.1	(93)	32.4	(05)
SAARC		48.2	43.7	40.2	40.4	(91)	26.6	(05)
Central Asia					44.4	(95)	29.9	(05)
Pacific island dev. econ.		35.8			37.5	(96)		
Low income		55.0	48.2	42.1	51.0	(93)	33.3	(05)
Middle income	48.0	35.6	30.5	23.9	24.2	(91)	15.2	(04)
High income								
Africa	**47.3**	**47.5**	**44.8**	**43.8**	**40.5**	**(90)**	**39.9**	**(06)**
Europe								
Latin America and Carib.	**11.7**	**10.8**	**10.2**	**8.7**	**36.2**	**(90)**	**31.1**	**(04)**
North America								
Other countries/areas								
World	**43.1**	**34.8**	**30.9**	**26.2**	**30.9**	**(90)**	**20.9**	**(06)**

18.2 Inequalities

	Poverty gap ratio				Share of poorest quintile in income or consumption, %		Gini index			
	1990	1996	2002	2005	Earliest	Latest	1990	1996	2002	2005
East and North-East Asia										
China	20.7	10.7	8.7	4.0		5.7 (05)				41.5
DPR Korea										
Hong Kong, China					5.3 (96)			43.4		
Japan					10.6 (93)		24.9 (93)			
Macao, China										
Mongolia		4.6 (95)	3.6	6.2	7.4 (95)	7.2 (05)		33.2 (95)	32.8	33.0
Republic of Korea		0.5 (98)				7.9 (98)		31.6 (98)		
South-East Asia										
Brunei Darussalam										
Cambodia	13.8 (94)			11.3 (04)	8.0 (94)	7.1 (07)	38.3 (94)			40.7 (07)
Indonesia	15.6	11.4	6.0	4.6		7.1 (05)				39.4
Lao PDR	16.2 (92)	14.9 (97)	12.1		9.3 (92)	8.5 (03)	30.4 (92)	34.9 (97)	32.6	
Malaysia	0.5 (92)	0.5 (97)		0.5 (04)	4.6 (92)	6.4 (04)	47.7 (92)	49.2 (97)		37.91 (04)
Myanmar										
Philippines	8.6 (91)	5.3 (97)	5.5 (03)	5.5 (06)	5.9 (91)	5.6 (06)	43.8 (91)	46.2 (97)	44.48 (03)	44.04 (06)
Singapore						5.0 (98)		42.5 (98)		
Thailand	0.5 (92)	0.5	0.5	0.5 (04)	5.6 (92)	6.1 (04)	46.2 (92)	43.4	42.0	42.5 (04)
Timor-Leste			19.1 (01)			6.7 (01)			39.5 (01)	
Viet Nam	23.6 (92)	15.1 (98)	11.2	4.6 (06)	7.8 (93)	7.1 (06)	35.7 (93)	35.5 (99)	37.6	37.6 (08)
South and South-West Asia										
Afghanistan										
Bangladesh	21.1 (91)	17.9	17.3 (00)	13.1	10.0 (92)	9.4 (05)	26.2 (92)	30.6	30.7 (00)	31.0
Bhutan				7 (03)		5.4 (03)			46.6 (03)	
India	14.6	12.4	11.4	10.5		8.1 (05)				36.8
Iran (Islamic Rep. of)	1.0	0.5 (98)		0.5	5.2 (90)	6.4 (05)	43.6	44.1 (98)		38.3
Maldives										
Nepal		26.7		19.7 (04)	7.6 (96)	6.1 (04)		37.7		47.3 (04)
Pakistan	23.2	11.7	7.9	4.4	8.1 (91)	9.1 (05)	33.2 (91)	28.7 (97)	30.4	31.2
Sri Lanka	2.7	3.0	2.6		8.7 (91)	6.8 (02)	32.5 (91)	35.4	41.1	
Turkey	0.5 (94)		0.5	0.9	5.8 (94)	5.2 (05)	41.5 (94)		42.7	43.2
North and Central Asia										
Armenia		4.7	3.1	1.9 (03)	5.4 (95)	8.6 (03)		44.4	35.7	33.8 (03)
Azerbaijan		4.4 (95)	1.1 (01)	0.5	6.9 (95)	13.3 (05)		35.0 (95)	36.5 (01)	
Georgia		1.7	4.7	4.4	6.1 (98)	5.4 (05)		37.1	40.3	40.8
Kazakhstan	0.5 (93)	0.9	0.9	0.5 (03)	7.5 (93)	7.4 (03)	32.7 (93)	35.3	35.0	33.9 (03)
Kyrgyzstan	8.6 (93)	9.0 (98)	8.8	4.4 (04)	2.5 (93)	8.1 (04)	53.7 (93)	36.0 (98)	31.7	32.9 (04)
Russian Federation	1.3 (93)	1.8	0.5	0.5	4.4 (93)	6.4 (05)	48.3 (93)	46.2	35.7	37.5
Tajikistan		13.7 (99)	5.1 (04)			7.7 (04)		31.5 (99)	32.6 (03)	33.6 (04)
Turkmenistan	25.8 (93)	7.0 (98)			6.9 (93)	6.0 (98)	35.4 (93)	40.8 (98)		
Uzbekistan		13.9 (98)	12.4	15.0 (03)		7.1 (03)		45.4 (98)	34.6	
Pacific										
American Samoa										
Australia					5.9 (94)		35.2 (94)			
Cook Islands										
Fiji										
French Polynesia										
Guam										
Kiribati										
Marshall Islands										
Micronesia (F.S.)										
Nauru										
New Caledonia										
New Zealand								36.2 (97)		
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea		12.3			4.5 (96)			50.9		
Samoa										
Solomon Islands										
Tonga										
Tuvalu										
Vanuatu										
Asia and the Pacific										
LLDC										
LDC										
ASEAN										
ECO										
SAARC										
Central Asia										
Pacific island dev. econ.										
Low income										
Middle income										
High income										
Africa										
Europe										
Latin America and Carib.										
North America										
Other countries/areas										
World	14.2	10.8	9.4	7.3						

19 Information and communications technology

Information and communications technology (ICT) is playing a vital role in advancing economic growth and improving inclusive development. Rapid expansion of mobile networks among developing countries provided millions of people with communication means. ICT applications have penetrated to an increasing number of socio-economic sectors which enabled the globalization processes. Thus, it is important for countries to collect and analyse ICT data in a time manner to facilitate evidence-based policymaking that takes advantage of new opportunities presented by the emerging technologies.

Access to ICT was a central theme in the World Summit of Information Society (WSIS). Although it has been 6 years since the WSIS Geneva Declaration was adopted, the achievement towards its goals and targets has not been as balanced as one expected. One of the targets is to ensure more than half the people in the world have access to ICT by 2015.

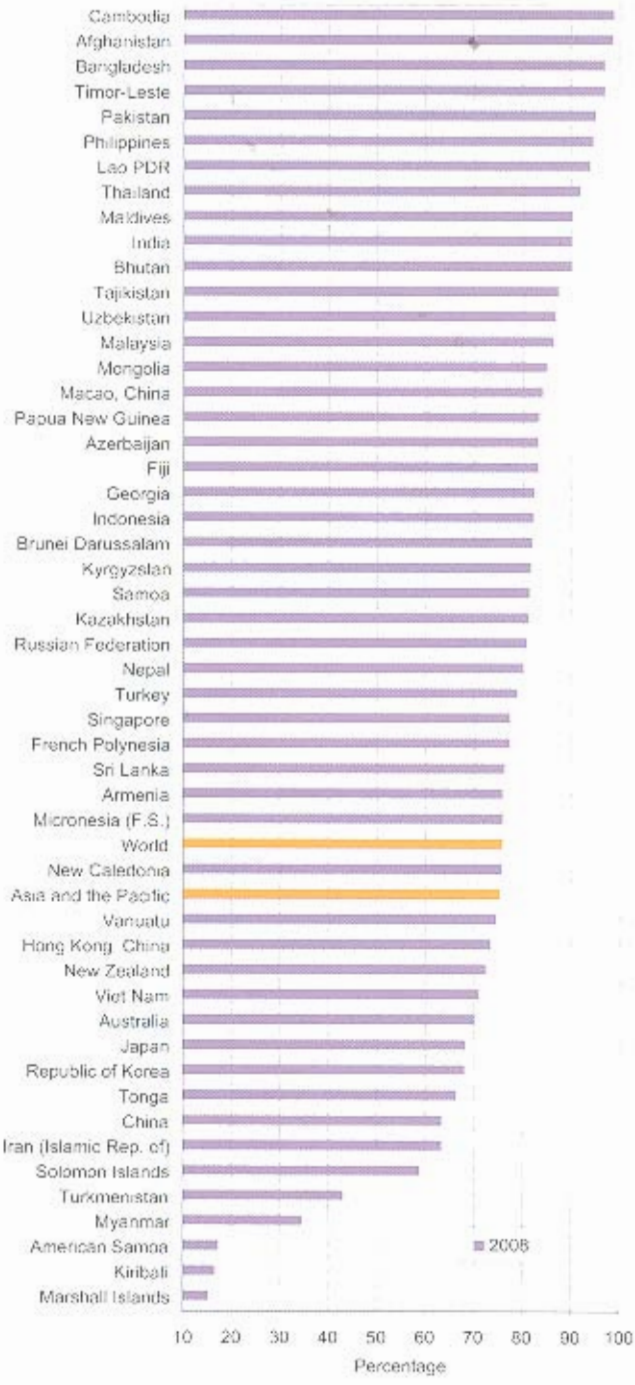
Telephones

During the past decade, the Asia-Pacific region has experienced tremendous growth, in the area of ICT, including related infrastructure and services. Access to mobile and fixed telephone lines and Internet has expanded rapidly in major cities in most of the countries. Fiber optic cables have been installed to bring the benefits and services of latest broadband technology, Where fixed line technology is not available, wireless technology, including satellite communication, facilitates the connectivity. However, despite rapid growth in mobile and broadband networks in some developing countries, the rural-urban digital divide as well as disparities between sub-regions remain a major development challenge in Asia and the Pacific.

Despite the triple threats of fuel price increase, food security and financial crisis in addition to climate change and natural disasters, the region has

Figure 19.1

Mobile cellular subscriptions as share of total telephone lines, Asia and the Pacific, 2008



demonstrated notable resilience in ICT development since the previous *Yearbook* was published. According to the latest ITU figures included in the "The World in 2009" it is predicted that there will be 4.6 billion mobile subscriptions by the end of 2009, while mobile broadband subscriptions are expected to top 600 million worldwide. At the end of 2008, in Asia and the Pacific, there were about 676 million (1.3 billion worldwide) fixed telephone lines and 2.1 billion (4.0 billion worldwide) mobile cellular subscriptions. The proportion of mobile cellular subscriptions in Asia and the Pacific increased from about 32.9% of the world total in 2000 to more than 47.0% in 2006 – and 51.6% in 2008.

Out of 58 Asian and the Pacific economies monitored by the *Yearbook*, 21 showed negative growth regarding fixed-telephone subscription per 100 population between 2003 and 2008. The Pacific countries (including Australia and New Zealand) have the highest dependence on fixed-telephone subscription, with 33.3 per 100 population in 2008. Huge distances and small populations make connectivity a persistent challenge in the Pacific, and unavailability of affordable satellite services adds up another dimension to the connectivity challenge.

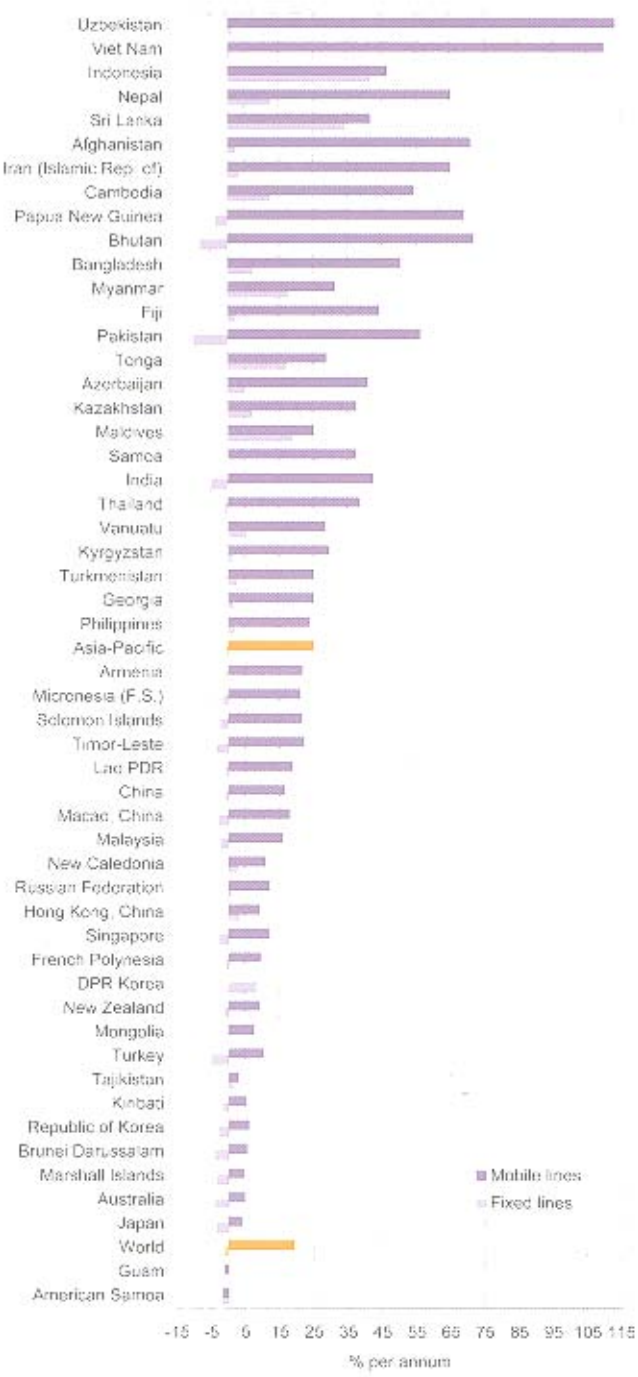
Many developing countries increased the number of fixed-line telephones, but at a much slower pace than previous years. In the high-income economies, the growth in mobile penetration is clearly slowing down. Many industrialized countries have reached near saturation in mobile penetration and the growth in subscribers is much more modest: Australia, Japan, and the Republic of Korea, recorded just 6-8% annual growth rates between 2003 and 2008.

In developing countries, the number of mobile subscribers has exploded with a number of countries more than doubling the number of subscribers each year between 2003 and 2008. Many of them are least developed or landlocked countries. The growth indicates the existence of underlying demand for communication means and unavailability of other means, such as fixed telephone lines. It is also the low starting level that has made the exponential growth possible on statistics. In spite of the high growth rates, the density of mobile phones remains low, for instance in Nepal (11.3 per 100 population) and Turkmenistan (6.9).

Statistically, there was in 2008 a mobile phone for every two persons in Asian and Pacific. For

Figure 19.2

Growth rates of fixed telephone lines and mobile cellular subscribers, 2006-2008



North and Central Asia, there are 106 subscribers per 100 population. On the other hand, the 2008 data among Pacific island developing economies (PIDE) showed lower numbers (16.8) of mobile owners. However, some caution is needed in interpreting the figures as one person may have multiple SIM cards and they include anonymous pre-paid subscribers.

Today mobile phones are much more important means of communication than fixed telephones. The average 2008 mobile share among the total telephone lines are higher in least

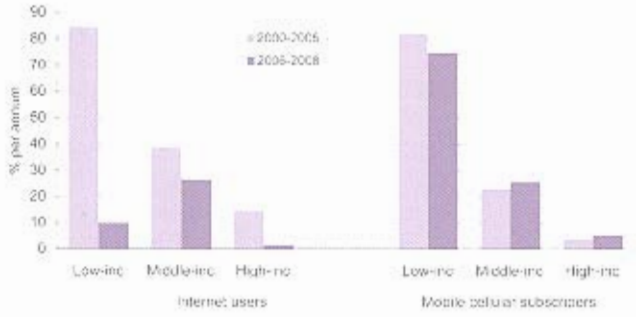
developed countries (95.1%), landlocked developing countries (84.9%) and Pacific island developing economies, (76.9%) than in the region's developed countries.

Internet

The number of Internet users, in Asia and the Pacific more than quadrupled between 2001 and 2008. In the region, the number of Internet users jumped from 160 million (4.2 per 100 population) to 712 million (17.4 per 100 population). East and North-East Asia continues leading the region and China has the world's highest number of Internet users. The Islamic Republic of Iran has shown an unprecedented increase in internet usage since the last survey, followed by Maldives.

Figure 19.3

Growth rates of Internet users and mobile cellular subscribers, 2000-2005 and 2006-2008



When the Republic of Korea had 77.8 Internet users per 100 population in 2008, Japan 69.2, Singapore 67.2 and Malaysia 62.6, not even one out of 100 persons in Bangladesh, Cambodia, Myanmar and Timor-Leste subscribed to the Internet. While the figures might not include occasional access at Internet cafes or other public access points, the digital divide in access to Internet remains stark.

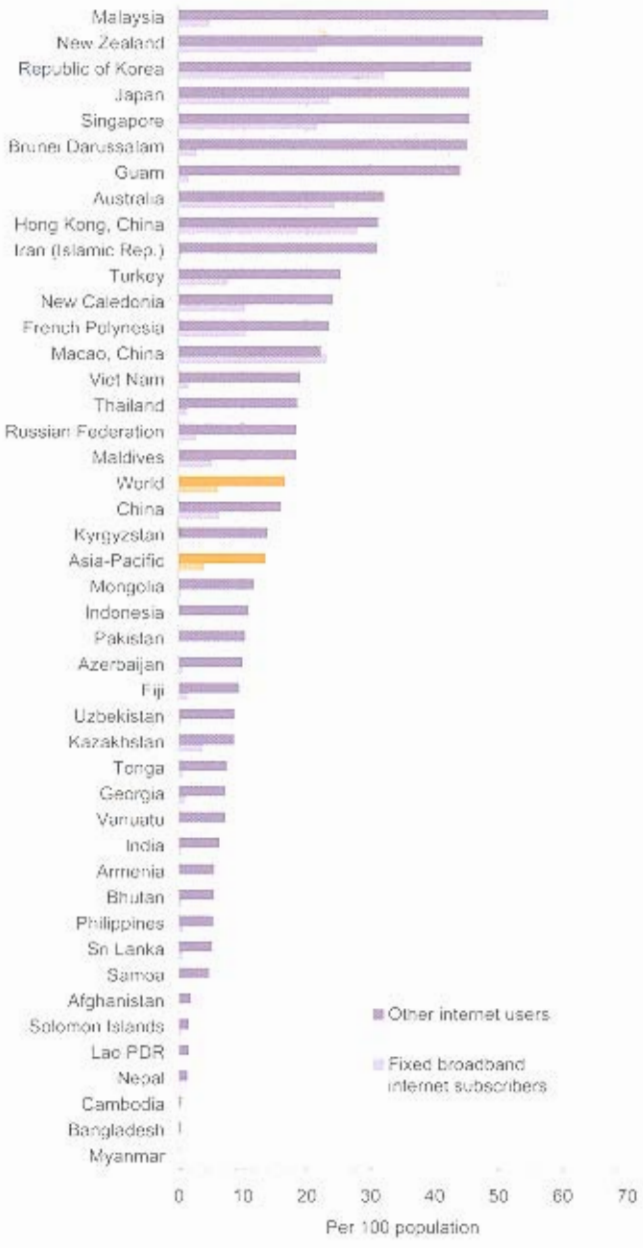
The highest subregional rate is found in the Pacific (including Australia and New Zealand), but the data indicates negative growth between 2003 and 2008 (-0.4%). The Internet penetration is the lowest in South and South-West Asia with 8.6 users per 100 population, but that rate is changing at a high annual rate, 27.8% between 2003 and 2008. The figure for least developed countries is particularly low at 0.6, but as in case of mobile phones, they have high Internet growth rates.

In terms of broadband subscribers, the Republic of Korea, through ambitious policies and support for broadband infrastructure investments, now has one of the world's highest rates of broadband subscribers – well above that of many other economies with higher per capita incomes.

Globally, the mode of access to information has been changing from copper cable based dial up telephone lines to new generation of mobile and fiber-to-the-home, which allow people to access information through the Internet, and to use more bandwidth intensive applications, such as video streaming. In fact, 11 of 13 least developed countries do not share the updated data of fixed broadband Internet subscriptions, but deployment of broadband Internet seems to have increased rapidly among some developing countries between 2003 and 2008.

Figure 19.4

Fixed-line broadband subscribers and other internet users, 2008



The proportion of broadband internet subscribers in the region is still low with the 2008 Asia and the Pacific average being 3.9 per 100 population. The highest average is the Pacific (including Australia and New Zealand) with 22.0, although data from 11 out of 21 countries in the Pacific have not been provided. South and South-West Asia indicates the highest annual growth rate between 2003 and 2008, 27.8%, but the absolute value of broadband users is very low, 0.67, which means that only 6.7 out of 1,000 people have access to broadband. Least developed countries and landlocked developing countries show still very slow broadband growth. The least developed countries average in 2008 indicates that only 2 out of 10,000 people have broadband access.

Some newly developed satellite-based broadband and mobile services can technically provide bandwidth and mobile calling at the cost comparable to ground-based connectivity for Pacific islands States and geographically difficult and under-serviced areas. Such services may provide leap-frog opportunities that skip conventional development modes in ICT infrastructure, service and applications, and may support extension of cellular mobile services.

Although there are some initiatives to connect population centres of Pacific islands developing economies through optical fibres, satellite based connectivity will remain the only means for most islands with small populations. Such satellite services are usually operated by commercial operators who cooperate with local providers in the delivery of services to end-user. There is a need for Pacific islands developing economies to improve the availability and quality of statistical data on ICT development.

In many countries in the region, statistics on the actual use and impact of personal computers and the Internet are practically non-existent. Also, existing data is not always international comparable. Because it will become increasingly important to gather reliable data, the international statistical community has recently revised and expanded the list of recommended ICT indicators and definitions.

Number of fixed telephone mainlines (per 100 population; % per annum)
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:** Calculated by ESCAP using total population as weight. Missing data have been imputed. **Source:** Calculated by ESCAP using data from International Telecommunication Union, ICT Statistics Database. Online database accessed on 2 July 2009 and World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Number of mobile cellular subscriptions (per 100 population; % per annum)
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:** Calculated by ESCAP using total population as weight. Missing data have been imputed. **Source:** Calculated by ESCAP using data from International Telecommunication Union, ICT Statistics Database. Online database accessed on 2 July 2009 and World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Mobile cellular subscriptions as share of total fixed telephone lines (Percentage; % per annum)
The proportion of mobile phones of all telephones. **Aggregates:** Calculated by ESCAP using total population as weight. Missing data have been imputed. **Source:** Calculated by ESCAP using data from International Telecommunication Union, ICT Statistics Database. Online database accessed on 2 July 2009 and World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Number of internet users (per 100 population; % per annum)
The total number of internet users via fixed and mobile networks irrespective of the device used, expressed per 100 population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** Calculated by ESCAP using data from International Telecommunication Union, ICT Statistics Database. Online database accessed on 2 July 2009 and World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

Fixed broadband internet subscribers (per 100 population; % per annum)
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:** Calculated by ESCAP using total population as weight. **Source:** Calculated by ESCAP using data from International Telecommunication Union, ICT Statistics Database. Online database accessed on 2 July 2009 and World Population Prospects: The 2008 Revision Population Database. Online database accessed on 28 April 2009.

19.1 Fixed and mobile phones

	Number of fixed telephone mainlines				Number of mobile cellular subscriptions				Mobile cellular subscriptions as share of total fixed telephone lines			
	Per 100 population			% per annum	Per 100 population			% per annum	Percentage			% per annum
	1998	2003	2008	03-08	1998	2003	2008	03-08	1998	2003	2008	03-08
East and North-East Asia	**12.0**	**23.5**	**28.7**	**-1.3**	**6.2**	**26.9**	**52.7**	**13.8**	**33.6**	**53.0**	**64.4**	**5.7**
China	7.0	20.3	27.3	-0.9	1.9	20.6	47.4	16.5	21.4	50.7	63.4	6.8
DPR Korea	2.2	4.2	5.0	8.2								
Hong Kong, China	57.3	55.9	56.8	3.0	48.8	107.8	162.9	9.2	46.0	65.9	73.5	1.6
Japan	49.4	47.3	40.2	-3.6	37.5	68.1	86.7	4.3	43.1	59.0	68.3	2.6
Macao, China	40.6	37.5	33.4	-2.7	19.2	78.1	177.2	18.0	32.1	67.6	84.1	3.7
Mongolia	4.4	5.6	6.1	-0.3	0.4	12.8	34.7	7.5	8.0	69.8	85.0	1.2
Republic of Korea	43.9	53.3	44.3	-2.9	30.6	71.2	94.7	6.1	41.1	57.2	68.1	3.0
South-East Asia	**4.3**	**5.5**	**13.4**	**11.9**	**1.7**	**15.0**	**69.1**	**42.7**	**28.3**	**73.4**	**83.8**	**5.0**
Brunei Darussalam	24.4	23.0	19.5	-4.1	15.4	49.9	88.9	5.5	38.7	68.4	82.0	1.9
Cambodia	0.2	0.2	0.3	12.1	0.5	3.7	29.1	54.3	71.6	94.1	96.9	0.5
Indonesia	2.8	3.8	13.4	41.5	0.5	6.7	61.8	45.7	16.1	69.7	82.2	0.7
Lao PDR	0.6	1.2	1.5	-0.4	0.1	2.0	23.8	18.8	18.6	61.7	94.0	1.3
Malaysia	19.7	18.5	15.9	-2.3	9.9	45.0	100.4	16.0	33.4	70.9	86.3	2.8
Myanmar	0.5	0.8	1.4	17.6	0.0	0.1	0.8	31.3	3.6	15.5	34.6	7.8
Philippines	3.3	4.1	4.3	1.8	2.3	27.3	75.4	23.8	41.0	87.1	94.6	1.3
Singapore	46.4	45.5	40.2	-2.7	28.6	86.1	138.1	12.2	38.1	65.4	77.4	3.6
Thailand	8.2	10.3	10.4	-1.0	3.2	33.8	117.3	38.4	28.2	76.7	91.8	3.8
Timor-Leste		0.2	0.2	-3.2		2.2	7.1	22.1		91.0	97.0	0.9
Viet Nam	2.3	5.4	32.8	0.7	0.3	3.3	80.4	110.0	11.3	38.4	71.0	40.4
South and South-West Asia	**3.4**	**5.1**	**5.2**	**-2.0**	**0.4**	**4.4**	**35.1**	**41.2**	**10.0**	**46.1**	**87.1**	**6.7**
Afghanistan	0.1	0.2	0.4	2.4		0.9	29.0	71.0		84.5	98.7	1.1
Bangladesh	0.3	0.5	0.8	7.3	0.1	0.9	27.9	50.6	15.4	64.8	97.1	1.4
Bhutan	2.0	3.9	4.0	-8.1		0.4	36.5	71.9		88	90.1	11.7
India	2.1	3.8	3.2	-5.0	0.1	3.1	29.4	42.5	5.2	44.5	90.2	6.0
Iran (Islamic Rep. of)	11.3	22.2	33.8	3.5	0.6	5.0	58.7	65.2	5.0	18.4	63.4	25.2
Maldives	7.6	10.6	15.4	19.0	0.6	23.4	142.8	25.0	7.4	68.8	90.3	0.5
Nepal	0.9	1.4	2.8	12.6		0.3	11.3	65.0		18.1	80.2	10.7
Pakistan	1.9	2.6	2.5	-10.2	0.1	1.5	49.7	56.3	6.9	37.3	95.2	4.7
Sri Lanka	2.8	4.9	17.2	34.0	0.9	7.3	55.2	41.8	25.0	59.7	76.3	1.4
Turkey	26.1	27.3	23.7	-4.8	5.4	40.2	89.1	10.4	17.3	59.6	79.0	3.6
North and Central Asia	**16.2**	**19.9**	**24.5**	**1.0**	**0.4**	**18.3**	**106.2**	**16.2**	**2.6**	**48.0**	**81.3**	**3.0**
Armenia	17.9	18.4	19.3	-0.1	0.3	3.7	61.0	21.9	1.4	16.9	75.9	5.7
Azerbaijan	8.5	11.3	15.1	4.7	0.8	12.7	75.0	40.8	8.7	52.9	83.2	6.6
Georgia	12.9	14.6	12.9	1.5	1.2	15.6	60.4	25.0	8.7	51.6	82.4	4.5
Kazakhstan	11.6	14.9	22.0	7.1	0.2	8.9	96.1	37.5	1.6	37.4	81.4	5.8
Kyrgyzstan	7.7	7.7	8.9	1.2	0.0	2.7	40.1	29.5	0.4	25.9	81.8	5.6
Russian Federation [2]	19.8	25.0	31.3	0.7	0.5	25.0	132.6	12.0	2.5	50.0	80.9	2.2
Tajikistan	3.7	3.8	5.0	1.5	0.0	0.7	34.4	2.9	0.2	16.3	87.4	0.2
Turkmenistan	8.1	8.0	9.1	2.6	0.1	0.2	6.9	24.9	0.8	2.4	43.2	12.9
Uzbekistan	6.4	6.7	7.1	1.0	0.1	1.2	46.5	113.3	1.7	15.7	85.8	20.7
Pacific	**38.8**	**39.0**	**33.3**	**-3.6**	**19.2**	**53.4**	**81.3**	**6.2**	**32.9**	**57.8**	**71.0**	**3.1**
American Samoa	18.3	17.6	15.7	-1.8	2.7	3.5	3.3	-1.8	12.8	16.4	17.5	0.0
Australia	50.9	52.6	44.5	-3.9	26.3	72.1	105.0	4.7	34.0	57.8	70.2	2.8
Cook Islands	29.5	35.8			1.6	18.4			5.1	34.0		
Fiji	9.7	12.5	14.4	2.3	1.0	13.4	71.1	44.2	9.4	51.9	83.1	8.0
French Polynesia	23.3	21.6	20.5	-0.4	4.9	24.3	70.4	9.6	17.3	52.9	77.4	2.3
Guam	49.7	40.2			8.5	48.9	55.8	-1.3	14.6	54.9		
Kiribati	3.5	5.0	4.1	-1.6		0.6	0.8	5.2		10.2	16.7	5.8
Marshall Islands	7.2	8.3	7.3	-3.3	0.6	1.1	1.3	4.5	7.5	11.8	15.4	6.9
Micronesia (F.S.)	8.5	10.2	7.9	-1.4		5.4	24.8	21.0		34.7	75.9	5.9
Nauru	16.9				8.5				33.3			
New Caledonia	23.9	22.8	25.6	2.8	6.3	42.7	79.8	10.8	20.9	65.2	75.7	2.0
New Zealand	47.6	44.8	41.4	-1.2	20.8	64.8	109.2	9.2	30.4	59.1	72.5	3.0
Niue	42.3	60.4				34.5				36.4		
Northern Mariana Islands	31.9				1.9	24.5	24	-2.0	5.5			
Palau												
Papua New Guinea	1.1	1.1	0.9	-3.6	0.1	0.3	4.6	69.1	9.0	21.8	83.3	16.0
Samoa	4.9	7.4	10.9	0.0	0.9	5.9	48.1	37.5	15.0	44.1	81.5	7.9
Solomon Islands	2.0	1.4	1.5	-2.5	0.2	0.2	2.1	21.7	8.1	15.1	58.9	10.9
Tonga	8.7	11.9	24.6	17.1	0.1	11.1	46.8	28.9	1.2	48.3	66.4	3.5
Tuvalu												
Vanuatu	2.9	3.2	3.8	5.6	0.1	3.8	11.1	28.3	3.7	54.5	74.7	5.9
Asia and the Pacific	**8.0**	**13.4**	**16.4**	**-0.3**	**3.0**	**15.7**	**50.6**	**25.1**	**27.2**	**53.8**	**75.4**	**6.8**
LLDC	5.0	5.6	7.1	3.7		3.0	39.8	47.8	2.5	34.4	84.9	7.5
LDC	0.4	0.6	1.1	10.1	0.1	0.9	21.7	52.3	13.6	58.9	95.1	2.2
ASEAN	4.3	5.5	13.4	11.9	1.7	15.1	69.2	42.7	28.3	73.4	83.8	5.0
ECO	9.0	11.5	13.0	-1.0	1.3	9.6	58.0	38.7	11.7	45.4	81.7	8.5
SAARC	1.9	3.3	3.0	-3.2	0.1	2.7	31.5	45.8	6.1	44.9	91.3	5.4
Central Asia	8.7	9.8	11.9	3.6	0.3	5.1	57.1	44.9	3.1	34.3	82.7	7.9
Pacific island dev. econ.	5.1	5.0	5.1	0.0	0.8	5.0	16.8	26.6	12.6	49.6	76.9	7.3
Low income	1.4	2.3	8.1	1.4	0.1	1.5	36.1	74.8	7.1	37.3	80.7	17.5
Middle income	6.1	12.4	15.9	0.2	1.2	13.8	49.6	25.6	16.6	52.6	75.8	6.7
High income	48.4	49.2	42.1	-3.1	34.6	70.6	94.5	5.4	41.7	58.9	69.2	2.8
Africa	**2.1**	**2.8**	**3.2**	**2.2**	**0.6**	**6.1**	**37.0**	**31.2**	**20.1**	**68.2**	**92.0**	**2.6**
Europe	**43.7**	**46.4**	**43.5**	**-2.3**	**17.6**	**70.8**	**119.4**	**7.7**	**28.7**	**60.4**	**73.3**	**2.8**
Latin America and Carib.	**11.8**	**17.0**	**18.3**	**1.6**	**4.2**	**23.4**	**80.0**	**20.9**	**26.3**	**58.0**	**81.4**	**3.8**
North America	**64.0**	**61.9**	**51.2**	**-3.4**	**24.0**	**52.9**	**84.6**	**4.8**	**27.2**	**46.1**	**62.3**	**3.3**
Other countries/areas	**10.7**	**12.7**	**13.0**	**-1.2**		**21.1**	**71.9**	**19.7**	**29.4**	**63.7**	**79.3**	**3.9**
World	**13.9**	**17.7**	**18.7**	**-1.2**	**5.5**	**22.0**	**59.3**	**19.3**	**27.5**	**55.5**	**75.9**	**5.4**

19.2 Internet

	Number of Internet users						Number of fixed broadband internet subscribers					
	Per 100 population					% per annum	Per 100 population					% per annum
	2000	2005	2006	2007	2008	06-08	2000	2005	2006	2007	2008	06-08
East and North-East Asia	**5.6**	**15.8**	**17.7**	**22.6**	**28.1**	**26.0**	**0.4**	**5.0**	**6.2**	**7.4**	**8.6**	**17.9**
China	1.8	8.5	10.5	16.0	22.3	45.5	0.0	2.8	3.9	5.0	6.2	27.2
DPR Korea												
Hong Kong, China	27.8	51.2	54.5	57.0	59.1	4.1	6.7	24.1	26.0	27.3	27.9	3.6
Japan	30.0	66.9	68.7	69.2	69.2	0.4	0.7	18.3	20.7	22.2	23.7	6.8
Macao, China	13.6	34.9	43.3	46.4	45.2	2.2	0.8	13.9	18.4	21.5	23.1	11.8
Mongolia	1.3	10.5	12.0	12.3	12.1	0.4		0.1	0.1	0.3	0.3	43.7
Republic of Korea	41.0	73.2	75.1	76.7	77.8	1.8	8.3	25.6	29.4	30.7	32.1	4.6
South-East Asia	**2.4**	**8.8**	**12.0**	**14.1**	**14.2**	**8.8**	**0.0**	**0.3**	**0.5**	**0.9**	**0.9**	**40.6**
Brunei Darussalam	9.0	36.5	42.2	46.8	47.9	6.6		2.2	2.4	2.9	2.9	9.4
Cambodia	0.0	0.3	0.5	0.5	0.5	1.3		0.0	0.0	0.1	0.1	30.1
Indonesia	0.9	3.6	9.0	11.1	11.0	10.5	0.0	0.0	0.1	0.1	0.1	21.6
Lao PDR	0.1	0.9	1.2	1.6	1.6	17.4		0.0	0.0	0.1	0.1	122.7
Malaysia	21.4	45.6	51.6	55.7	62.6	10.1		1.9	2.8	3.8	4.8	30.1
Myanmar	0.0	0.1	0.1	0.1	0.1	6.0		0.0	0.0	0.0	0.0	35.8
Philippines	2.0	5.4	5.7	6.0	5.9	1.1		0.1	0.3	0.6	0.5	34.4
Singapore	32.4	61.8	59.8	69.2	67.3	6.1	1.7	15.4	18.1	20.0	21.7	9.7
Thailand	3.7	15.0	17.2	20.0	19.9	7.7		0.2	0.2	1.4	1.4	192.9
Timor-Leste		0.1	0.1	0.1	0.1	8.2						
Viet Nam	0.3	12.7	17.3	20.8	20.5	9.1		0.2	0.6	1.5	1.5	56.4
South and South-West Asia	**0.6**	**4.6**	**6.7**	**7.9**	**8.6**	**12.8**	**0.0**	**0.2**	**0.3**	**0.5**	**0.7**	**47.1**
Afghanistan		1.2	2.1	1.9	1.8	-6.6		0.0	0.0	0.0	0.0	-3.4
Bangladesh	0.1	0.2	0.3	0.3	0.3	3.9				0.0	0.0	
Bhutan	0.4	3.8	4.5	5.9	5.8	13.5					0.3	
India	0.5	3.7	6.6	7.0	6.9	1.8		0.1	0.2	0.3	0.4	49.3
Iran (Islamic Rep. of)	0.9	17.4	15.4	17.9	31.4	42.9	0.0	0.0	0.1	0.3	0.4	71.2
Maldives	2.2	6.9	11.0	16.5	23.5	46.0		1.1	2.1	3.5	5.1	55.6
Nepal	0.2	0.8	1.1	1.4	1.4	10.0				0.0	0.0	
Pakistan	0.1	6.3	7.1	10.1	10.5	21.5			0.0	0.0	0.1	146.0
Sri Lanka	0.6	1.5	2.5	3.9	5.7	50.2		0.1	0.1	0.3	0.5	107.3
Turkey	3.8	14.4	18.2	29.0	33.1	34.8		2.2	3.8	6.5	7.8	42.2
North and Central Asia	**1.5**	**11.5**	**14.2**	**16.9**	**17.0**	**9.5**	**0.0**	**0.8**	**1.4**	**2.1**	**2.3**	**26.3**
Armenia	1.3	5.3	5.6	5.6	5.5	-0.1		0.1	0.1	0.1	0.1	-0.1
Azerbaijan	0.1	8.0	9.7	10.7	10.6	4.5		0.0	0.0	0.2	0.7	283.0
Georgia	0.5	6.1	7.5	8.3	8.4	5.4		0.1	0.6	1.1	1.1	33.1
Kazakhstan	0.7	4.0	8.4	12.3	12.2	20.5		0.0	0.2	1.8	3.6	327.1
Kyrgyzstan	1.0	10.5	12.3	14.0	13.9	6.1		0.0	0.1	0.1	0.1	0.5
Russian Federation	2.0	15.2	18.0	21.1	21.2	8.5		1.1	2.0	2.8	2.8	17.9
Tajikistan	0.0	0.3	0.3	7.2	7.1	390.6						
Turkmenistan	0.1	1.0	1.3	1.4	1.4	2.6						
Uzbekistan	0.5	3.3	6.9	7.5	8.9	13.5		0.0	0.0	0.1	0.2	174.1
Pacific	**35.3**	**47.0**	**41.0**	**42.7**	**44.2**	**3.9**	**0.0**	**8.8**	**16.2**	**20.8**	**22.0**	**16.5**
American Samoa												
Australia	46.8	62.3	51.4	53.7	56.5	4.8		9.9	18.9	23.2	24.4	13.6
Cook Islands	15.7	26.2	25.9									
Fiji	1.5	8.5	9.6	10.9	10.8	6.2		0.8	1.0	1.4	1.4	15.6
French Polynesia	6.4	21.5	25.1	28.6	33.9	16.1		4.3	7.0	8.9	10.4	21.8
Guam	16.1	38.6	43.9	46.2	45.6	1.9		1.1		1.6	1.5	
Kiribati	1.8	2.2	2.1	2.1	2.1	-1.6						
Marshall Islands	1.5	3.9	3.8	3.7	3.6	-2.2						
Micronesia (F.S.)	3.7	11.9	12.8	13.6	13.6	3.2						
Nauru												
New Caledonia	13.9	32.4	33.5	35.0	34.5	1.5		4.1	6.5	8.4	10.4	25.9
New Zealand	47.4	62.7	67.5	69.8	69.1	1.2	0.1	7.8	11.3	20.3	21.6	38.2
Niue	26.5	51.7										
Northern Mariana Islands												
Palau												
Papua New Guinea	0.8	1.7	1.8	1.8	1.7	-0.2						
Samoa	0.6	3.4	4.5	4.7	4.8	3.1		0.1	0.1	0.1	0.1	0.0
Solomon Islands	0.5	0.8	1.6	1.8	1.8	3.5		0.1	0.1	0.2	0.2	25.9
Tonga	2.4	2.9	3.0	8.2	8.1	63.8		0.6	0.6	0.8	0.7	7.5
Tuvalu												
Vanuatu	2.1	5.1	5.9	7.5	7.3	11.5		0.0	0.0	0.0	0.0	-2.5
Asia and the Pacific	**3.1**	**10.1**	**12.3**	**15.0**	**17.4**	**19.0**	**0.1**	**2.1**	**2.7**	**3.3**	**3.9**	**19.8**
LLDC	0.4	2.9	4.5	5.7	5.9	12.9	0.0	0.0	0.0	0.3	0.5	263.3
LDC	0.1	0.4	0.6	0.6	0.6	4.2	0.0	0.0	0.0	0.0	0.0	145.7
ASEAN	2.4	5.8	12.0	14.1	14.3	8.8	0.0	0.3	0.5	0.9	0.9	40.6
ECO	1.0	9.1	10.2	14.1	17.4	30.6	0.0	0.4	0.7	1.3	1.7	50.5
SAARC	0.4	3.5	5.6	6.4	6.4	5.0	0.0	0.1	0.2	0.2	0.4	52.1
Central Asia	0.5	4.3	6.9	8.9	9.3	15.7	0.0	0.0	0.1	0.6	1.2	212.2
Pacific island dev. econ.	1.8	4.7	5.1	5.5	5.6	4.0						
Low income	0.2	3.3	4.7	5.6	5.6	9.7	0.0	0.1	0.1	0.3	0.4	61.2
Middle income	1.4	7.3	9.7	12.8	15.6	26.6	0.0	1.3	1.8	2.4	3.0	29.1
High income	34.2	66.9	67.6	68.8	69.3	1.3	2.5	19.0	22.4	24.2	25.6	7.0
Africa	**0.5**	**3.6**	**4.9**	**5.5**	**6.6**	**17.0**	**0.0**	**0.1**	**0.2**	**0.2**	**0.3**	**32.1**
Europe	**18.5**	**45.9**	**49.9**	**53.3**	**55.2**	**5.2**	**0.3**	**10.7**	**14.5**	**17.9**	**20.2**	**18.1**
Latin America and Carib.	**3.9**	**16.7**	**21.9**	**25.8**	**27.3**	**11.7**	**0.0**	**1.6**	**2.4**	**3.6**	**5.0**	**43.5**
North America	**43.0**	**68.0**	**69.1**	**71.9**	**70.7**	**1.2**	**2.7**	**16.4**	**20.3**	**23.2**	**25.7**	**12.6**
Other countries/areas	**4.1**	**8.6**	**11.2**	**15.1**	**17.0**	**23.5**						
World	**6.4**	**16.0**	**18.3**	**20.9**	**22.7**	**11.4**	**0.3**	**3.4**	**4.4**	**5.4**	**6.2**	**18.5**

20 Transport

The Asia-Pacific region has been developing stronger international transport links – with increasingly coordinated development of both railway and road networks.

The Intergovernmental Agreement on the Trans-Asian Railway Network entered into force on 11 June 2009. This will facilitate coordinated development of the network, which now comprises 114,300 kilometres of rail lines of international importance. To date, 22 member countries have signed the Agreement and 11 have already become Parties.

Focus for future investment in the network is now on the construction of the missing links which total 8,200 kilometres for which an estimated $25 billion are required. The flagship investment projects will be the building of the $32.3-billion high-speed passenger line between Shanghai and Beijing, due to open in 2012, and the construction of dedicated freight corridors in India with a 1,760-kilometre Eastern corridor between Ludhiana and Sonnagar, at an estimated cost of $3.9 billion, and a 1,485-kilometre Western corridor between Tughlakabad ICD and JNP/Mumbai, at an estimated cost of $3.7 billion.

In 2008, among railway organizations that are taking part in the Trans-Asian Railway project, the largest traffic volumes were in China, India and the Russian Federation. In 2008, Chinese Railways carried 1.46 billion passengers (a 10.4% increase over 2007), and Russian Railways 1.3 billion (a 1.2% increase over 2007). In the freight sector, Chinese Railways reported 1,442.4 billion ton-kilometres (a 4.5% increase over 2007), Indian Railways and Russian Railways 2,420 billion (a 5% increase over 2007).

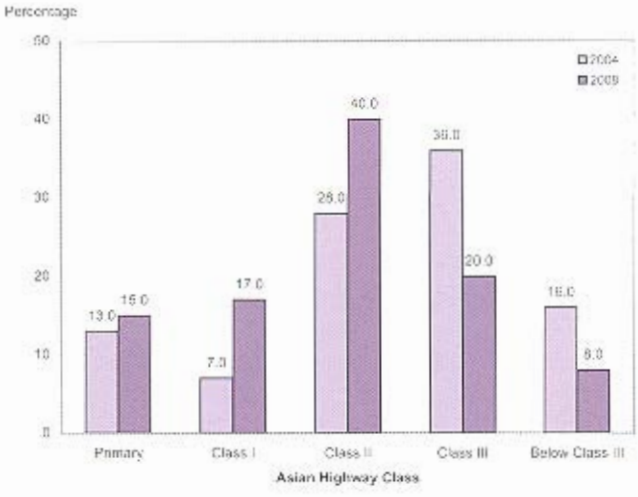
Not surprisingly rail investment levels are also the highest in these three countries. In 2008, Chinese Railways spent $51 billion on new line construction. Meanwhile, Russian Railways invested $13 billion and Indian Railways $7.7 billion on developing their rail assets. However, changes in investment levels have been the highest in Turkey, where between 2002 and 2008 the proportion of state funding allocated to rail within the transport ministry's budget rose from 6 to 42%. The Islamic Republic of Iran will also see an increase following the government's decision to double the railway investment budget between 2007-2008 for 2008-2009.

Roads

The Intergovernmental Agreement on the Asian Highway Network, which entered into force on 4 July 2005, has now been signed by 28 member States and acceded to by one member state. Of these, 24 have become Parties to the Agreement.

Figure 20.1

Progress in upgrading the Asian Highway, 2004 and 2008

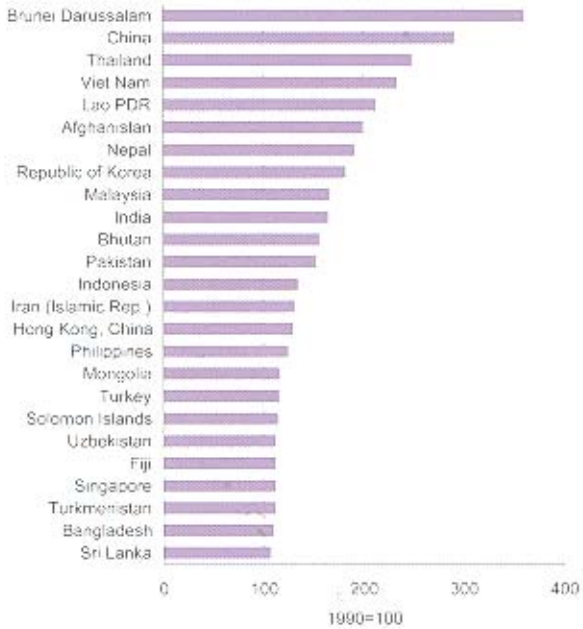


Much progress has been made in developing and upgrading the Asian Highway network. Around 10,000 kilometres of routes have been upgraded – which between 2004 and 2006 reduced the proportion of roads below the class III minimum standard from 16 to 9%. The preliminary assessment of the Asian Highway database (2008), with data received from 20 countries, indicates that,

over the period 2007-2008, an additional 10,000 kilometres of the Asian Highway have been upgraded to higher standards including around 1,000 kilometres that have been upgraded to meet the minimum standards. However, about 11,000 kilometres of roads – 8% of the network – still needs to be upgraded to Class III or higher. Most significantly, with the adoption of an Asian Highway link connecting India and Bhutan, by the 3rd Meeting of the Working Group, the Asian Highway network now connects to all the region's landlocked countries.

Figure 20.2

Index of change in road density, Asia and the Pacific, 1990-latest available year



As motorization rates continue to rise, leading to higher vehicle densities, there has also been an increase in road traffic accidents. Globally, each year such accidents kill an estimated 1.3 million people and injure 50 million more. The situation is likely to get worse: global road fatalities are forecast to reach 1.9 million by 2020.

In 2007, the estimated road accident death rate for the Asia-Pacific region was 17.3 per 100,000 population, which is slightly below the world average of 18.8. The rates in North America and Europe were much lower, at 13.4 and 10.1 respectively. The highest rates in Asia and the Pacific were reported for Afghanistan, Cook Islands, Kazakhstan, and the Islamic republic of Iran.

Asia's death rates are very high when considered alongside traffic density. With around 700,000 deaths in 2007, the region accounted for more than half of the world's road fatalities, even though it only had 43% of the global vehicle population. By 2020, around two thirds of the world's road traffic fatalities might be in the Asian and Pacific region.

Container handling at ports

The number of containers handled by ports in the Asia-Pacific region increased by 14.3% in 2007, to 257 million twenty-foot equivalent units (TEU). This compares with the increase of world container port handling during the same period of 11.6%, to 478 million TEU. Since 2001, the world's top five container ports have been in Asia. In 2007, among the world's top-25 container ports in terms of throughput, 17 were in Asia. The Asian economies handling the most container traffic were: China; Singapore; Hong Kong, China; Japan; and the Republic of Korea.

Energy consumption and CO_2 emissions

The transport sector is a major consumer of energy – particularly petroleum. It is also one of the major emitters of carbon dioxide which is contributing to global warming. In 2007, the world road, rail and aviation sectors consumed 2,297 million tons of oil equivalent. Of that, the Asia-Pacific region was responsible for only 25.1%, 576 million tons. The bulk of this in the region, 74.2% (427 million tons), was consumed by the road sector, followed by aviation 11.6%, shipping and others 9%, and rail 5.2%.

In 2007, the transport sector in Asia and the Pacific was responsible for 1,642 million tons of CO_2 emissions, compared with 1,972 million tons in North America and 1,050 million tons in Europe. Compared with 2006, CO_2 emissions from the transport sector in the region increased by about 4.4%. Most of the emissions came from the road sector which in 2007 released 1,323 million tons. In contrast, emissions from aviation and railways were 221 and 67 million tons, respectively.

Railway freight (hundred thousand ton km)
Unit of measure of goods transport which represents the transport of hundred thousand ton of goods by rail over a distance of one kilometre. The distance to be covered is the distance actually run on the considered network (the national network of the reporting country). **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** World Bank, World Development Indicators. Online database accessed on 16 September 2009

Railway passenger kilometre (hundred thousand passenger km)
Unit of measure representing the transport of hundred thousand rail passengers by rail over a distance of one kilometre. The distance to be taken into consideration should be the distance actually run by the passenger on the concerned network. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** World Bank, World Development Indicators. Online database accessed on 16 September 2009

International marine containers handled (million TEU)
The data represent the volume of containers handled, i.e. both as landed and shipped. The indicator covers intermodal freight containers of 20 feet minimum length, but excluding platform flats. Both international and domestic traffic, and transshipped containers are counted twice. The volume of containers is expressed in 20-foot equivalent units (TEU). The TEU calculations are based only on container length, not height. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** World Bank, World Development Indicators. Online database accessed on 16 September 2009

Railway density (Km per 1,000 km²)
The length of rail lines divided by the land area expressed in 1,000 km². Rail lines are the length of railway route available for train service measured in kilometres, irrespective of the number of parallel tracks. **Aggregates:** Calculated by ESCAP using land area as weight. **Source:** World Bank, World Development Indicators. Online database accessed on 16 September 2009

Roads density (Km per 1,000 km²)
The total road network divided by the land area. Total road network includes motorways, highways, and main or national roads, secondary or regional roads, and all other roads measured in kilometres in a country. **Aggregates:** Calculated by ESCAP using land area as weight. Missing data for some countries and years have been imputed. **Source:** World Bank, World Development Indicators. Online database accessed on 16 September 2009

Paved roads (% of total roads)
The share of roads surfaced with crushed stone (macadam) and hydrocarbon binder or bituminized agents, concrete, or cobblestones, expressed as a percentage of the length of all roads. **Aggregates:** Calculated by ESCAP using land area as weight. Missing data for some countries and years have been imputed. **Source:** World Bank, World Development Indicators. Online database accessed on 16 September 2009

Asian highway, primary, class I to III, below class III and total (kilometres)
The Asian Highway network consists of highway routes of international importance within Asia, including highway routes substantially crossing more than one subregion such as: East and North-East Asia, South and South-West Asia, South-East Asia and North and Central Asia; highway routes within subregions including those connecting to neighbouring subregions; and highway routes located within member States which provide access to: (a) capitals; (b) main industrial and agricultural centres; (c) major air, sea and river ports; (d) major container terminals and depots; and (e) major tourist attractions. The total Asian Highway Network is divided into 5 major classes (primary, I, II, III, below III) depending on roads design standards. Primary class refers to access-controlled highways. Access-controlled highways are used exclusively by automobiles. Access to the access-controlled highways is at grade-separated interchanges only. Mopeds, bicycles and pedestrians should not be allowed to enter the access-controlled highway in order to ensure traffic safety and the high running speed of automobiles. Class I refers to asphalt or cement concrete roads with 4 or more lanes. Class II refers to asphalt or cement concrete roads with 2 lanes. Class III refers to double bituminous treated roads with 2 lanes and is regarded as the minimum desirable standard **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** ESCAP, Transport division. Online database accessed on 10 November 2009

Passenger cars in use (per 1,000 population)
The number of passenger cars, expressed per 1,000 population. Covers road motor vehicles designed for the conveyance of passengers and seating not more than nine persons including the driver. Taxies, jeep-type vehicles and station wagons are included. Special-purpose vehicles, such as two-wheeled or three-wheeled cycles or motorcycles, trams, trolley-buses, ambulances, hearses, and military vehicles operated by police or other governmental security organizations, are excluded. **Aggregates:** Calculated by ESCAP using total population as weight. Missing data for some countries and years have been imputed **Source:** World Bank, World Development Indicators. Online database accessed on 16 September 2009

Traffic accidents casualties (number, per 100,000 population)
The total number of deaths caused by traffic accidents during a given period divided by the total number of population during the same period, expressed per 100,000 population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** WHO, Global status report on road safety. Online database accessed on 13 October 2009

Energy consumption in the transport sector: international and domestic aviation , road, rail, and total (thousand tons of oil equivalent)
Energy consumption in the transport sector covers all transport activity (in mobile engines) regardless of the economic sector to which it is contributing [ISIC Divisions 60, 61 and 62]. It is divided into subsectors: International aviation, domestic aviation, roads, rails, pipeline transport, world marine bunkers, and domestic navigation. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** International Energy Agency. Online database accessed on 10 September 2009

CO_2 emissions from fuel combustion, transport sector (million tons of CO_2)
Represents the values of (CO_2) emissions from fossil fuel combustion by the transport sector. The emissions are expressed in million tonnes of CO_2 and calculated by OECD using International Energy Agency (IEA) energy databases and the default methods and emissions factors from the Revised 1996 IPCC (Intergovernmental Panel on Climate Change) Guidelines for National Greenhouse Gas Inventories. International and domestic aviation includes emissions from aviation fuels delivered to aircraft for international aviation bunker and domestic aviation - commercial, private, agricultural, etc. It includes use for purpose other than flying, e.g. bench testing of engines, but not airline use of fuel for road transport; Roads: covers the emissions arising from fuel use in road vehicles, including the use of agricultural vehicles on highways; Rail: covers emission from rail traffic, including industrial railways. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** International Energy Agency. Online database accessed on 5 November 2009.

20.1 Railway and maritime freight and passenger traffic

	Railways freight				Railways passenger kilometres				International marine containers	
	Hundred thousand ton km				Hundred thousand passenger km				Million TEU	
	1995	2000	2005	2006	1995	2000	2005	2007	2006	2007
East and North-East Asia	**1 328 796**	**1 371 015**	**1 976 209**	**2 213 125**	**633 337**	**711 428**	**861 509**	**975 080**		
China	1 287 420	1 333 605	1 934 612	2 170 700	354 261	441 468	583 320	689 616	69.00	104.56
DPR Korea									71.00	
Hong Kong, China									23 54	24.00
Japan	24 747	22 313	22 632	23 014	248 993	240 793	245 957	252 579	18.47	19.01
Macao, China									117.00	
Mongolia		4 293	8 857	8 857		1 070	1 228	1 289	88.00	
Republic of Korea	13 838	10 803	10 108	10 554	29 292	28 097	31 004	31 596	15.51	16.64
South-East Asia	**11 039**			**14 296**	**36 096**					
Brunei Darussalam									34.00	
Cambodia	6	92			39	45	45		0.22	0.22
Indonesia	4 170			4 698	15 520				4.32	4.48
Lao PDR									86.00	
Malaysia	1 416	907	1 178	1 572	1 270	1 312	1 181	2 193	13.42	14.87
Myanmar									66.00	
Philippines	5	1			220	171			3.68	3.83
Singapore									24.79	27.93
Thailand	3 242	3 384	4 037	4 037	12 975	9 935	9 195		% 5.57	6.20
Timor-Leste									96.00	
Viet Nam	1 751	1 902	2 928	3 447	2 133	3 200	4 556	4 659	3.00	3.94
South and South-West Asia	**296 778**	**333 760**	**441 568**	**476 094**	**364 846**	**469 591**	**624 646**	**747 333**		
Afghanistan									0.00	0.00
Bangladesh	689	777	817	817	3 333	3 941	4 164	4 164	0.90	0.98
Bhutan										
India	270 489	305 201	407 398	439 596	326 197	430 666	575 702	694 764	6.14	7.37
Iran (Islamic Rep. of)	11 870	14 179	19 127	20 542	7 294	7 119	11 149	12 549	1.53	1.72
Maldives										
Nepal									94.00	
Pakistan	5 077	3 754	5 013		18 904	18 495	24 237	25 621	1.78	1.94
Sri Lanka	137	88	135		3 321		4 358		3.08	3.38
Turkey	8 516	9 761	9 078	9 544	5 797	5 832	5 036	5 553	3.68	4.49
North and Central Asia	**1 395 689**	**1 536 762**	**2 076 924**	**2 188 387**	**212 595**	**180 471**	**187 983**	**191 308**		
Armenia	403	354	654	678	165	47	27		96.00	
Azerbaijan	2 409	5 770	10 067	7 551	791	493	878	1 109	46.00	
Georgia	1 246	3 912	6 127	6 127	371	453	720	809	0.11	0.11
Kazakhstan		124 983	171 855	191 189		10 215	12 129	13 613	70.00	
Kyrgyzstan									64.00	
Russian Federation	1 214 000	1 373 200	1 858 100	1 950 900	192 117	167 100	172 217	173 411	2.27	2.66
Tajikistan		13 102	12 114	13 935					80.00	
Turkmenistan									2.00	
Uzbekistan	16 830	15 441	18 007	18 007	2 497	2 163	2 012	2 339	85.00	
Pacific										
American Samoa										
Australia		34 050		46 036		1 265		1 309	5.74	6.23
Cook Islands										
Fiji									107.00	
French Polynesia									0.07	0.07
Guam									0.15	0.15
Kiribati										
Marshall Islands										
Micronesia (F.S.)										
Nauru										
New Caledonia									0.08	0.08
New Zealand	3 202	4 078			366				1.81	2.03
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea										
Samoa									81.00	
Solomon Islands										
Tonga									103 00	
Tuvalu										
Vanuatu										
Asia and the Pacific	**3 058 156**	**3 291 294**	**4 556 656**	**4 942 015**	**1 248 333**	**1 399 887**	**1 718 888**	**1 960 739**	**224.66**	**256.88**
LLDC		163 943	221 554	240 217		13 988	16 274	18 377		
LDC										
ASEAN	11 039			14 296	36 096					
ECO		186 990	245 261	266 228	51 937	44 317	55 441	60 784		
SAARC	276 392	309 820	413 363	446 008	351 755	456 640	608 461	729 231		
Central Asia		163 562	218 824	237 487		13 371	15 766	17 897		
Pacific island dev. econ.										
Low income		31 763	34 407	36 747	11 941	13 288	14 718	15 146		
Middle income	2 960 890	3 188 287	4 440 969	4 821 586	956 648	1 116 445	1 425 886	1 660 110		
High income		71 244		83 682	279 744	270 155	278 283	285 484		
Africa	**124 571**	**135 633**	**139 438**	**137 001**	**49 125**	**56 554**	**59 871**	**64 571**	**13.76**	**13.88**
Europe	**625 255**	**618 176**	**668 410**	**695 531**	**439 398**	**443 431**	**440 703**	**459 300**	**79.19**	**88.89**
Latin America and Carib.	**59 395**			**313 029**					**30.01**	**33.28**
North America	**2 051 293**	**2 365 857**	**2 741 503**	**2 942 418**				**2 858**	**45.23**	**46.23**
Other countries/areas	**3 989**	**4 147**	**5 621**	**4 996**	**923**	**1 256**	**2 618**	**2 920**	**35.70**	**39.03**
World	**5 922 659**	**6 727 492**	**8 424 845**	**9 034 989**	**1 757 264**	**1 918 201**	**2 239 170**	**2 504 582**	**416.75**	**465.59**

20.2 Railways and roads infrastucture

	Railway density				Roads density				Paved roads			
	Km per 1,000 km²				Km per 1,000 km²				% of total roads			
	1990	2000	2004	2005	1990	2000	2005	2006	1990	2000	2005	2006
East and North-East Asia	7	7	9	8	211	239	474	483	63	74		66
China	6	6	7	7	127	150	359	371	72	87		66
DPR Korea					231	259		212	6	6		3
Hong Kong, China					1 374		1 761	1 766	100		100	100
Japan	56	55	55	55	3 057	3 200	3 271	3 284	69	77	79	79
Macao, China						12 756			100	100		
Mongolia	1	1		1	27	32			10	4		
Republic of Korea	31	32	32	35	574	881	1 056	1 053	72	74	77	89
South-East Asia					173	229	180		38	56	45	
Brunei Darussalam					192	218	693		31	35	77	
Cambodia	3	3	3	4	203				8			
Indonesia					159	196	216		45	57	55	
Lao PDR					61	94	147	129	24		13	13
Malaysia	5	5	5	5	164	202	265	274	70	76	78	79
Myanmar	5				38	43	41		11	11	12	
Philippines	2	2	2	2	538	676						
Singapore					4 176	4 584	4 694	4 700	97	100	100	100
Thailand	8	8	8	8	141	112		352	55	98		
Timor-Leste												
Viet Nam	9	10	8	9	295	693			24			
South and South-West Asia	14	14	14	14	415			621				
Afghanistan					32	32	57	55	13	13	27	29
Bangladesh	21	21	22	22	1 444	1 594				10		
Bhutan					50				77			
India	21	21	21	21	673	1 115		1 115		47		
Iran (Islamic Rep. of)	3	4	4	4	80		106	106				73
Maldives												
Nepal				0	48	92			38	31		
Pakistan	11	10	10	10	219	311		338	54	56		65
Sri Lanka	22		22	19	1 439							
Turkey	11	11	11	11	477		555	555				
North and Central Asia		5	5	5		41	50	55	72		85	82
Armenia		30	25	25			266	266	99		90	89
Azerbaijan		26	26	26		332						
Georgia		22	23	22		293		293	94			39
Kazakhstan		5	5	5			34	34	55		91	91
Kyrgyzstan			2	2		96			90	91		
Russian Federation		5	5	5		32	52	57	74		84	81
Tajikistan				4		198			72			
Turkmenistan				5		51			74	81		
Uzbekistan		9	10	9		192			79	87		
Pacific	1	1	1	1	110	110			34			
American Samoa												
Australia	1	1	1	1	105	106			35			
Cook Islands												
Fiji				33	167	188			44	49		
French Polynesia												
Guam												
Kiribati						827						
Marshall Islands												
Micronesia (F.S.)						343			16	18		
Nauru												
New Caledonia												
New Zealand	15				346	344	349	350	57	63	65	66
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea					41	43			3	4		
Samoa												
Solomon Islands					43	50			2	2		
Tonga						944				27		
Tuvalu												
Vanuatu						88			22	24		
Asia and the Pacific		6	7	7		197	195	281	58			
LLDC		5		5					43			
LDC					143	159	64		16	13	19	
ASEAN					173	229	180		38	56	45	
ECO		7	7	7			126	152	55			75
SAARC	19	19	19	18	519	813		823		42		
Central Asia		7	6	6			36	43	63		91	90
Pacific island dev. econ.					46	53			5	6		
Low income					170	203			32	34		
Middle income		7	7	7		180	163	252	66			76
High income	4	4	4	4	247	257			38			
Africa					56	66			29	29		
Europe	50	49	47	45		1 064	991			85		
Latin America and Carib.	6				146	154			17	17		
North America	18	14	15	14	387				47			
Other countries/areas	2	2	1	2	88	93	127		43	37	27	
World	10	10		9	223	232			36	36		

20.3 Asian Highway

	Primary		Class I		Class II		Class III		Below Class III and other		Total	
	Km											
	2004	2008	2004	2008	2004	2008	2004	2008	2004	2008	2004	2008
East and North-East Asia												
China	4 140	14 859	189	2 076	2 749	6 280	2 008	3 460	1 443	32	25 929	26 707
DPR Korea	0	0	0	492	0	15	0	0	0	220	1 320	1 462
Hong Kong, China												
Japan	1 111	1 111	0	0	0	0	0	0	0	0	1 111	1 111
Macao, China												
Mongolia	0	0	0	8	440	1 343	345	112	3 501	2 858	4 286	4 321
Republic of Korea	466	466	197	255	244	186	0	0	0	0	907	907
South-East Asia												
Brunei Darussalam												
Cambodia	0	0	0	0	398	453	743	883	199	2	1 340	1 338
Indonesia	335	409	18	592	1 600	3 219	1 965	0	0	0	3 952	4 254
Lao PDR	0	0	0	0	0	244	2 375	1 967	0	107	2 378	2 318
Malaysia	795	795	67	148	733	636	0	0	0	0	1 595	1 579
Myanmar	0	0	147	173	144	35	983	1 585	1 729	1 216	3 003	3 009
Philippines	0	0	17	161	27	2 818	2 872	0	451	388	3 517	3 517
Singapore	11	11	8	8	0	0	0	0	0	0	19	19
Thailand	182	182	2 572	3 049	1 226	1 723	1 128	155	0	2	5 112	5 111
Timor-Leste												
Viet Nam	0	0	406	344	1 915	2 150	104	0	251	137	2 678	2 631
South and South-West Asia												
Afghanistan	0	0	0	10	621	2 519	77	0	3 549	1 718	4 247	4 247
Bangladesh	0	0	20	92	441	1 648	476	0	868	25	1 805	1 765
Bhutan	0	0	0	6	6	42	0	42	161	75	167	165
India	0	90	484	4 069	0	1 675	10 869	5 699	105	117	11 458	11 810
Iran (Islamic Rep. of)	752	1 160	1 067	3 768	9 334	6 186	0	0	0	0	11 153	11 134
Maldives												
Nepal	0	0	0	5	311	352	1 003	949	12	8	1 326	1 314
Pakistan	358	358	1 116	1 436	160	523	2 569	1 866	1 174	1 174	5 377	5 377
Sri Lanka	0	0	0	49	269	355	190	133	191	113	650	650
Turkey	1 212	1 257	155	2 457	1 219	436	2 685	1 078	0	0	5 271	5 228
North and Central Asia												
Armenia	0	0	142	147	377	766	479	13	0	40	998	966
Azerbaijan	0	0	82	280	1 012	1 184	348	0	0	0	1 670	1 464
Georgia	0	0	8	52	766	1 049	356	0	0	0	1 154	1 101
Kazakhstan	0	0	72	557	767	5 431	10 004	6 393	2 346	475	13 189	12 958
Kyrgyzstan	0	0	0	109	464	940	511	337	720	309	1 695	1 695
Russian Federation	0	0	1 147	2 340	8 334	12 211	3 210	666	4 178	1 624	16 869	16 841
Tajikistan	0	0	0	30	269	971	603	0	1 033	906	1 925	1 907
Turkmenistan	0	0	0	60	0	0	2 180	2 120	24	24	2 204	2 204
Uzbekistan	0	0	255	1 195	765	1 101	1 618	670	328	0	2 966	2 966
Pacific												
American Samoa												
Australia												
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand												
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**9 362**	**20 698**	**8 171**	**23 988**	**34 633**	**56 491**	**49 703**	**28 148**	**22 263**	**11 570**	**141 271**	**142 076**
LLDC												
LDC												
ASEAN												
ECO												
SAARC												
Central Asia												
Pacific island dev. econ.												
Low income												
Middle income												
High income												
Africa												
Europe												
Latin America and Carib.												
North America												
Other countries/areas												
World												

20.4 Passenger cars and traffic casualties

	Passenger cars in use					Traffic accident cassulties	
	Per 1,000 population					Number	Per 100,000 population
	1990	1995	2000	2004	2005	2007	2007
East and North-East Asia	**29**	**39**	**48**	**56**	**59**	**109 978**	**15**
China	1	3	7	12	15	96 611	17
DPR Korea							
Hong Kong, China	42	56	59	53	52		
Japan	283	356	413	441	446	6 639	5
Macao, China	67	86	110	134	140		
Mongolia	6	11	18			562	19
Republic of Korea	48	133	172	221	230	6 166	13
South-East Asia	**13**	**18**	**26**	**24**	**25**	**53 586**	**18**
Brunei Darussalam	419	280	346	397	642	54	14
Cambodia	1	1				1 668	12
Indonesia	7	11	14	20	24	16 548	16
Lao PDR	6	4				656	18
Malaysia	101	127	183	19		6 282	24
Myanmar	2	1	4	4	4	1 638	23
Philippines	7	9	10	31	9	1 185	20
Singapore	89	98	98	99	101	214	5
Thailand	14	25	43	48	63	12 492	20
Timor-Leste						49	16
Viet Nam						12 500	16
South and South-West Asia	**5**	**7**	**9**			**151 203**	**18**
Afghanistan	2			2	2	1 779	39
Bangladesh	0	0	0			4 108	13
Bhutan						111	14
India	2	4	6			105 725	17
Iran (Islamic Rep. of)	25	29				22 918	36
Maldives	4	4	7	6	14	10	18
Nepal	1	2	2			962	15
Pakistan	4	4	8	10	9	7 234	25
Sri Lanka	7	13	12	27	16	2 334	14
Turkey	34	52	66	75	80	6 022	13
North and Central Asia	**56**	**84**	**118**	**140**	**149**	**48 013**	**22**
Armenia	1	0				371	14
Azerbaijan	36	36	41	53	57	1 195	13
Georgia	89	67	52			737	17
Kazakhstan	50	64	67	80	93	4 714	31
Kyrgyzstan	44	43	39	39	39	1 214	23
Russian Federation	60	96	139	166	177	35 972	25
Tajikistan	0	0	19			464	14
Turkmenistan						702	19
Uzbekistan						2 644	10
Pacific	**359**	**375**		**419**	**427**	**2 479**	**10**
American Samoa	91	89	128	104	103		
Australia	450	478		531	542	1 616	8
Cook Islands						6	45
Fiji	56	39	75	96	105	59	7
French Polynesia							
Guam	529	548	416				
Kiribati						7	7
Marshall Islands						1	2
Micronesia (F.S.)						2	14
Nauru						1	10
New Caledonia	316	273	405	443	457		
New Zealand	436	451	576	591	607	423	10
Niue							
Northern Mariana Islands							
Palau						3	15
Papua New Guinea		7	5			308	14
Samoa	27	37	29	49	45	19	13
Solomon Islands						19	17
Tonga	21	12	51			7	7
Tuvalu						1	10
Vanuatu		24	16			7	19
Asia and the Pacific	**22**	**29**	**36**			**365 259**	**17**
LLDC	18					15 374	21
LDC	1	1	1			11 034	17
ASEAN	13	18	26	24	25	53 537	18
ECO	19	23	27	29	30	48 886	25
SAARC	2	4	6			122 263	18
Central Asia						12 041	17
Pacific island dev. econ		34	37			440	14
Low income	2					27 933	17
Middle income	8	12	18	23	25	322 206	16
High income	**239**	**305**	**353**	**383**	**390**	**15 112**	**7**
Africa	**16**	**17**	**19**			**77 985**	**33**
Europe	**284**	**329**	**370**	**406**	**413**	**58 824**	**10**
Latin America and Carib.			**99**	**107**		**93 935**	**17**
North America	**563**	**481**	**480**	**474**	**471**	**45 531**	**13**
Other countries/areas	**65**	**72**	**135**			**19 785**	**30**
World	**91**	**90**	**104**			**661 319**	**19**

20.5 Energy consumption by type of transport

	International and domestic aviation			Road			Railway			Total		
	Thousand tons of oil equivalent											
	1990	2000	2007	1990	2000	2007	1990	2000	2007	1990	2000	2007
East and North-East Asia	**11 905**	**21 251**	**30 842**	**98 435**	**151 337**	**197 753**	**14 750**	**16 976**	**19 019**	**126 880**	**195 089**	**254 052**
China	863	5 551	11 804	21 008	46 628	94 636	12 469	14 568	16 612	36 998	73 066	139 049
DPR Korea				1 560	563	396				1 560	563	396
Hong Kong, China	1 897	2 803	4 912	1 470	3 721	1 445				1 472	3 721	1 445
Japan	6 931	10 213	9 877	63 381	77 952	73 098	1 751	1 828	1 834	71 753	87 978	82 406
Macao, China												
Mongolia	4	19	42	383	259	390	138	69	142	522	328	532
Republic of Korea	2 209	2 666	4 208	10 633	22 214	27 788	372	491	431	14 676	29 433	30 224
South-East Asia	**5 774**	**9 687**	**13 000**	**30 120**	**57 730**	**73 562**	**142**	**155**	**190**	**32 553**	**61 945**	**77 150**
Brunei Darussalam	38	69	82	188	274	378				188	274	378
Cambodia		19	30		286	389					286	392
Indonesia	625	1 143	1 426	9 639	18 880	22 373				10 712	21 267	24 363
Lao PDR												
Malaysia	654	1 576	2 155	4 846	10 489	13 410		4	4	4 846	10 499	13 561
Myanmar	30	66	67	420	1 104	1 267				421	1 109	1 303
Philippines	539	903	1 127	3 870	6 930	8 011	2	6	9	4 588	8 242	8 668
Singapore	1 900	2 903	3 721	1 342	1 968	2 420	16	25	34	1 358	1 993	2 455
Thailand	1 887	2 791	3 939	8 558	14 452	18 032	105	99	105	9 030	14 611	18 191
Timor-Leste												
Viet Nam	100	217	452	1 259	3 348	7 282	19	21	37	1 412	3 663	7 840
South and South-West Asi	**3 406**	**5 791**	**9 508**	**48 557**	**73 663**	**100 507**	**4 932**	**2 902**	**3 756**	**54 787**	**78 428**	**107 194**
Afghanistan												
Bangladesh	92	127	252	394	741	1 192	52	109	187	544	998	1 638
Bhutan												
India	1 786	2 396	4 853	21 667	28 500	37 004	4 308	2 209	3 103	26 560	31 267	40 806
Iran (Islamic Rep. of)	501	910	1 076	13 030	24 220	35 276				13 030	24 220	35 291
Maldives												
Nepal	17	57	59	110	269	293	0	1	1	111	270	294
Pakistan	470	769	765	4 213	7 937	10 768	286	292	312	4 499	8 229	11 080
Sri Lanka	61	272	316	729	1 478	1 919	27	22	0	819	1 685	2 134
Turkey	480	1 261	2 176	8 413	10 518	14 056	259	270	154	9 224	11 758	15 952
North and Central Asia	**20 167**	**9 824**	**12 399**	**63 699**	**41 905**	**51 114**	**7 222**	**5 588**	**6 892**	**129 578**	**84 719**	**105 246**
Armenia	199	63	58	1 016	197	178		6	8	1 049	207	188
Azerbaijan	239	120	466	1 051	666	1 149		33	37	1 163	737	1 306
Georgia	202	15	45	1 158	310	659	127	49	29	1 335	358	707
Kazakhstan	1 205	292	425	4 130	2 745	3 625	1 014	409	448	5 453	3 429	4 402
Kyrgyzstan	88	39	143	1 040	168	267		4	6	1 141	216	419
Russian Federation	18 155	8 988	11 027	52 020	34 380	41 290	6 081	4 957	6 256	115 872	74 475	92 505
Tajikistan	0	3	4	541	707	1 510		3	2	556	711	1 512
Turkmenistan				841	675	888		13	19	930	688	907
Uzbekistan	76	303	228	1 892	2 057	1 549		114	87	2 076	3 898	3 301
Pacific	**729**	**893**	**1 215**	**2 607**	**3 721**	**4 490**	**5**	**8**	**8**	**24 071**	**29 840**	**32 093**
American Samoa												
Australia										21 111	25 657	27 129
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	729	893	1 215	2 607	3 721	4 490	5	8	8	2 961	4 183	4 964
Niue												
Northern Mariana												
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**41 981**	**47 446**	**66 964**	**243 418**	**328 356**	**427 426**	**27 052**	**25 629**	**29 865**	**367 870**	**450 020**	**575 735**
LLDC	1 831	896	1 434	11 005	7 743	9 849	1 152	662	750	13 003	10 483	12 860
LDC	138	269	418	925	2 400	3 141	52	109	188	1 076	2 664	3 626
ASEAN	5 774	9 687	13 000	30 120	57 730	73 562	142	155	190	32 553	61 945	77 150
ECO	3 061	3 697	5 284	35 151	49 694	69 088	1 559	1 138	1 065	38 075	53 885	74 169
SAARC	2 426	3 621	6 256	27 113	38 925	51 175	4 673	2 632	3 602	32 533	42 449	55 951
Central Asia	2 012	835	1 372	11 679	7 525	9 825	1 141	631	636	13 706	10 243	12 741
Pacific island dev. econ												
Low income	405	831	1 245	7 217	9 244	14 145	71	251	320	7 824	11 714	17 093
Middle income	27 871	27 069	41 704	156 581	209 262	303 662	24 837	23 026	27 238	246 629	285 067	409 641
High income	13 706	19 546	24 015	79 620	109 850	109 619	2 144	2 352	2 307	113 418	153 238	149 001
Africa	**4 778**	**7 742**	**8 790**	**34 364**	**47 923**	**62 651**	**788**	**728**	**733**	**36 769**	**52 172**	**68 092**
Europe	**33 409**	**48 091**	**56 006**	**266 127**	**299 404**	**333 051**	**10 395**	**9 942**	**9 927**	**295 472**	**329 391**	**366 448**
Latin America and Carib.	**8 019**	**12 297**	**12 640**	**96 258**	**131 553**	**165 466**	**1 519**	**1 309**	**1 714**	**103 790**	**142 434**	**179 688**
North America	**81 045**	**92 838**	**87 377**	**424 366**	**529 978**	**582 089**	**12 826**	**12 205**	**15 603**	**530 687**	**640 379**	**693 453**
Other countries/areas	**10 258**	**11 797**	**14 012**	**43 338**	**59 188**	**80 109**	**77**	**79**	**101**	**44 424**	**60 871**	**81 419**
World	**96 802**	**108 849**	**112 751**	**1 127 239**	**1 419 475**	**1 675 035**	**53 371**	**50 642**	**58 765**	**1 577 941**	**1 938 945**	**2 296 731**

20.6 Carbon dioxide emission from fuel combustion by type of transport

	International and domestic aviation			Road			Railway			Total		
	Million tons of CO_2											
	1990	2000	2007	1990	2000	2007	1990	2000	2007	1990	2000	2007
East and North-East Asia	**35**	**63**	**91**	**290**	**445**	**578**	**47**	**48**	**48**	**380**	**576**	**742**
China	3	16	35	61	136	276	45	46	46	117	218	407
DPR Korea				5	2	1				5	2	1
Hong Kong, China	6	8	15	4	11	4				4	11	4
Japan	21	30	29	187	229	215	1	1	1	210	257	239
Macao, China												
Mongolia	0	0	0	1	1	1	0	0	0	2	1	2
Republic of Korea	6	8	12	32	65	81	1	1	1	43	88	89
South-East Asia	**17**	**29**	**39**	**90**	**172**	**218**	**0**	**0**	**0**	**97**	**185**	**228**
Brunei Darussalam	0	0	0	1	1	1				1	1	1
Cambodia		0	0		1	1					1	1
Indonesia	2	3	4	29	56	66				32	63	72
Lao PDR												
Malaysia	2	5	6	14	31	39				14	31	40
Myanmar	0	0	0	1	3	4				1	3	4
Philippines	2	3	3	12	21	24	0			14	25	26
Singapore	6	9	11	4	6	7				4	6	7
Thailand	6	8	12	26	43	53	0	0	0	27	44	54
Timor-Leste												
Viet Nam	0	1	1	4	10	22	0			4	11	23
South and South-West Asia	**10**	**17**	**28**	**146**	**220**	**297**	**16**	**7**	**8**	**166**	**233**	**315**
Afghanistan												
Bangladesh	0	0	1	1	2	4	0	0	1	2	3	5
Bhutan												
India	5	7	14	66	86	110	14	5	6	82	92	119
Iran (Islamic Rep. of)	1	3	3	39	72	104				39	72	104
Maldives												
Nepal	0	0	0	0	1	1				0	1	1
Pakistan	1	2	2	13	24	32	1	1	1	14	25	33
Sri Lanka	0	1	1	2	4	6	0	0		2	5	6
Turkey	1	4	6	25	31	42	1	1	0	28	35	48
North and Central Asia	**60**	**29**	**37**	**186**	**122**	**148**	**20**	**8**	**8**	**333**	**215**	**263**
Armenia	1	0	0	3	1	1				3	1	1
Azerbaijan	1	0	1	3	2	3				3	2	4
Georgia	1	0	0	3	1	2	0	0		4	1	2
Kazakhstan	4	1	1	12	8	10	1	1	1	14	9	12
Kyrgyzstan	0	0	0	3	0	1				3	1	1
Russian Federation	54	27	33	152	101	120	19	6	7	296	188	229
Tajikistan		0	0	2	2	4				2	2	4
Turkmenistan				2	2	3				2	2	3
Uzbekistan	0	1	1	5	6	4		0	0	6	10	8
Pacific	**10**	**15**	**18**	**62**	**76**	**81**	**2**	**2**	**2**	**70**	**86**	**93**
American Samoa												
Australia	7	13	15	55	65	67	1.71	1.79	1.92	61	74	76
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	2	3	4	8	11	13				9	12	15
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**132**	**153**	**213**	**774**	**1 035**	**1 322**	**85**	**64**	**67**	**1 047**	**1 296**	**1 642**
LLDC	5	3	4	32	22	28	2	1	2	35	29	35
LDC	0	1	1	3	7	9	0	0	1	3	8	11
ASEAN	17	29	39	90	172	218	0	0	0	97	185	228
ECO	9	11	16	104	147	203	3	3	3	111	158	217
SAARC	7	11	19	82	117	152	15	6	6	100	126	164
Central Asia	6	2	4	34	22	28	2	1	1	37	28	35
Pacific island dev. econ.												
Low income	1	2	4	21	27	42	0	1	1	23	34	49
Middle income	83	80	124	463	619	892	82	60	63	692	813	1 159
High income	48	71	86	290	389	389	4	3	3	332	449	433
Africa	**14**	**23**	**26**	**102**	**142**	**186**	**1**	**1**	**1**	**108**	**153**	**200**
Europe	**99**	**142**	**166**	**785**	**887**	**972**	**18**	**13**	**12**	**857**	**957**	**1 050**
Latin America and Carib.	**24**	**36**	**37**	**266**	**370**	**459**	**4**	**3**	**4**	**289**	**400**	**500**
North America	**239**	**275**	**259**	**1 233**	**1 535**	**1 655**	**38**	**36**	**46**	**1 544**	**1 857**	**1 972**
Other countries/areas	**32**	**36**	**44**	**130**	**177**	**240**	**0**	**0**	**0**	**134**	**183**	**245**
World				**3 291**	**4 146**	**4 834**	**147**	**117**	**130**	**4 589**	**5 655**	**6 632**

21 Financing for development

Many Asia-Pacific countries have been able to use foreign direct investment to help boost growth, improve competitiveness and supply-side capacity, create jobs, and open up access to technologies.

Despite the financial and economic crisis, FDI flows to Asia and the Pacific have continued. Between 2007 and 2008, they increased by $70 billion – 17% – to reach a record level of $474 billion. However, the flows are not distributed evenly. Some countries have had a slow down of FDI inflows, and others even a decrease.

In 2008 FDI continued to increase to low-income economies, by 18%, and to the least developed countries, by 13%. There were also strong increases in Central Asia with 81%, and South Asia with 52%. The Republic of Korea even enjoyed an increase of 189%.

Elsewhere, the picture was less positive. In 2008, the ASEAN countries faced a fall in FDI inflows of $9.6 billion, the highest annual decrease in US dollar terms in recent years. In terms of individual countries, the largest FDI drop in the region was to Singapore, by $8.8 billion or 28%, followed by Turkey, by $3.8 billion or 17%, and the Philippines, by $1.4 billion or 48%. In terms of relative contractions, the subregion with the largest drop was the Pacific developing countries, with 30%, while the country experiencing the largest drop was Nepal with an 83% reduction in FDI inflows.

In relation to GDP, the highest FDI inflows, 8% in 2008, went to the Central Asian countries. From this perspective too, the poorer countries did better. For the low-income economies the proportion was 4.3%, compared with 2.9% for the middle-income countries, and 2.3% for the high-income economies. Among individual economies, the proportions were highest in Hong Kong, China at 29%, followed by Tajikistan, Mongolia, Singapore and Georgia, which were in the range of 12-15%.

Figure 21.1

FDI inflows as a proportion of GDP, 2008



Most countries depend for investment primarily on domestic capital, but they also use FDI as an important source of additional investment capital and foreign exchange. They can also gain additional benefits in the form of technology and knowledge transfer. According to UNCTAD, FDI comprises about 52% of the overall gross fixed capital formation in Cambodia, and 25% in Viet Nam. In Singapore, that proportion is as high as 60%. Any decline in FDI flows to developing countries may, therefore, pose a threat to financial stability and economic development.

Although the region enjoyed positive FDI net inflows in 2008, the accumulated inward FDI stock in 2008 was $3,073 billion, which is 16.5% lower than in the previous year. The largest reductions were in Hong Kong, China at $342 billion, followed by the Russian Federation at $278 billion, and Turkey at $88 billion, even though all three enjoyed the positive FDI net inflows. This is because FDI stocks represent either book value or historical cost, reflecting prices at the time when the investment was made. The value of the stock can thus change substantially in dollar terms, as a result either of asset depreciation or of fluctuations in foreign currency exchange rates. Further study is needed to determine the causes of the drops in FDI stocks in individual countries.

The stock can be compared with the size of the overall economy. On this basis, it is the most significant in Hong Kong, China where it was 388% of GDP, followed by Vanuatu at 182%, Kiribati at 182%, Singapore at 179%, and Solomon Islands at 107%.

The Asia-Pacific region is also an FDI source. Outward FDI flows from the region have also continued to rise, increasing by 29% in 2008 to $400 billion. As a regional average, this was equivalent to 2.3% of GDP but for some individual economies this proportion was much higher: 27.8% in Hong Kong, China, followed by Malaysia at 6.3%. China is also a major source: between 2007 and 2008, outward FDI increased from $23 billion to $52 billion.

In 2008, the region's total outward FDI stock reached $2,506 billion, representing an increase of 222% from 2003. The largest relative increases were registered by the SAARC region, especially India which increased its outward stock by $56 billion – over 1,000%. The highest percentage increases, however, starting from very low bases, were in Armenia by 6,278% and Kyrgyzstan by 1,944%. Among ASEAN countries, the largest increases were in Malaysia, by 462%, and the Philippines, by 361%. In absolute terms, however, the highest outward stock was from Hong Kong, China at $776 billion, followed by Japan at $680, Russian Federation at $203 billion, Australia at $195 billion, and Singapore at $189 billion.

The largest sources of FDI are usually the developed countries but, particularly following the global economic crisis, the developing countries too will become more important sources of FDI to other developing countries. According to ESCAP's recent *Asia-Pacific Trade and Investment Report* (APTIR), transnational corporations and sovereign wealth funds in the region are expected to continue expanding their investment activities within the region and thus help a recovery in FDI flows. China, for example, has increasingly shifted its investment from developed to developing countries. Now, almost most half the region's FDI inflows come from elsewhere in the region – with a sharply rising trend particularly within the ASEAN countries. According to UNCTAD, the main destination for Asian FDI is South-East Asia. Overall, the APTIR shows that although Asia's outward FDI is still comparatively small it shows a clear upward trend.

Workers Remittances

Many countries rely on remittances from overseas migrant workers. The country most dependent on these flows is Tajikistan where in 2007 they represented 56.5% of gross national income (GNI) – up substantially from 35.1% in 2006. A large relative increase was also recorded in Tonga, from 28.2 to 37.7%. In Kyrgyzstan, remittances rose from 16.9% of GNI in 2006 to 18.8% in 2007.

In 2007, the situation for other countries in the region was mixed. On the one hand, Nepal, for example, saw remittances decline between 2006 and 2007, from 13.6 to 13.2% of GNI, and the Philippines saw them decline from 9.8 to 8.4% of GNI. Some other countries saw modest rises – Bangladesh from 8.4 to 8.9% of GNI, and Sri Lanka from 7.7 to 7.8% of GNI.

Official Development Assistance

Many of the region's poorest countries rely for foreign funds on official development assistance (ODA). In Afghanistan, for example, ODA in 2007 was nearly 40% of GNI, and even higher in several Pacific island developing economies.

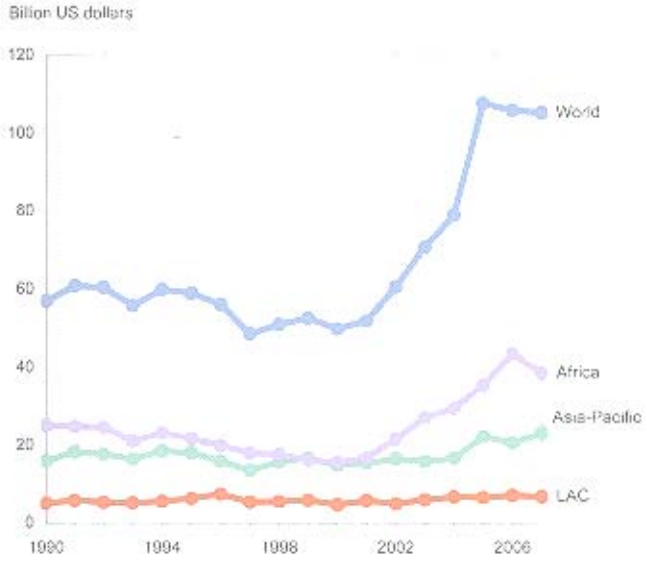
Globally, ODA reached its highest level in 2005 at $107 billion but by 2007 had fallen slightly, to $105 billion. A smaller share of this now goes to Asia and the Pacific. In 1999, the region received 31.7% of global ODA, but by 2006 the region's

share had fallen to only 19.4%, increasing only slightly in 2007 to 21.9%.

The data used in this report are based on the OECD definition and do not include development assistance that is provided by middle-income and developing countries. Countries from the region, such as China, India, the Republic of Korea, Thailand, Malaysia and Singapore, have been providing aid to other countries in the Asian and African continents through bilateral and multilateral cooperation schemes.

Figure 21.2

ODA received, global regions, 1990-2007



In 2007, Asia and the Pacific received $23 billion in grants and loans, an increase of 12.1% from the previous year. This is significant, given that globally ODA decreased by 0.56%. In the same year, ODA decreased by 12.8% in Africa and by 4.5% in Latin America.

The increase benefited all Asia-Pacific subregions. The greatest increase was in East and North-East Asia, where China accounted for 81.5% of the ODA received in 2007 – a year when the country was hit by major floods, mudslides and building collapses, due to heavy rainfall, affecting more than 3.5 million people. In 2007 the largest ODA flows were to Pakistan at $2.2 billion, followed by Bangladesh at $1.5 billion, China at $1.4 billion, and India at $1.3 billion.

In most years since 1990, almost half of annual ODA for Asia and the Pacific has gone to South and South-West Asia. Within that subregion, Afghanistan has, since 2002, has had the greatest percentage increase in ODA, which by 2007 had reached $3.95 billion, three times the amount received in 2002. The next largest amounts in the subregion go to Pakistan, Bangladesh and India. The largest increases in the subregion between 2006 and 2007 were to Turkey at 28.4% and Bangladesh at 18.7%. In the latter case, this was probably in response to two devastating flood, in July and September 2007, which flooded 42% of the total land area and caused heavy damage in 46 out of 64 districts.

The second largest amount of ODA in the region goes to South East Asia, with Indonesia and the Philippines receiving the bulk of the assistance. The ODA received by the subregion peaked in 2005 at $6 billion, coinciding with the response to the December 2004 tsunami. Some of the smaller countries, while receiving small amounts of ODA, nevertheless saw significant increases between 2006 and 2007 – Myanmar, for example, by 26%, and Cambodia by 21%.

The North and Central Asian subregion accounts for only a small percentage of the region's ODA, but in most years it has benefited from steady annual increases. ODA received by these countries peaked in 2007 at $1.85 billion.

External debt

From 1990, net external debt in Asia and the Pacific reached its highest level in 1998, at 36.8% of GDP, but by 2007 had fallen to 21.3%. Most of the region's economies have lower net external debt as a proportion of GDP than Latin America and the Caribbean, or Africa. However, in recent years the differences between the world regions have narrowed significantly.

Following the 1997 Asian financial crisis, the debt-to-GDP ratio has fallen steadily in most of the region's countries. In 2007, the countries with the highest debt to GDP ratios were Samoa at 209%, Kazakhstan at 92%, the Lao People's Democratic Republic at 81%, Kyrgyzstan at 63%, Bhutan at 62%, Tajikistan at 54%, and Maldives at 53%. Those ratios, have mostly been steadily rising since 1990 except in The Lao People's Democratic Republic, whose debt to GDP ratio in 2007 was the lowest since 1990, and Kyrgyzstan, whose ratio has been decreasing since 2003. The lowest ratios were in the Islamic Republic of Iran at 7% , Azerbaijan and Turkmenistan at 9%, and China at 11% – countries which since 199 have had relatively low debt to GDP ratios.

As debts have fallen in many countries, so too have the debt-service ratios as percentage of exports and income from abroad. Since 1990, the ratio for Asia and the Pacific as a whole has fallen steadily,

Figure 21.3

Net external debt as a proportion of GDP, global regions, 1990-2007

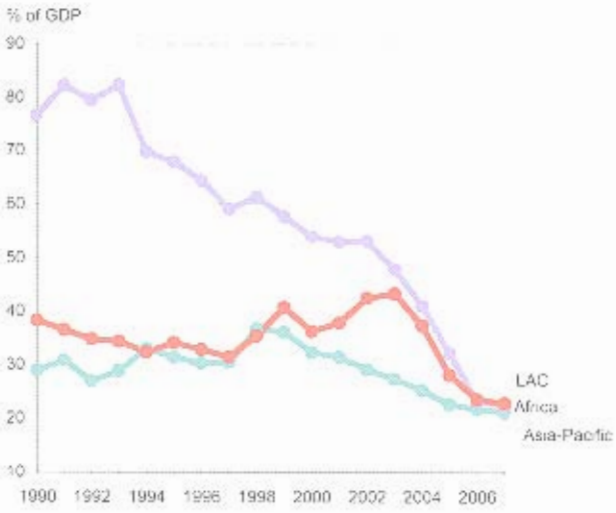
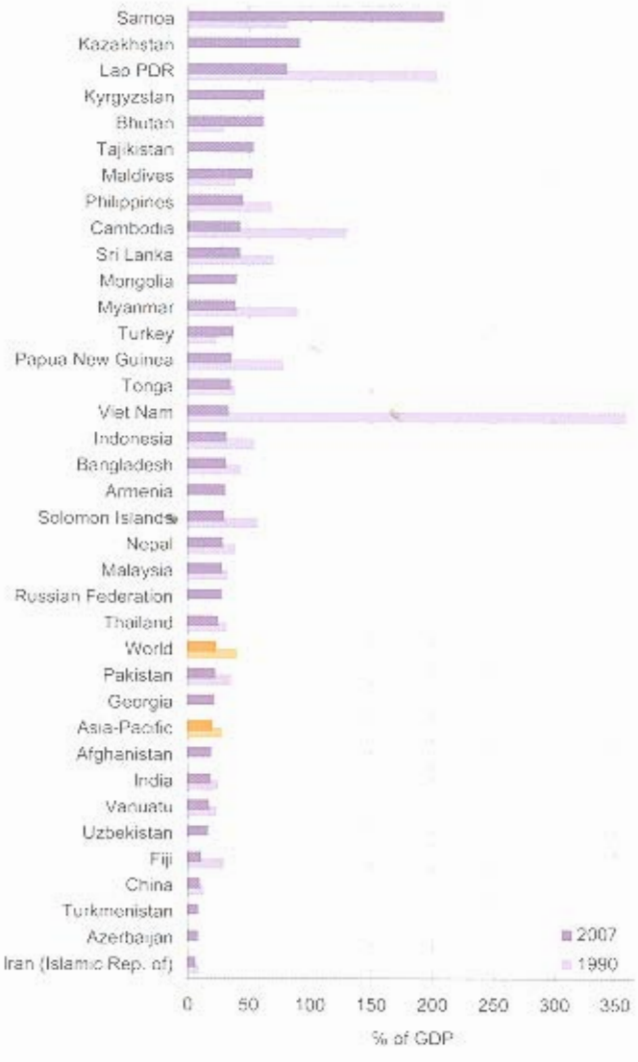


Figure 21.4

Net external debt as a proportion of GDP, Asia and the Pacific, 1990-2007



reaching its lowest level, of 2.2, in 2007. Between 2006 and 2007, the debt-service ratios of the least developed countries rose slightly, to 3.7%. The region's developing economies maintain lower debt-service ratios than those in other global regions: between 1990 and 2007, their debt-service ratios as a proportion of exports of goods, services, services and income from abroad fell from 16.6 to 2.2%, while the ratios in Africa fell from 26.8 to 4.9%, and those in Latin America and the Caribbean fell from 20.5 to 8%. The highest ratios in 2007 were in Turkey at 11.5%, followed by Pakistan at 9.0%, Nepal at 8.7%, the Philippines at 8.5%, and Tonga at 7.8%.

Figure 21.5

Debt services ratio, selected country groupings, 1990-2007

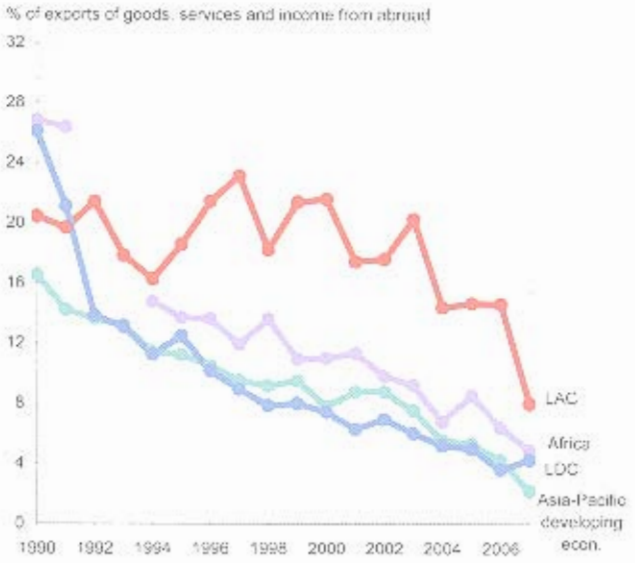
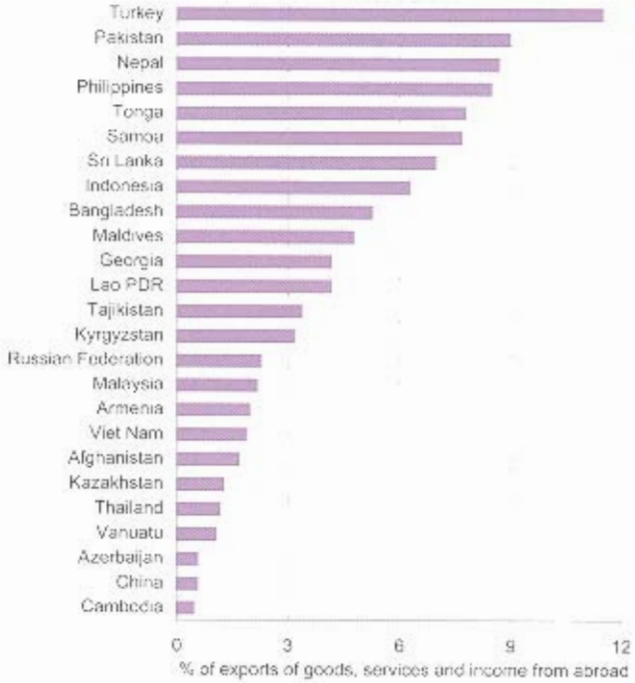


Figure 21.6

Debt services ratio, Asia and the Pacific, 2007



FDI inward and outward stock (million US dollars; % of GDP)
Represents the value of the share of capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of affiliates to the parent enterprise. ***Inward stock*** is the value of the capital and reserves in the economy attributable to a parent enterprise resident in a different economy. ***Outward stock*** refers to the value of capital and reserves in another economy attributable to a parent enterprise resident in the economy. **Aggregates:** Calculated by ESCAP as the sum of individual country values (value in of million US dollars) and using total GDP in US dollars as weight (value as a percentage of GDP). **Source:** United Nations Conference on Trade and Development, Foreign Direct Investment and National Accounts Main Aggregates database. Online database accessed on 21 September 2009 and 22 October 2009.

FDI inflows and outflows (million US dollars; % of GDP)
Comprise capital provided (either directly or through other related enterprises) by a foreign direct investor to a FDI enterprise, or capital received by a foreign direct investor from a FDI enterprise. FDI ***inflows*** comprise capital provided (either directly or through other related enterprises) by a foreign direct investor to a FDI enterprise in the reporting economy. FDI ***outflows*** are capital received by a foreign direct investor from entities resident in the reporting economy. FDI includes the three following components: equity capital, reinvested earnings and intra-company loans. (1) Equity capital is the foreign direct investor's purchase of shares of an enterprise in a country other than that of its residence. (2) Reinvested earnings comprise the direct investor's share (in proportion to direct equity participation) of earnings not distributed as dividends by affiliates or earnings not remitted to the direct investor. Such retained profits by affiliates are reinvested. (3) Intra-company loans or intra-company debt transactions refer to short- or long-term borrowing and lending of funds between direct investors (parent enterprises) and affiliate enterprises. Ownership or control of less than 10% of a business is not considered to be foreign direct investment. **Aggregates:** Calculated by ESCAP as the sum of individual country values (value in of million US dollars) and using total GDP in US dollars as weight (value as percentage of GDP). **Source:** Calculated by ESCAP using data from United Nations Conference on Trade and Development, Foreign Direct Investment and National Accounts Main Aggregates database. Online database accessed on 21 September 2009 and 22 October 2009.

Workers remittances received (million US Dollars; % of GNI)
Current transfers from abroad by migrants who are employed or intend to remain employed for more than a year in another economy in which they are considered residents, expressed as in million US dollars and as a percentage of gross national income (GNI). **Source:** Calculated by ESCAP using data from International Monetary Fund, Balance of Payments Statistics (CD-ROM August 2009) and National Accounts Main Aggregates Database, online database accessed on 5 November 2009.

ODA received (million US Dollars; % change (% per annum); % of GNI)
The amount of official development assistance (ODA) received in grants and loans during the reporting period, expressed in million US dollars, percentage change, and as a percentage of the gross national income (GNI). **Aggregates:** Calculated by ESCAP as the sum of individual country values (value in million US dollars) and using total GNI as weight (value as a percentage of GNI). **Source:** Calculated by ESCAP using data from Organization for Economic Co-operation and Development, Development Database on Aid from DAC Members (online database) and National Accounts Main Aggregates database. Online database accessed on 2 October 2009 and 5 November 2009.

Net external debt (million US dollars; % of GDP)
The outstanding net amount of those current, and not contingent, liabilities owed to non-residents by residents of an economy that require payments either of principal and/or interest by the debtor at some point in the future. Residents comprise the general government, individuals, private non-profit bodies, and enterprises. **Aggregates:** Calculated by ESCAP as the sum of the individual country values (amount in million US dollars) and using GDP in current US dollars (from UNSD, National Accounts Main Aggregates Database) as weight (% of GDP). **Source:** World Bank, World Development Indicators (million US dollars); Calculated by ESCAP using data from UNSD, National Accounts Main Aggregates Database (% of GDP). Online database accessed on 22 October 2009.

Debt service (% of exports of goods, services and income from abroad)
The sum of interest payments and repayment of principal on international debt, divided by the value of exports of goods and services and income from abroad. **Aggregates:** Calculated using the value of exports of goods, services and net income from abroad as weight. **Source:** United Nations Millennium Development Goals Indicators; and International Monetary Fund; International Financial Statistics. Online database accessed on 27 August 2009.

21.1 Inward foreign direct investment

	FDI inward stock					FDI net inflows				
	Million US dollars	% of GDP				Million US dollars	% of GDP			
	2008	90-95	95-00	00-05	2008	2008	90-94	95-99	00-04	2008
East and North-East Asia	**1 521 042**	**5.7**	**8.3**	**11.8**	**14.6**	**205 975**	**0.5**	**1.0**	**1.4**	**2.0**
China	378 063	9.7	15.7	13.8	8.7	108 312	3.1	4.4	3.4	2.5
DPR Korea	1 435	6.4	9.8	10.5	10.8	44	0.1	0.7	0.6	0.3
Hong Kong, China	835 754	190.2	184.0	256.4	367.7	63 003	4.4	8.3	17.4	29.2
Japan	203 372	0.4	0.8	1.8	4.1	24 426	0.0	0.1	0.2	0.5
Macao, China	9 749	64.5	43.7	44.3	44.7	1 905	0.0	0.0	3.8	8.7
Mongolia	1 946	1.4	8.0	26.2	37.0	683	0.4	1.6	5.9	13.0
Republic of Korea	90 693	1.9	4.0	10.8	9.8	7 603	0.2	0.8	1.0	0.8
South-East Asia	**663 210**	**20.4**	**34.1**	**42.7**	**43.8**	**59 923**	**3.3**	**4.5**	**3.6**	**4.0**
Brunei Darussalam	10 361	3.6	46.1	99.2	71.3	239	0.2	13.8	18.3	1.6
Cambodia	4 637	6.0	31.4	41.4	41.4	815	1.5	6.4	3.0	7.3
Indonesia	67 044	8.1	14.5	8.8	13.1	7 919	1.1	1.4	-0.6	1.6
Lao PDR	1 408	6.1	26.8	30.0	26.4	228	2.0	5.1	1.3	4.3
Malaysia	73 262	28.2	46.0	38.3	33.1	8 053	7.3	5.7	2.8	3.6
Myanmar	5 546	11.4	36.9	45.9	19.3	283	2.8	7.4	2.5	1.0
Philippines	21 470	12.4	18.3	16.2	12.7	1 520	1.8	1.9	1.3	0.9
Singapore	326 142	77.1	100.0	147.1	179.3	22 725	10.0	13.5	14.9	12.5
Thailand	104 850	10.7	16.0	31.2	37.2	10 091	1.8	3.0	3.4	3.6
Timor-Leste	166	19.0	24.7	42.7	29.2	0	5.9	0.6	5.5	0.1
Viet Nam	48 325	29.8	53.3	66.5	53.3	8 050	7.3	7.3	3.7	8.9
South and South-West Asia	**255 976**	**3.0**	**4.5**	**6.9**	**9.6**	**68 867**	**0.2**	**0.5**	**0.9**	**2.6**
Afghanistan	1 365	0.4	0.5	4.1	10.8	300	0.0	0.0	1.4	2.4
Bangladesh	4 817	1.6	3.5	5.4	6.1	1 086	0.0	0.9	0.8	1.4
Bhutan	131	1.0	1.0	1.6	9.8	30	0.2	0.1	0.3	2.2
India	123 288	0.9	2.6	5.0	9.8	41 554	0.1	0.6	0.9	3.3
Iran (Islamic Rep. of)	20 811	2.1	2.2	6.2	6.0	1 492	0.0	0.0	1.6	0.4
Maldives	225	14.9	17.0	21.9	17.8	15	2.6	2.1	1.9	1.2
Nepal	127	0.3	1.0	1.6	1.0	1	0.0	0.2	0.1	0.0
Pakistan	31 059	4.5	9.3	7.7	17.4	5 438	0.6	0.7	0.7	3.0
Sri Lanka	4 283	9.3	11.2	10.0	10.5	752	1.2	1.3	1.1	1.8
Turkey	69 871	6.2	6.7	10.7	9.4	18 198	0.3	0.3	0.7	2.5
North and Central Asia	**298 739**	**0.5**	**6.9**	**23.8**	**15.5**	**89 917**	**0.2**	**1.4**	**2.6**	**4.7**
Armenia	3 521	2.3	16.7	30.2	29.5	1 132	0.5	5.3	5.1	9.5
Azerbaijan	6 612	1.1	56.3	98.7	14.3	11	0.1	16.1	25.3	0.0
Georgia	6 919	0.3	11.8	33.3	64.1	1 564	0.0	4.1	6.5	12.2
Kazakhstan	58 284	4.1	30.4	53.0	44.0	14 543	1.6	5.9	9.3	11.0
Kyrgyzstan	1 016	1.7	19.8	27.7	20.1	233	0.4	4.8	2.6	4.6
Russian Federation	213 734	0.3	4.7	20.6	12.7	70 320	0.1	0.9	1.7	4.2
Tajikistan	862	0.8	8.2	13.6	34.8	376	0.3	1.5	6.5	15.2
Turkmenistan	4 748	4.2	22.2	32.5	53.7	820	1.3	4.6	5.0	9.3
Uzbekistan	3 043	0.4	2.8	8.0	11.8	918	0.2	0.7	0.9	3.6
Pacific	**334 452**	**26.5**	**30.1**	**35.0**	**28.6**	**49 634**	**2.0**	**2.0**	**3.3**	**4.2**
American Samoa										
Australia	272 174	25.5	27.1	33.0	26.8	46 774	1.7	1.7	3.5	4.6
Cook Islands	39	18.9	56.9	27.2		1	1.3	11.2	-4.8	
Fiji	1 759	25.4	26.9	21.7	48.9	274	3.4	3.3	3.1	7.6
French Polynesia	324	3.8	4.6	5.4	6.9	32	0.4	0.3	0.4	0.7
Guam										
Kiribati	141	2.6	64.3	200.6	181.9	2	0.5	22.6	32.7	2.5
Marshall Islands						6	-0.4	12.4	14.6	3.3
Micronesia (F.S.)						6	0.0	-7.1	0.0	2.4
Nauru						0	-0.8	1.1	3.9	2.0
New Caledonia	2 239	2.8	2.6	5.6	24.1	467	0.4	0.1	1.2	5.0
New Zealand	53 424	33.2	50.6	49.2	42.3	1 979	4.2	3.7	2.3	1.6
Niue	7					0				
Northern Mariana Islands										
Palau	124	0.0	49.2	86.3	69.3	2	0.7	15.0	5.7	1.0
Papua New Guinea	2 312	36.6	41.5	57.4	28.9	-30	4.2	7.9	1.8	-0.4
Samoa	74	13.4	19.9	17.5	13.8	6	3.5	2.6	0.2	1.0
Solomon Islands	700	121.6	101.2	108.9	106.8	76	5.0	1.3	-0.5	11.5
Tonga	84	2.6	5.9	12.4	28.0	6	0.9	0.3	1.7	1.9
Tuvalu	32	0.8	1.2	93.6	99.2	2	0.5	0.2	30.4	5.2
Vanuatu	1 019	135.0	163.5	183.3	182.4	34	12.6	10.3	6.7	6.0
Asia and the Pacific	**3 073 419**	**7.2**	**11.0**	**15.5**	**17.4**	**474 316**	**0.7**	**1.3**	**1.7**	**2.7**
LLDC	53 062	2.3	18.6	38.5	30.7	19 274	0.8	4.0	7.1	7.1
LDC	20 386	4.3	10.5	14.0	13.1	2 877	0.6	2.0	1.2	1.9
ASEAN	663 044	20.4	34.1	42.7	43.8	59 922	3.3	4.5	3.6	4.0
ECO	197 670	4.5	7.5	12.7	13.2	42 329	0.4	0.7	1.7	2.6
SAARC	165 294	1.7	4.0	5.4	10.5	49 177	0.2	0.7	0.9	3.1
Central Asia	85 005	2.3	21.4	45.3	34.6	19 597	0.8	4.8	8.6	8.0
Pacific island dev. econ.	8 853	26.8	29.7	33.0	31.5	881	3.2	3.6	1.8	3.1
Low income	72 581	6.6	18.6	27.1	25.2	12 334	1.2	2.9	1.8	4.3
Middle income	1 196 516	6.1	12.1	14.3	12.0	292 826	1.3	2.4	2.3	2.9
High income	1 804 243	7.7	10.3	16.0	24.3	169 152	0.4	0.8	1.3	2.3
Africa	**510 511**	**14.5**	**20.7**	**27.9**	**33.8**	**87 647**	**0.9**	**1.6**	**2.7**	**5.8**
Europe	**7 033 494**	**11.4**	**17.3**	**31.0**	**35.8**	**540 616**	**1.1**	**2.6**	**3.6**	**2.8**
Latin America and Carib.	**1 161 616**	**9.9**	**16.1**	**28.5**	**27.4**	**144 377**	**1.1**	**3.3**	**3.6**	**3.3**
North America	**2 693 916**	**8.0**	**10.4**	**14.3**	**17.3**	**361 102**	**0.6**	**1.8**	**1.5**	**2.3**
Other countries/areas	**416 333**	**15.3**	**16.3**	**21.4**	**25.2**	**89 294**	**0.9**	**1.5**	**2.5**	**5.7**
World	**14 909 289**	**9.2**	**13.3**	**20.9**	**24.5**	**1 697 353**	**0.8**	**2.0**	**2.3**	**2.8**

21.2 Outward foreign direct investment

	FDI outward stock					FDI outflows				
	Million US Dollars	% of GDP				Million US Dollars	% of GDP			
	2008	90-95	95-00	00-05	2008	2008	90-94	95-99	00-04	2008
East and North-East Asia	**1 702 659**	**5.7**	**8.5**	**11.4**	**16.4**	**253 883**	**0.8**	**0.9**	**1.0**	**2.4**
China	147 949	2.0	2.3	2.4	3.4	52 150	0.5	0.2	0.2	1.2
DPR Korea						0	0.1	0.1	0.0	0.0
Hong Kong, China	775 920	33.5	137.7	226.1	360.0	59 920	10.0	13.9	16.9	27.8
Japan	680 331	5.9	5.8	7.6	13.9	128 020	0.7	0.5	0.8	2.6
Macao, China	2 920	0.0	0.0	4.7	13.4	998	0.0	0.0	0.0	4.6
Mongolia						0	0.0	0.0	0.0	0.0
Republic of Korea	95 540	1.4	3.7	4.3	10.3	12 795	0.4	0.9	0.6	1.4
South-East Asia	**301 635**	**4.7**	**10.9**	**16.5**	**21.6**	**32 117**	**0.9**	**1.7**	**1.7**	**2.1**
Brunei Darussalam	732	4.3	8.3	7.7	5.0	34	1.4	0.6	0.5	0.2
Cambodia	308	4.1	4.6	4.9	2.8	24	0.0	0.2	0.4	0.2
Indonesia	27 233	1.3	3.5	4.1	5.3	5 900	0.6	0.2	0.4	1.2
Lao PDR	20	0.2	0.9	1.0	0.4	0	0.1	0.2	0.0	0.0
Malaysia	67 580	3.0	12.3	12.3	30.5	14 059	1.2	2.4	1.5	6.3
Myanmar						0	0.0	0.0	0.0	0.0
Philippines	5 810	1.4	2.2	1.8	3.4	237	0.3	0.2	0.2	0.1
Singapore	189 094	29.9	52.4	90.5	103.9	8 928	4.1	8.2	8.9	4.9
Thailand	10 857	0.9	1.8	2.4	3.8	2 835	0.2	0.4	0.2	1.0
Timor-Leste						0	0.0	0.0	0.0	0.0
Viet Nam						100	0.0	0.0	0.0	0.1
South and South-West Asia	**79 162**	**0.2**	**0.4**	**1.0**	**3.0**	**20 767**	**0.0**	**0.1**	**0.2**	**0.8**
Afghanistan						0	0.0	0.0	0.0	0.0
Bangladesh	81	0.1	0.1	0.2	0.1	9	0.0	0.0	0.0	0.0
Bhutan						0	0.0	0.0	0.0	0.0
India	61 765	0.1	0.2	0.9	4.9	17 685	0.0	0.0	0.3	1.4
Iran (Islamic Rep. of)	1 853	0.0	0.3	0.4	0.5	380	0.0	0.1	0.0	0.1
Maldives						0	0.0	0.0	0.0	0.0
Nepal						0	0.0	0.0	0.0	0.0
Pakistan	1 284	0.4	0.4	0.7	0.7	46	0.0	0.0	0.0	0.0
Sri Lanka	314	0.2	0.4	0.6	0.8	62	0.0	0.1	0.1	0.2
Turkey	13 865	0.6	0.9	1.9	1.9	2 585	0.0	0.1	0.2	0.3
North and Central Asia	**214 083**	**0.3**	**2.4**	**15.4**	**11.2**	**56 809**	**0.1**	**0.4**	**1.5**	**3.0**
Armenia	24	0.0	0.0	0.1	0.2	10	0.0	0.0	0.0	0.1
Azerbaijan	5 232	0.0	0.1	16.8	11.3	556	0.0	0.0	7.5	1.2
Georgia	130	0.0	0.5	2.0	1.0	41	0.0	0.0	0.1	0.3
Kazakhstan	5 842	0.0	0.0	-0.7	4.4	3 812	0.0	0.0	-0.7	2.9
Kyrgyzstan	18	0.0	0.9	3.4	0.4	0	0.0	0.4	0.6	0.0
Russian Federation	202 837	0.3	2.8	17.5	12.1	52 390	0.1	0.5	1.7	3.1
Tajikistan						0	0.0	0.0	0.0	0.0
Turkmenistan						0	0.0	0.0	0.0	0.0
Uzbekistan	0				0.0	0	0.0	0.0	0.0	0.0
Pacific	**208 311**	**11.6**	**17.0**	**24.8**	**18.0**	**36 093**	**0.9**	**0.8**	**1.8**	**3.1**
American Samoa										
Australia	194 721	11.9	18.3	27.0	19.1	35 938	0.8	1.0	2.1	3.5
Cook Islands						0	0.5	-0.7	0.6	
Fiji	82	2.1	2.1	2.2	2.3	6	0.1	-0.5	0.1	0.2
French Polynesia	82	0.0	0.0	0.6	1.7	13	0.0	0.0	0.2	0.3
Guam										
Kiribati						0	0.0	0.0	0.0	0.0
Marshall Islands						0	0.3	0.1	6.3	0.0
Micronesia (F.S.)						0	0.0	0.0	0.0	0.0
Nauru						0	0.0	0.0	0.0	0.0
New Caledonia						23	0.0	0.0	0.2	0.2
New Zealand	13 093	12.1	12.1	13.7	10.4	100	2.2	0.1	0.1	0.1
Niue						0				
Northern Mariana Islands										
Palau						0	0.0	0.0	0.0	0.0
Papua New Guinea	276	3.7	6.2	7.1	3.4	0	1.0	0.1	0.0	0.0
Samoa						0	0.0	0.0	0.0	0.0
Solomon Islands						12	0.0	0.0	0.1	1.8
Tonga						2	0.0	0.0	0.3	0.6
Tuvalu						0	0.0	0.0	0.0	0.0
Vanuatu	58			9.4	10.4	-1			0.2	-0.1
Asia and the Pacific	**2 505 851**	**5.0**	**8.0**	**11.5**	**14.3**	**399 670**	**0.7**	**0.8**	**1.0**	**2.3**
LLDC	11 137	0.0	0.1	1.5	4.9	4 378	0.0	0.0	0.4	1.6
LDC	468	0.3	0.4	0.5	0.5	45	0.0	0.0	0.0	0.0
ASEAN	301 635	4.7	10.9	16.5	21.6	32 117	0.9	1.7	1.7	2.1
ECO	28 094	0.3	0.6	1.3	1.9	7 379	0.0	0.1	0.2	0.5
SAARC	63 444	0.1	0.3	0.8	4.1	17 802	0.0	0.0	0.2	1.1
Central Asia	11 246	0.0	0.1	1.8	4.8	4 419	0.0	0.0	0.5	1.8
Pacific island dev. econ.	498	1.6	2.2	2.3	2.9	55	0.4	0.0	0.2	0.2
Low income	428	0.2	0.2	0.3	0.3	134	0.0	0.0	0.0	0.0
Middle income	552 992	0.9	2.1	4.1	5.6	152 766	0.2	0.3	0.4	1.5
High income	1 952 432	6.9	11.0	16.6	26.3	246 769	0.9	1.1	1.4	3.3
Africa	**97 804**	**4.9**	**6.5**	**5.9**	**7.4**	**9 309**	**0.3**	**0.5**	**0.1**	**0.6**
Europe	**8 998 248**	**13.3**	**22.5**	**39.8**	**45.9**	**944 672**	**1.5**	**3.8**	**4.2**	**4.8**
Latin America and Carib.	**561 433**	**4.6**	**6.3**	**12.1**	**13.4**	**63 207**	**0.3**	**0.7**	**1.4**	**1.4**
North America	**3 684 373**	**9.1**	**12.6**	**17.6**	**23.6**	**390 156**	**0.8**	**1.6**	**1.8**	**2.5**
Other countries/areas	**357 425**	**13.9**	**15.3**	**18.4**	**12.7**	**50 720**	**0.9**	**1.2**	**1.8**	**2.8**
World	**16 205 134**	**8.9**	**13.8**	**22.2**	**26.6**	**1 857 734**	**1.0**	**2.0**	**2.3**	**3.1**

21.3 Workers' remittances

	Workers' remittances received									
	Million US Dollars					% of GNI				
	1995	2000	2005	2006	2007	1995	2000	2005	2006	2007
East and North-East Asia										
China	350	556	5 495	6 830	10 680	0.0	0.0	0.2	0.3	0.3
DPR Korea										
Hong Kong, China										
Japan		505	733	1 026	1 261		0.0	0.0	0.0	0.0
Macao, China			53	55				0.4	0.4	
Mongolia		12	178	180			1.1	7.4	5.7	
Republic of Korea	291	63	64	138	172	0.1	0.0	0.0	0.0	0.0
South-East Asia										
Brunei Darussalam										
Cambodia	10	100	160	180	184	0.3	3.2	3.0	2.9	2.5
Indonesia	651	1 190	5 296	5 560	6 004	0.3	0.9	1.9	1.6	1.4
Lao PDR										
Malaysia										
Myanmar	81	77	86	66		1.0	1.1	0.7	0.5	
Philippines	432	5 161	10 668	12 481	13 266	0 6	6.4	10.0	9.8	8.4
Singapore										
Thailand										
Timor-Leste										
Viet Nam										
South and South-West Asia										
Afghanistan										
Bangladesh	1 202	1 958	4 302	5 418	6 553	3.1	4.2	7.1	8.4	8.9
Bhutan										
India	6 139	12 745	21 030	25 109		1.7	2.8	2.6	2.8	
Iran (Islamic Rep. of)										
Maldives										
Nepal	57	111	1 126	1 373	1 647	1.2	1 8	12 2	13 6	13.2
Pakistan	1 712	1 075	4 277	5 113	5 992	2.1	1.4	3.3	3.5	3.4
Sri Lanka	790	1 142	1 968	2 161	2 502	6.0	7.0	8.2	7.7	7.8
Turkey	3 327	4 560	851	1 111	1 209	1.4	1.7	0.2	0.2	0.2
North and Central Asia										
Armenia	12	9	58	74	94	1.0	0.5	1.2	1.2	1.1
Azerbaijan		57	490	662	1 192		1.1	4.2	3.6	4.2
Georgia		95	94	153	245		3.0	1 4	1.9	2 4
Kazakhstan		64	56	73	132		0.4	0.1	0.1	0.1
Kyrgyzstan	1	2	313	473	705	0.1	0.2	13.2	16.9	18.8
Russian Federation			621	766	852			0.1	0.1	0.1
Tajikistan			465	1 015	1 685			15.7	35.1	56.5
Turkmenistan										
Uzbekistan										
Pacific										
American Samoa										
Australia										
Cook Islands										
Fiji		26	135	127			1.5	4.7	4.2	
French Polynesia			11	14	14			0.3	0.3	0.3
Guam										
Kiribati										
Marshall Islands										
Micronesia (F.S.)										
Nauru										
New Caledonia			5	4	3			0 1	0 1	0.0
New Zealand										
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea			6					0.2		
Samoa	39					20.3				
Solomon Islands			3	10				0.6	2.1	
Tonga			62	69	96			29.2	28.2	37.7
Tuvalu										
Vanuatu	6	11	0	0	1	2.5	4.7	0.0	0.0	0 3
Asia and the Pacific										
LLDC										
LDC										
ASEAN										
ECO										
SAARC										
Central Asia										
Pacific island dev. econ										
Low income										
Middle income										
High income										
Africa										
Europe										
Latin America and Carib.										
North America										
Other countries/areas										
World										

21.4 Official development assistance

ODA received

	Million US Dollars					% change	% of GNI				
	1990	1995	2000	2006	2007	2007	1990	1995	2000	2006	2007
East and North-East Asia	2 142	3 764	2 018	1 494	1 765	18.1	0.3	0.3	0.2	0.1	0.1
China	2 030	3 471	1 728	1 238	1 439	16.2	0.5	0.5	0.1	0.0	0.0
DPR Korea	8	13	73	55	96	80.0	0.0	0.3	0.7	0.4	0.7
Hong Kong, China	38	18					0.1	0.0			
Japan											
Macao, China	0	-4					0.0	-0.1			
Mongolia	13	209	217	202	228	12.7	1.0	14.8	20.1	6.4	5.8
Republic of Korea	52	57					0.0	0.0			
South-East Asia	4 783	5 012	5 669	4 996	5 434	8.8	1.4	0.8	1.2	0.5	0.5
Brunei Darussalam	4	4					0.1	0.1			
Cambodia	41	551	396	529	672	26.9	3.3	18.3	12.6	8.5	9.1
Indonesia	1 716	1 301	1 654	1 313	872	-33.5	1.6	0.7	1.2	0.4	0.2
Lao PDR	149	307	282	364	396	8.9	17.2	18.2	17.8	12.4	10.6
Malaysia	468	106	45	240	200	-16.9	1.1	0.1	0.1	0.2	0.1
Myanmar	161	150	106	146	197	34.2	3.1	1.9	1.5	1.1	1.1
Philippines	1 271	902	575	562	634	13.0	2.9	1.2	0.7	0.4	0.4
Singapore	-3	17					0.0	0.0			
Thailand	796	837	696	-213	-312	46.4	0.9	0.5	0.6	-0.1	-0.1
Timor-Leste	0	0	231	209	278	33.0	0.1	0.0	71.6	21.5	16.1
Viet Nam	181	835	1 681	1 846	2 497	35.3	3.0	4.0	5.5	3.1	3.6
South and South-West Asia	7 265	5 655	4 663	9 871	11 187	13.3	1.0	0.7	0.5	0.5	0.5
Afghanistan	122	213	136	2 999	3 951	31.7	3.4	6.6	5.0	36.7	39.0
Bangladesh	2 093	1 282	1 172	1 222	1 502	22.9	7.3	3.3	2.5	1.9	2.0
Bhutan	46	71	53	94	89	-5.3	17.6	27.7	11.9	10.6	7.3
India	1 399	1 729	1 463	1 379	1 298	-5.9	0.4	0.5	0.3	0.2	0.1
Iran (Islamic Rep. of)	105	187	130	121	102	-15.9	0.1	0.2	0.1	0.1	0.0
Maldives	21	58	19	38	37	-0.4	11.1	15.2	3.2	4.3	3.7
Nepal	423	429	387	512	598	16.9	10.4	8.8	6.2	5.1	4.8
Pakistan	1 127	821	700	2 145	2 212	3.2	1.9	1.0	0.9	1.5	1.3
Sri Lanka	728	554	276	792	601	-24.1	9.1	4.2	1.7	2.8	1.9
Turkey	1 202	313	327	570	795	39.6	0.6	0.1	0.1	0.1	0.1
North and Central Asia		1 071	1 269	1 677	1 851	10.4		2.3	2.7	1.3	1.0
Armenia		218	216	213	352	64.7		16.9	11.4	3.5	4.0
Azerbaijan		119	139	206	225	9.6		3.9	2.7	1.1	0.8
Georgia		209	169	360	382	6.2		7.9	5.3	4.5	3.7
Kazakhstan		65	189	172	202	17.9		0.3	1.1	0.2	0.2
Kyrgyzstan		286	215	311	274	-12.0		19.3	16.7	11.1	7.3
Russian Federation											
Tajikistan		65	124	240	221	-7.8		4.3	11.7	8.3	7.4
Turkmenistan		28	31	26	28	8.6		1.3	0.8	0.4	0.4
Uzbekistan		84	186	149	166	11.6		0.6	1.4	0.9	0.7
Pacific	1 304	1 797	696	960	1 027	7.1	12.7	12.5	10.6	9.8	9.2
American Samoa											
Australia											
Cook Islands	12	13	4	32	9	-71.1	20.7	14.0	5.3	17.9	4.4
Fiji	50	44	29	58	57	-1.5	3.7	2.3	1.7	1.9	1.9
French Polynesia	260	451					11.2	15.7			
Guam											
Kiribati	20	15	18	25	27	7.3	50.9	21.7	20.4	21.4	20.6
Marshall Islands		39	57	55	52	-5.3		26.5	42.8	31.1	27.1
Micronesia (F.S.)		77	102	109	115	5.9		33.7	43.0	42.4	44.9
Nauru	0	3	4	17	26	46.9	0.4	8.2	14.8	60.0	77.0
New Caledonia	302	451					12.0	12.4			
New Zealand											
Niue	7	8	3	9	15	64.8					
Northern Mariana Islands	63.1	-1									
Palau		142	39	37	22	-40.1		145.1	31.2	23.3	13.0
Papua New Guinea	412	370	275	279	321	14.9	15.5	8.7	8.7	6.7	6.3
Samoa	48	43	27	47	37	-20.4	26.9	22.3	11.8	10.7	7.1
Solomon Islands	46	48	68	205	246	20.3	22.3	14.6	20.2	44.2	42.6
Tonga	30	39	19	21	31	43.6	21.5	22.9	12.2	8.8	12.1
Tuvalu	5	8	4	15	12	-23.5	53.1	66.7	32.9	59.6	39.1
Vanuatu	50	46	46	49	57	16.2	26.8	18.6	19.8	12.4	11.8
Asia and the Pacific	15 927	17 976	14 853	20 598	23 093	12.1	0.8	0.6	0.5	0.3	0.3
LLDC	753	2 090	2 175	5 489	6 732	22.6	7.5	3.8	3.9	3.6	3.4
LDC	3 223	3 219	2 945	6 455	8 100	25.5	7.2	5.2	4.2	5.9	6.2
ASEAN	4 783	5 012	5 436	4 787	5 156	7.7	1.4	0.8	1.2	0.5	0.5
ECO	2 555	2 177	2 176	6 938	8 178	17.9	0.7	0.5	0.4	0.7	0.6
SAARC	5 958	5 155	4 206	9 181	10 290	12.1	1.4	1.0	0.7	0.8	0.7
Central Asia		1 071	1 269	1 677	1 851	10.4		2.3	2.7	1.3	1.0
Pacific island dev. econ.	1 304	1 797	696	960	1 027	7.1	12.7	12.5	10.6	9.8	9.2
Low income	3 177	4 212	4 757	8 373	10 572	26.3	4.8	4.1	3.8	4.2	4.4
Middle income	11 577	12 061	9 542	10 551	10 630	0.7	0.8	0.6	0.4	0.2	0.2
High income	716	993					0.2	0.1			
Africa	25 077	21 781	15 577	43 494	38 550	-11.4	6.7	4.0	2.7	3.7	2.8
Europe	184	1 909	3 389	4 457	3 380	-24.2	0.2	1.9	4.0	1.4	0.9
Latin America and Carib.	5 189	6 385	4 850	7 152	6 842	-4.3	0.4	0.3	0.2	0.2	0.2
North America	42	-2					2.1	-0.1			
Other countries/areas	4 685	2 695	2 240	14 138	14 265	0.9	1.3	0.7	0.7	2.4	2.3
World	56 957	58 973	49 877	105 876	105 284	-0.6	1.3	0.8	0.7	0.8	0.6

21.5 Net external debt

	Million US dollars					% of GDP				
	1990	1995	2000	2005	2007	1990	1995	2000	2005	2007
East and North-East Asia	**55 301**	**118 609**	**146 596**	**285 105**	**375 232**	**14**	**16**	**12**	**12**	**11**
China	55 301	118 090	145 711	283 603	373 635	14	16	12	12	11
DPR Korea										
Hong Kong, China										
Japan										
Macao, China										
Mongolia		520	885	1 302	1 596		37	81	56	41
Republic of Korea										
South-East Asia	**175 452**	**333 805**	**348 073**	**329 923**	**362 105**	**56**	**57**	**69**	**43**	**33**
Brunei Darussalam										
Cambodia	1 845	2 284	2 628	3 515	3 761	131	69	72	56	44
Indonesia	69 872	124 398	144 286	132 794	140 783	56	56	87	46	33
Lao PDR	1 768	2 165	2 508	2 707	3 337	204	128	152	99	81
Malaysia	15 328	34 343	41 874	51 981	53 717	34	37	45	38	29
Myanmar	4 695	5 771	5 928	6 645	7 373	91	74	81	56	40
Philippines	30 580	39 379	58 304	61 856	65 845	69	53	77	62	46
Singapore										
Thailand	28 094	100 039	79 720	51 411	63 067	33	60	65	29	26
Timor-Leste										
Viet Nam	23 270	25 428	12 825	19 211	24 222	360	123	41	36	34
South and South-West Asia	**182 827**	**247 345**	**284 795**	**381 253**	**576 767**	**25**	**29**	**29**	**22**	**24**
Afghanistan					2 041					20
Bangladesh	12 439	15 927	15 717	18 919	22 033	44	42	35	33	32
Bhutan	84	106	204	649	775	30	36	46	79	62
India	83 628	94 464	99 099	123 145	220 956	26	26	21	15	19
Iran (Islamic Rep. of)	9 020	21 879	7 978	21 260	20 577	10	20	8	11	7
Maldives	78	155	206	387	562	39	39	33	52	53
Nepal	1 627	2 410	2 869	3 197	3 645	40	49	46	35	29
Pakistan	20 663	30 229	32 781	33 158	40 680	36	37	42	26	24
Sri Lanka	5 863	8 395	9 157	11 266	14 020	71	63	55	46	43
Turkey	49 424	73 781	116 784	169 269	251 477	24	32	44	35	38
North and Central Asia		**130 527**	**186 322**	**287 298**	**482 756**		**29**	**60**	**33**	**32**
Armenia		371	916	1 642	2 888		29	48	38	31
Azerbaijan		321	1 328	1 815	3 021		10	25	14	9
Georgia		1 240	1 638	1 911	2 292		46	54	30	23
Kazakhstan		3 750	12 433	43 378	96 133		18	68	76	92
Kyrgyzstan		609	1 827	2 027	2 401		41	133	82	63
Russian Federation		121 401	159 993	229 911	370 172		30	62	30	29
Tajikistan		634	1 034	1 065	1 226		51	120	46	54
Turkmenistan		402	2 518	1 058	743		18	61	18	9
Uzbekistan		1 799	4 634	4 290	3 676		13	34	31	17
Pacific	**3 301**	**3 194**	**3 183**	**3 491**	**4 135**	**63**	**41**	**52**	**38**	**36**
American Samoa										
Australia										
Cook Islands										
Fiji	403	246	134	229	387	31	13	8	8	12
French Polynesia										
Guam										
Kiribati										
Marshall Islands										
Micronesia (F.S.)										
Nauru										
New Caledonia										
New Zealand										
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea	2 594	2 506	2 556	2 276	2 245	79	52	73	47	36
Samoa	92	170	197	656	1 140	82	85	85	151	209
Solomon Islands	120	159	155	166	178	58	44	46	40	30
Tonga	54	64	65	82	91	40	38	42	38	36
Tuvalu										
Vanuatu	38	49	74	82	94	24	21	30	22	19
Asia and the Pacific	**416 882**	**833 481**	**968 968**	**1 287 068**	**1 800 994**	**29**	**32**	**32**	**23**	**21**
LLDC	3 476	13 086	31 157	63 331	121 685	66	25	57	55	57
LDC	22 786	29 195	30 487	36 925	44 940	56	51	46	41	36
ASEAN	175 452	333 805	348 073	329 923	362 105	56	57	69	43	33
ECO	79 108	133 404	181 317	277 321	422 178	23	29	37	31	32
SAARC	124 383	151 685	160 033	190 724	304 713	29	30	26	18	21
Central Asia		9 127	26 329	57 387	112 583		20	54	54	58
Pacific island dev. econ	3 301	3 194	3 183	3 491	4 135	63	41	52	38	36
Low income	45 644	57 026	49 971	61 578	73 917	99	62	45	39	33
Middle income	371 238	776 455	918 998	1 225 490	1 727 077	27	30	32	22	21
High income										
Africa	**276 644**	**343 563**	**302 961**	**302 603**	**277 962**	**77**	**68**	**54**	**32**	**23**
Europe	**79 186**	**88 921**	**137 325**	**273 893**	**528 389**	**51**	**29**	**44**	**41**	**53**
Latin America and Carib.	**441 210**	**608 461**	**751 217**	**738 534**	**825 697**	**36**	**34**	**36**	**28**	**23**
North America										
Other countries/areas	**10 112**	**10 627**	**17 206**	**30 059**	**33 002**	**156**	**73**	**63**	**68**	**59**
World	**1 224 033**	**1 885 052**	**2 177 677**	**2 632 158**	**3 466 045**	**41**	**37**	**38**	**28**	**24**

21.6 Debt service

% of exports of goods, services and income from abroad

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
East and North-East Asia										
China	10.6	9.0	5.1	4.2	3.5	2.7	1.2	1.0	0.8	0.6
DPR Korea										
Hong Kong, China										
Japan										
Macao, China										
Mongolia		10.1	6.0	6.9	7.2	33.7	2.8	2.5	2.3	
Republic of Korea										
South-East Asia	**16.7**	**7.9**	**6.5**	**8.4**	**9.4**	**8.2**	**6.9**	**5.0**	**5.7**	**3.3**
Brunei Darussalam										
Cambodia		0.7	1.4	0.8	0.8	0.9	0.8	0.7	0.6	0.5
Indonesia	25.6	17.5	11.1	13.7	13.6	12.7	13.7	8.4	14.2	6.3
Lao PDR	8.5	6.1	7.8	9.0	9.3	10.7	9.7	7.8	4.2	4.2
Malaysia	10.6	2.9	2.8	3.6	5.0	4.7	3.6	3.6	1.9	2.2
Myanmar	18.2	18.8	3.4	2.6	3.6	3.6	3.3	2.2	1.4	
Philippines	25.6	14.3	10.2	14.7	14.5	14.9	15.8	12.5	15.5	8.5
Singapore										
Thailand	11.4	3.7	5.8	8.2	10.6	8.0	4.2	2.4	2.0	1.2
Timor-Leste										
Viet Nam			7.2	6.6	5.9	3.3	2.4	2.3	1.7	1.9
South and South-West Asia	**21.2**	**26.0**	**15.2**	**17.4**	**20.9**	**18.4**	**14.8**	**13.3**	**8.0**	
Afghanistan						4.0	1.9	1.8	1.8	1.7
Bangladesh	34.8	16.4	10.7	9.5	10.2	8.1	6.9	7.2	5.0	5.3
Bhutan										
India	29.3	31.6	15.7	12.7	16.2	19.0	11.7	10.5	3.7	
Iran (Islamic Rep. of)	1.3	27.1	9.1							
Maldives	4.0	3.3	4.0	4.4	4.3	3.6	4.6	6.8	4.2	4.8
Nepal	14.7	7.7	7.3	7.7	10.3	10.1	9.0	8.2	9.7	8.7
Pakistan	22.9	24.5	20.6	21.1	19.6	17.1	22.8	9.9	8.9	9.0
Sri Lanka	14.8	8.8	10.8	9.8	9.6	7.7	8.9	4.3	9.8	7.0
Turkey	29.9	24.0	18.6	24.8	30.2	20.4	18.9	19.4	15.2	11.5
North and Central Asia		**6.1**	**7.5**	**11.2**	**8.0**	**7.8**	**5.8**	**10.1**	**8.0**	**2.1**
Armenia		3.2	7.9	6.1	6.2	6.7	6.5	3.2	2.7	2.0
Azerbaijan		1.2	5.2	4.4	4.6	4.9	3.1	1.4	0.8	0.6
Georgia			13.4	7.6	8.7	9.9	11.5	6.5	8.3	4.2
Kazakhstan		3.5	8.6	4.8	7.4	3.1	3.8	4.0	0.8	1.3
Kyrgyzstan		13.2	9.0	11.9	10.9	8.1	6.3	6.3	4.7	3.2
Russian Federation		6.3	7.4	11.9	8.1	8.3	6.0	11.1	9.2	2.3
Tajikistan					9.0	5.4	5.6	4.8	3.4	3.4
Turkmenistan										
Uzbekistan										
Pacific										
American Samoa										
Australia										
Cook Islands										
Fiji	9.0	3.6	2.2	1.5	1.4	1.0	0.7	0.8	0.8	
French Polynesia										
Guam										
Kiribati										
Marshall Islands										
Micronesia (F.S.)										
Nauru										
New Caledonia										
New Zealand										
Niue										
Northern Mariana Islands										
Palau										
Papua New Guinea	18.4	10.1	8.0	7.1	7.9	7.3	8.6	5.9		
Samoa	10.6	6.6					5.8	4.6	5.5	7.7
Solomon Islands	11.3	1.3	2.8	1.8	2.8	5.6	3.8	4.8	2.0	
Tonga	3.5			7.7	6.6	5.4	7.0	6.3	6.1	7.8
Tuvalu										
Vanuatu	1.6	1.1	0.9	0.9	1.2	1.1	1.3	0.9	1.5	1.1
Asia and the Pacific developing countries	**16.6**	**11.3**	**7.8**	**8.8**	**8.8**	**7.5**	**5.6**	**5.4**	**4.3**	**2.2**
LLDC		4.7	7.9	5.5	7.4	5.4	4.2	3.7	1.3	1.4
LDC	26.1	12.5	7.5	6.3	7.0	6.0	5.2	5.0	3.7	4.3
ASEAN	16.7	7.9	6.5	8.4	9.4	8.2	6.9	5.0	5.7	3.3
ECO	17.1	22.9	14.8	20.8	24.4	16.8	16.2	14.4	10.4	8.0
SAARC	27.1	26.8	15.3	13.1	15.7	17.2	12.4	10.0	4.5	
Central Asia		3.8	8.4	5.3	7.3	4.3	4.4	3.7	1.3	1.3
Pacific island dev. econ.	14.0	7.8	5.9	5.0	5.3	4.9	5.6	4.3		
Low income			7.4	6.6	6.5	4.5	3.6	3.4	2.5	2.6
Middle income	16.4	11.2	7.8	8.9	8.9	7.6	5.6	5.4	4.3	2.2
High income										
Africa	**26.8**	**13.7**	**11.0**	**11.4**	**9.8**	**9.2**	**6.8**	**8.6**	**6.4**	**4.9**
Europe										
Latin America and Carib.	**20.5**	**18.6**	**21.6**	**17.5**	**17.6**	**20.3**	**14.4**	**14.7**	**14.7**	**8.0**
North America										
Other countries/areas										
World										

22 International trade

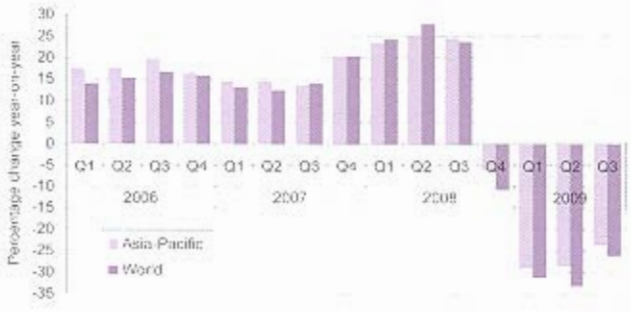
The Asia-Pacific region continues to expand merchandise exports, which, during the period 2005-2008, grew almost three percentage points faster than the world average – despite the collapse at the end of 2008 because of fast growth in the years preceding the crisis.

Between 2005 and 2008 the Asia-Pacific region's merchandise exports grew at 16.8% annually. Growth was fastest in the middle-income economies, by 21.2% per year, while the high-income economies managed to increase their exports only by 11.6% per year – lower than the world average. Since the commodity and services statistics in this *Yearbook* are in current US dollars, these growth rates are affected by inflation and by fluctuations in exchange rates.

The global economic crisis from September 2008 caused a dramatic decline in the region's merchandise trade. Since this would not show up in annual data, the *Yearbook* makes an exception and includes a figure based on quarterly time-series data from WTO. For the trading economies of Asia this shows the scale of the dramatic turnaround: by the end of 2009, most Asia-Pacific economies were starting to experience a recovery of their trade flows.

Figure 22.1

Growth of merchandise exports, major exporting economies of Asia, quarterly data for 2006-2009



According to the latest comparable figures (2007 or 2008), Asia and the Pacific contributed almost 34% to global merchandise exports. East and North-East Asia, which includes the two largest exporters from the region, China and Japan, contributed almost two thirds of that share. South-East Asia is the second largest contributor, though the subregion's share in the world exports is smaller than the share of China alone.

Indeed, in 2008 China was the world's second largest exporter, behind Germany, but surpassing the United States. However, 2008 also saw China and some other countries in the region becoming less trade-dependent, as measured by the share of exports and imports in their GDPs. This is because in the last quarter of 2008 trade was falling faster than GDPs. In 2008 China's share of exports to GDP fell by almost two percentage points.

Some smaller Asian economies that have been known for their very high export and import dependence, such as Singapore and Hong Kong, China, did not record significant changes in their trade dependence, but Malaysia experienced a 10 percentage point decline.

The region's second most populous economy, India, recorded above the average growth of exports and imports between 2005 and 2008. Furthermore, in 2008 India's export dependence increased by almost two percentage points, while its imports dependence jumped by almost seven percentage points. Even so, India remains a small trader in terms of its share in world markets.

The trend for the region's exports was similar to that of imports, including a sudden and synchronized contraction after the last quarter of 2008. Nevertheless, during 2005-2008 the region's imports of the whole region grew faster than exports – at 17.8% per year. Middle-income economies again increased their imports at the fastest rate, almost seven percentage points faster than the world average. Imports to high-income economies were growing at about the same speed as the world average. Imports to Pacific island developing economies, however, increased in 2005-2008 at a much slower pace than during the period 2000-2005.

China is the world's third-largest importer, while the whole East and North-East Asia region the top subregion in terms of contribution to the world imports, just above 17% in 2008. Four out of Asia's five largest importers in terms of market share come from this subregion.

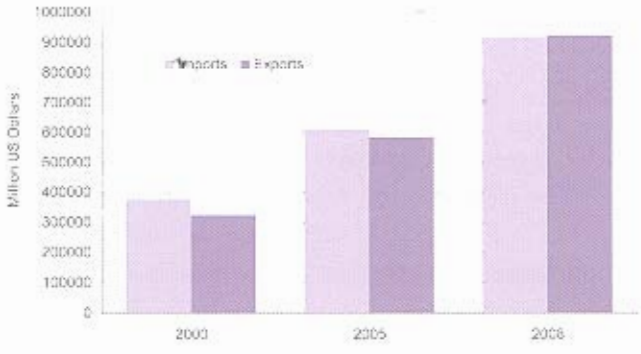
Trade in services

The 2008-2009 financial and economic crisis had less effect on the trade in services. Nevertheless, following previous periods of stable growth, some trade related services, such as shipping and insurance, as well as travel, recorded contractions in 2008. In that year, overall, commercial services exports from Asia and the Pacific reached almost $925 billion – 18% of the region's merchandise exports. Almost half of these exports came from East and North-East Asia, the top two exporters being China and Japan. India, however, is quickly closing the gap to become one of the top exporters; in 2008 it ranked third in the region, up from seventh place in 2000.

On the services import side, Asia-Pacific imports of commercial services in 2008, $920 billion and 19% of merchandise imports, went mostly to East and North-East Asia and South-East Asia. Since 2000, Asia and the Pacific as a whole switched from a net importer to a net exporter of commercial services.

Figure 22.2

Imports and exports of commercial services, Asia-Pacific aggregates, 2000-2008



Although there are as yet no detailed statistics on the impact of the economic crisis on the sectoral composition of services, it is clear that particular services were hit hard. Given the plunge in merchandise trade, one of the main losers was transportation. For example, Japan and Singapore recorded declines in export of transportation services of 9% and 15% in the last quarter of 2008, respectively, while Hong Kong, China was able to sustain only small growth, of 2%.

For the Asia-Pacific region as a whole, transportation services represent a higher share in imports than in exports. However, differences between various subregions are quite large. In South and South-West Asia more than half of services imports are transportation services, while in North and Central Asia this share is less than 20%. It must be noted that these subregional averages are driven by their larger economies. The low share of transportation services in the Russian Federation pushes the overall average down, obscuring the higher share of transportation in import services for some of the subregion's landlocked countries.

Figure 22.3

Proportion of transport services in total imports and exports of services, 2008



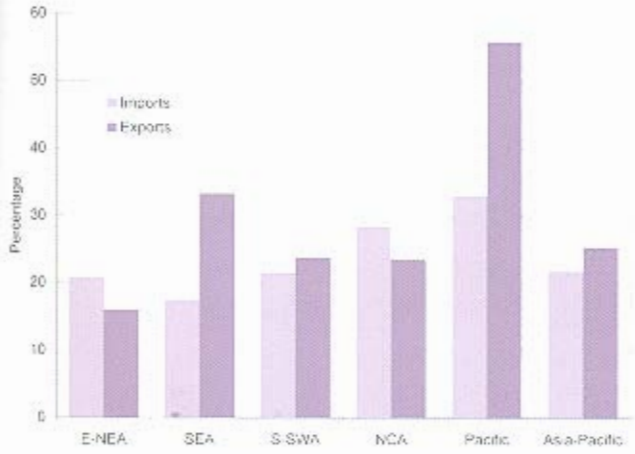
International travel was also hit hard by the crisis. As with other categories of trade, travel started to decline significantly in the fourth quarter of 2008. WTO estimates that world travel exports shrank by 18% in the first quarter of 2009. Several Asia-Pacific countries experienced sharp declines: Turkey by 11%, Thailand by 26%, and Australia by 18%.

While the travel services form about a quarter of the Asia-Pacific region's total services exports, there are wide subregional differences. The Pacific region, for example, achieves almost 60% of its exports of services through travel, while this share in East and North-East Asia is still below 10%. Differences between individual economies are even more striking. In 2008, Macao, China, for example, relied on travel for 95% of its export of services, and for the Maldives the proportion was 90%, and for Cambodia 75%. But for Pakistan the proportion is only 6% and for Tajikistan just over 2%. WTO

estimates that the decline in travel receipts will harm the exports of least developed countries, including Cambodia and Maldives.

Figure 22.4

Shares of travel services in total imports and exports of services (2008)



Intraregional trade

About half of the region's merchandise trade is with other countries in the region. Between 1998 and 2008, the proportion for exports rose from 41.2 to 49.2%, and for imports from 48.9 to 52.7% . The proportion of intraregional trade is affected by the geography and diversity of the region, and natural and man-made obstacles. The Asia-Pacific intra-regional share is similar to that of countries within the North American Free Trade Agreement, but lower than in the European Union (70%). However, these two regions have been promoting intraregional trade based on formal integration agreements, which do not exist for the Asia-Pacific region as a whole.

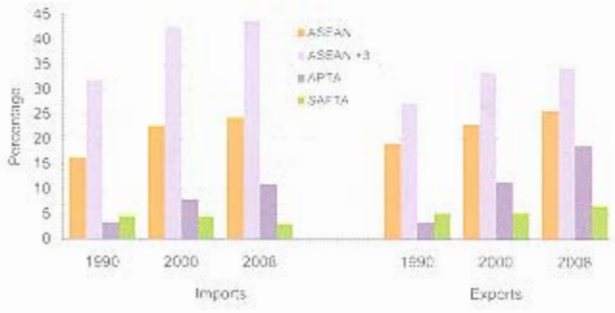
On the other hand, the Asia-Pacific economies are parties to many agreements at subregional, plurilateral and bilateral levels. According to the Asia-Pacific Trade and Investment Agreements Database, as of December 2009, there were 12 regional trade agreements and 76 bilateral trade agreements in force.

The most advanced pursuit of deeper economic integration is among the members of ASEAN, who between 1990 and 2008 increased intraregional imports by 50%, and exports by close to 35%. However, in the same period, parties to the Asia-Pacific Trade Agreement (APTA) tripled intraregional imports and increased intraregional exports almost six-fold. The members of South Asian Free-Trade Area (SAFTA) on the other hand suffered a reduction in the intraregional import share by 1.5 percentage points, but succeeded in increasing the intraregional export share by a similar percentage.

Over the same period, the ASEAN+3 group, which involves trade agreements involving ASEAN along with China, Japan and the Republic of Korea, increased intraregional imports by almost 40%, and intraregional export by 26%.

Figure 22.5

Proportion of intraregional imports and exports, major regional trade agreements in Asia and the Pacific, 1990 and 2008



At the end of 2009, after turbulent months of sudden and deep falls in trade flows, there were signs of a rebound in the Asia-pacific region. Reports of increased exports, imports, industrial production and GDP growth in a number of the region's economies demonstrate the region's vitality and its readiness to be a driving force in the recovery from the crisis.

Imports and exports of merchandise (million US dollars)
The value of all goods which add/subtract to the material resources of a country as a result of their movement into or out of the country. Thus, ordinary commercial transactions, government trade (including foreign aid, war reparations and trade in military goods), postal trade and all kind of silver (except silver coins after their issue), are included. Since their movement affects monetary rather than material resources, monetary gold, and currency and titles of ownership after their issue into circulation, are excluded. **Aggregates:** Calculated by ESCAP as the sum of individual country values. Missing data have been imputed. **Source:** Calculated by ESCAP using data from United Nations Comtrade. Online database accessed on 28 August 2009.

Imports and exports of merchandise as share of GDP (% of GDP)
The sum of merchandise imports and exports divided by GDP. **Aggregates:** Calculated by ESCAP using GDP in United States dollars as weight. Missing data have been imputed. **Source:** Calculated by ESCAP using data from United Nations Comtrade. Online database accessed on 28 August 2009 and UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

Average annual growth rates of imports and exports of merchandise (% per annum)
Average annual rate of change in imports and exports of merchandise. **Aggregates:** Calculated by ESCAP using GDP in United States dollars as weight. Missing data have been imputed. **Source:** Calculated by ESCAP using data from United Nations Comtrade. Online database accessed on 28 August 2009 and UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

Current account balance (% of GDP)
The net difference between credit and debit flows from goods, services and income divided by GDP. It also includes current transfers crossing national borders, but not transactions in financial assets and liabilities which are recorded in the capital account. **Source:** World Economic Outlook Database April 2009. Online database accessed on 4 August 2009.

Imports and exports of services (million US dollars)
The total value of non-resident to resident (imports) and resident to non-resident (exports) trade in services. While the 1993 SNA defines services as outputs produced to order and which cannot be traded separately from their production, in practice service industries (or activities) are taken to be those in sections G to Q, inclusive, of ISIC, Rev. 3. **Aggregates:** Calculated by ESCAP as the sum of individual country values. Missing data have been imputed. **Source:** United Nations service trade database. Online database accessed on 2 November 2009.

Imports and exports of services, average annual growth rate (% per annum)
Average annual rate of change in imports and exports of services. **Aggregates:** Calculated by ESCAP using GDP in United States dollars as weight. **Source:** Calculated by ESCAP using data from United Nations service trade. Online database accessed on 2 November 2009 and UNSD, National Accounts Main Aggregates Database. Online database accessed on 22 October 2009.

Imports and exports of transport services (% of total services imports/exports)
The proportion of transport services in services trade. Imports and exports take place when a resident of one economy performs transport services for non-resident, involving the carriage of passengers, the movement of goods (freight), rentals (charters) of carriers with crew, and related supporting and auxiliary services. Excluded are freight insurance (included in insurance services); goods procured in ports by non-resident carriers and repairs of transportation equipment (both are treated as goods, not services); repairs of railway facilities, harbours and airfield facilities (included in construction services); and rentals or charters of carriers without crew (included in operational leasing services). **Aggregates:** Calculated by ESCAP using total imports and exports of services as weight. **Source:** Calculated by ESCAP using data from United Nations service trade. Online database accessed on 2 November 2009.

Imports and exports of travel services (% of total services imports/exports)
The proportion of travel services in services trade. Covers primarily the goods and services acquired from an economy by travellers during visits of less than one year to that economy. The goods and services are purchased by, or on behalf of, the traveller or provided, without a quid pro quo (that is, are provided as a gift), for the traveller to use or give away. Excluded are transportation of travellers within the economies that they are visiting, where such transportation is provided by carriers not resident in the particular economy being visited, as well as the international carriage of travellers, both of which are covered in passenger services under transportation. **Aggregates:** Calculated by ESCAP using total imports and exports of services as weight. **Source:** Calculated by ESCAP using data from United Nations service trade. Online database accessed on 2 November 2009.

Imports and exports of merchandise to/from ASEAN (percentage)
Represents the share of merchandise imports by an ASEAN member country from other ASEAN members and the share of merchandise exports from an ASEAN member to other ASEAN member countries in the country total merchandise import and exports, respectively. ASEAN member countries are: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. **Aggregates:** Calculated by ESCAP as the share of imports/exports of ASEAN member countries from/to ASEAN member countries divided by the sum of total imports/total exports. **Source:** Calculated by ESCAP using data from United Nations service trade. Online database accessed on 2 November 2009.

Imports and exports of merchandise to/from ASEAN+3 (percentage)
Represents the share of merchandise imports by an ASEAN+3 member country from other ASEAN+3 members and the share of merchandise exports from an ASEAN+3 member to other ASEAN+3 member countries in the country total merchandise imports and exports, respectively. ASEAN+3 member countries are the ASEAN members: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam, plus China, Japan, and the Republic of Korea. **Aggregates:** Calculated by ESCAP as the share of imports/exports of ASEAN+3 member countries from/to ASEAN+3 member countries divided by the sum of total imports/total exports. **Source:** Calculated by ESCAP using data from United Nations service trade. Online database accessed on 2 November 2009.

Imports and exports of merchandise to/from APTA (percentage)
Represents the share of merchandise imports by an APTA member country from other APTA members and the share of merchandise exports from an APTA member to other APTA member countries in the country total merchandise imports and exports, respectively. APTA member countries are: Bangladesh, China, India, Lao People's Democratic Republic, Republic of Korea, and Sri Lanka. **Aggregates:** Calculated by ESCAP as the share of imports/exports of APTA member countries from/to APTA member countries divided by the sum of total imports/total exports. **Source:** Calculated by ESCAP using data from United Nations service trade. Online database accessed on 2 November 2009.

Imports and exports of merchandise to/from SAFTA (percentage)
Represents the share of merchandise imports by a SAFTA member country from other SAFTA members and the share of merchandise exports from a SAFTA member to other SAFTA member countries in the country total merchandise imports and exports, respectively. SAFTA member countries are: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. **Aggregates:** Calculated by ESCAP as the share of imports/exports of SAFTA member countries from/to SAFTA member countries divided by the sum of total imports/total exports. **Source:** Calculated by ESCAP using data from United Nations service trade. Online database accessed on 2 November 2009.

22.1 Merchandise trade

	Imports of merchandise					Exports of merchandise				
	Million US Dollars					Million US Dollars				
	1990	1995	2000	2005	2008	1990	1995	2000	2005	2008
East and North-East Asia	**515 090**	**803 099**	**983 841**	**1 745 340**	**2 734 591**	**559 216**	**894 024**	**1 107 589**	**1 938 418**	**3 008 130**
China		132 083	225 094	659 953	1 131 563		148 780	249 203	761 953	1 426 686
DPR Korea	543	1 261	1 689	2 428	4 260	601	931	1 176	1 448	1 898
Hong Kong, China		196 072	214 042	300 160	392 962		173 871	202 683	292 119	370 242
Japan	234 799	336 094	379 663	515 866	762 534	286 947	442 937	479 248	594 941	781 412
Macao, China	1 533	2 025	2 261	4 514	5 880	1 701	2 025	2 547	2 474	1 996
Mongolia			615	1 183	2 117 (07)			466	1 064	1 887 (07)
Republic of Korea	69 840	135 113	160 479	261 236	435 275	65 016	125 056	172 267	284 416	422 007
South-East Asia	**173 517**	**359 591**	**370 083**	**584 492**	**919 194**	**153 253**	**325 949**	**426 518**	**654 482**	**965 265**
Brunei Darussalam										
Cambodia			1 439					1 389		
Indonesia	21 837	40 629	33 515	57 701	129 244	25 675	45 418	62 124	85 660	137 020
Lao PDR	109	568	610	1 133	2 314	59	262	356	608	1 067
Malaysia	29 246	77 046	81 290	114 290	156 203	29 453	73 778	98 230	141 624	198 846
Myanmar	688	2 479	2 749	3 209	6 015	460	1 369	2 019	3 813	6 131
Philippines		28 487	37 007	49 487	50 420		17 447	38 078	41 256	49 078
Singapore	60 790	124 503	134 546	200 050	319 780	52 716	118 263	137 806	229 652	338 176
Thailand	33 371	70 781	61 921	118 164	178 613	23 069	56 439	68 619	110 110	175 908
Timor-Leste				102					43	
Viet Nam			15 637	36 761	82 765 (07)			14 483	32 447	48 561 (07)
South and South-West Asia	**77 686**	**112 322**	**147 883**	**356 680**	**638 183**	**59 447**	**87 847**	**121 849**	**270 080**	**420 863**
Afghanistan					2 514					580
Bangladesh	3 432	5 438	7 611	12 631	17 623 (07)	1 556	3 407	5 493	9 332	13 143 (07)
Bhutan				367	543				258	521
India	23 799	36 592	51 377	149 750	315 712	17 940	31 699	45 250	103 404	181 861
Iran (Islamic Rep. of)			13 625	38 575				28 345	60 012	
Maldives		268	389	745	1 388		50	76	154	126
Nepal			1 558					709		
Pakistan	7 356	11 704	11 070	25 097	42 327	5 573	8 158	9 201	16 050	20 279
Sri Lanka	2 634			8 307	13 629	1 913			6 160	8 450
Turkey	22 301	35 707	54 150	116 774	201 961	12 959	21 599	27 485	73 476	132 002
North and Central Asia			**46 589**	**131 263**	**334 638**			**120 335**	**283 115**	**600 152**
Armenia			640	1 692	4 101			294	937	1 055
Azerbaijan			1 172	4 211	7 162			1 745	4 347	47 756
Georgia			709	2 490	6 056			323	865	1 497
Kazakhstan		3 805	5 033	17 352	37 815		5 227	8 789	27 849	71 172
Kyrgyzstan		522	554	1 108	2 417 (07)		412	504	672	1 134 (07)
Russian Federation			33 880	98 707	267 051			103 093	241 452	467 994
Tajikistan			544					692		
Turkmenistan			1 786					2 506		
Uzbekistan		1 629	1 971	3 273	7 606		1 782	2 389	3 795	6 345
Pacific	**53 173**	**77 009**	**90 991**	**156 901**	**241 405**	**52 189**	**70 830**	**81 171**	**133 396**	**224 713**
American Samoa			5	130	173			5	17	67
Australia	38 633	57 423	71 263	118 922	191 526	38 781	53 001	63 766	105 751	187 039
Cook Islands	52			81	103 (07)			7	5	
Fiji	755		776	1 607	1 780 (07)	496		469	702	746 (07)
French Polynesia			1 072	1 702	2 237			244	210	207
Guam			211	921	758			20	55	82
Kiribati	27	34		74		3	7		4	
Marshall Islands		583	791	2 727	4 269		37	35	779	1 243
Micronesia (F.S.)		58	103	97	90		125	72	54	28
Nauru	36	28	59	26	43	61	49	36	4	39
New Caledonia			1 017	1 774	3 269			635	1 114	1 632
New Zealand	9 483	13 958	13 904	26 219	34 367	9 470	13 745	13 272	21 730	30 578
Niue	9	39	16	15	30	1	1	4	2	9
Northern Mariana Islands		82	228	343	117		4	11	17	13
Palau		32	52	39	59		42	34	33	30
Papua New Guinea			1 035					2 407		
Samoa				239	288				67	72
Solomon Islands				139	285 (07)				70	158 (07)
Tonga			69	120	143 (07)			9	10	8 (07)
Tuvalu				13	26				0	
Vanuatu			87		202 (07)	14		23		30 (07)
Asia and the Pacific		**1 422 820**	**1 639 387**	**2 974 677**	**4 868 011**	**921 208**	**1 477 262**	**1 857 462**	**3 279 489**	**5 219 123**
LLDC			17 512	37 064	70 820		11 444	19 171	43 961	135 369
LDC			17 541	25 196	33 450 (07)			11 012	18 434	24 144 (07)
ASEAN	173 404	359 477	359 959	584 391	919 092	153 148	325 844	426 412	654 438	965 222
ECO		72 850	92 519	211 433	344 917			82 237	189 980	345 714
SAARC	41 204	62 434	60 107	201 231	395 537	26 062	47 823	66 019	136 591	225 614
Central Asia		10 186	12 709	32 555	67 586		9 909	17 243	41 663	132 158
Pacific island dev. econ.			5 823	11 760	15 512			4 133		
Low income			36 975	67 565	106 045 (07)			29 792	56 836	81 772 (07)
Middle income		523 992	622 343	1 473 737	2 607 406		524 942	752 015	1 683 693	2 995 044
High income	546 191	869 457	979 941	1 433 239	2 150 381	577 187	931 861	1 075 608	1 538 949	2 141 022
Africa			**144 255**	**260 309**	**409 565**			**150 492**	**253 750**	**381 809**
Europe	**1 965 618**	**2 399 035**	**2 767 244**	**4 497 654**	**6 655 096**	**1 887 267**	**2 474 553**	**2 726 867**	**4 449 376**	**6 445 338**
Latin America and Carib.		**244 581**	**372 687**	**504 047**	**834 876**	**130 549**	**252 347**	**350 596**	**557 042**	**866 097**
North America	**634 666**	**935 826**	**1 499 158**	**2 047 753**	**2 574 208**	**519 831**	**774 145**	**1 057 508**	**1 264 955**	**1 755 669**
Other countries/areas		**241 701**	**289 239**	**468 677**	**707 994**		**248 540**	**371 710**	**662 912**	**904 179** (07)
World	**3 889 873**	**5 364 940**	**6 704 249**	**10 730 867**	**15 946 203**	**3 772 852**	**5 371 808**	**6 508 927**	**10 457 357**	**15 471 037**

22.2 Merchandise trade as share of GDP

	Imports of merchandise, % of GDP						Exports of merchandise, % of GDP					
	1990	1995	2000	2005	2008		1990	1995	2000	2005	2008	
East and North-East Asia	**13.6**	**12.0**	**15.0**	**22.1**	**26.2**		**14.7**	**13.3**	**16.8**	**24.5**	**28.9**	
China		17.4	18.9	28.7	26.2			19.7	20.9	33.1	33.0	
DPR Korea	3.7	26.0	15.9	18.6	31.9		4.1	19.2	11.1	11.1	14.2	
Hong Kong, China		135.9	126.6	168.8	182.3			120.6	119.8	164.3	171.8	
Japan	7.8	6.4	8.1	11.3	15.5		9.5	8.4	10.3	13.1	15.9	
Macao, China	47.4	29.2	37.1	38.9	27.0		52.6	29.2	41.7	21.3	9.2	
Mongolia			56.4	51.3	53.9	(07)			42.8	46.2	48.0	(07)
Republic of Korea	25.4	25.1	30.1	30.9	46.8		23.6	23.2	32.3	33.7	45.4	
South-East Asia	**48.8**	**53.0**	**61.7**	**64.7**	**60.6**		**43.1**	**48.0**	**71.1**	**72.4**	**63.7**	
Brunei Darussalam												
Cambodia			39.2						37.9			
Indonesia	17.4	18.3	20.3	20.2	25.3		20.4	20.5	37.6	30.0	26.8	
Lao PDR	12.5	33.5	36.9	41.4	43.4		6.8	15.4	21.5	22.2	20.0	
Malaysia	64.0	83.5	86.7	82.8	70.5		64.4	80.0	104.7	102.7	89.8	
Myanmar	13.3	31.9	37.8	26.9	21.0		8.9	17.6	27.8	32.0	21.4	
Philippines		38.4	48.8	50.1	35.8			23.5	50.2	41.7	29.1	
Singapore	164.7	148.3	145.1	165.4	175.8		142.9	140.9	148.6	189.9	185.9	
Thailand	39.1	42.1	50.5	67.0	63.3		27.0	33.6	56.1	62.4	62.3	
Timor-Leste				29.0						12.4		
Viet Nam			50.2	59.5	88.4	(07)			46.5	61.3	68.4	(07)
South and South-West Asia	**10.8**	**13.2**	**15.0**	**20.8**	**23.9**		**8.2**	**10.4**	**12.3**	**15.7**	**15.8**	
Afghanistan					19.8						4.6	
Bangladesh	12.2	14.4	16.7	21.9	25.7	(07)	5.5	9.0	12.1	16.2	19.2	(07)
Bhutan				46.8	40.9					31.2	39.3	
India	7.3	9.9	11.0	18.4	25.2		5.5	8.6	9.7	12.7	14.5	
Iran (Islamic Rep. of)			13.2	19.9					27.5	30.9		
Maldives		67.1	62.2	99.3	110.1			12.5	12.2	20.6	10.0	
Nepal			25.1						11.4			
Pakistan	12.9	14.4	14.1	19.6	23.7		9.7	10.0	11.7	12.5	11.3	
Sri Lanka	32.1			34.0	33.5		23.3			25.2	20.8	
Turkey	11.0	15.7	20.3	24.2	27.2		6.4	9.5	10.3	15.2	17.8	
North and Central Asia			**15.1**	**15.1**	**17.4**				**39.0**	**32.5**	**31.2**	
Armenia			44.0	34.5	34.4				15.4	19.1	8.8	
Azerbaijan			22.2	31.8	15.5				33.1	32.8	103.2	
Georgia			23.2	38.8	47.3				10.6	13.5	11.7	
Kazakhstan		18.5	27.5	30.4	28.5			25.4	48.0	48.6	53.7	
Kyrgyzstan		35.0	40.4	46.0	63.6	(07)		27.6	36.8	27.3	29.8	(07)
Russian Federation			13.0	12.9	15.9				39.7	31.6	27.9	
Tajikistan			74.8						80.5			
Turkmenistan			43.0						60.3			
Uzbekistan		12.1	14.3	23.8	29.6			13.2	17.4	27.6	24.7	
Pacific	**14.6**	**16.7**	**19.6**	**18.0**	**20.6**		**14.3**	**15.4**	**17.5**	**15.3**	**19.2**	
American Samoa												
Australia	12.4	15.0	17.8	16.1	18.8		12.5	13.8	16.0	14.3	18.4	
Cook Islands	88.3			44.2	49.0	(07)			9.1	2.8		
Fiji	57.2		46.1	54.7	54.4	(07)	37.6		27.9	23.9	22.8	(07)
French Polynesia			43.8	45.8	47.4				10.0	5.7	4.4	
Guam												
Kiribati	115.2	92.5		113.9			12.3	19.5		5.5		
Marshall Islands		483.7	735.0	1982.1	2571.3			30.9	32.1	566.1	748.7	
Micronesia (F.S.)		27.7	47.4	41.8	37.9			60.3	33.3	23.1	11.7	
Nauru	125.0	120.0	311.1	92.4	177.7		210.4	212.4	191.3	15.9	160.1	
New Caledonia			29.8	28.4	35.2				18.6	17.8	17.6	
New Zealand	21.6	22.8	26.4	23.6	27.2		21.6	22.4	25.2	19.6	24.2	
Niue												
Northern Mariana Islands												
Palau		33.5	43.5	27.0	32.6			43.6	28.1	22.8	16.7	
Papua New Guinea			29.6						68.8			
Samoa				54.8	53.9					20.0	13.5	
Solomon Islands				33.5	48.8	(07)				17.0	27.1	(07)
Tonga			44.8	55.3	56.6	(07)			5.7	4.6	3.2	(07)
Tuvalu				51.9	83.4					0.3		
Vanuatu			35.4		39.8	(07)	8.8		9.5		5.9	(07)
Asia and the Pacific		**15.6**	**18.3**	**24.2**	**27.5**		**15.7**	**16.2**	**20.8**	**26.7**	**29.5**	
LLDC			30.3	30.5	26.2			20.9	33.2	36.1	50.0	
LDC			25.3	25.8	26.4	(07)			15.9	18.8	19.0	(07)
ASEAN	48.8	53.0	61.7	64.7	60.7		43.1	48.0	71.1	72.4	63.7	
ECO		15.7	18.7	23.3	23.0				16.6	20.9	23.0	
SAARC	9.6	12.2	13.0	19.3	25.0		6.5	9.4	10.7	13.1	14.3	
Central Asia		22.1	26.1	30.6	27.5			21.5	35.4	39.2	53.8	
Pacific island dev. econ			42.5	51.7	50.9				32.8			
Low income			29.6	37.7	44.9	(07)			23.9	31.7	34.6	(07)
Middle income		20.5	21.6	26.7	26.1			20.6	26.1	30.6	30.0	
High income	14.5	13.4	16.5	21.8	28.9		15.3	14.4	18.1	23.4	28.8	
Africa			**24.2**	**26.6**	**26.9**				**25.3**	**25.9**	**25.1**	
Europe	**25.0**	**24.6**	**30.8**	**30.7**	**33.8**		**24.0**	**25.4**	**30.3**	**30.3**	**32.7**	
Latin America and Carib.		**13.1**	**17.0**	**18.1**	**18.9**		**10.6**	**13.5**	**16.0**	**20.0**	**19.6**	
North America	**10.0**	**11.8**	**14.3**	**15.2**	**16.5**		**8.2**	**9.8**	**10.1**	**9.4**	**11.3**	
Other countries/areas		**62.2**	**52.5**	**53.5**	**47.5**			**64.0**	**67.5**	**75.7**	**79.1**	(07)
World	**17.5**	**17.9**	**20.9**	**23.6**	**26.2**		**16.9**	**18.0**	**20.3**	**23.0**	**25.4**	

22.3 Growth of trade and current account balance

	Average annual growth rate of imports of merchandise, % per annum				Average annual growth rate of exports of merchandise, % per annum				Current account balance, % of GDP				
	90-95	95-00	00-05	05-08	90-95	95-00	00-05	05-08	1990	1995	2000	2005	2008
East and North-East Asia	**9.3**	**4.1**	**12.1**	**16.1**	**9.8**	**4.4**	**11.8**	**15.8**					
China		11.3	24.0	19.7		10.9	25.0	23.3	3.1	0.2	1.7	7.2	10.0
DPR Korea	18.3	6.0	7.5	20.6	9.2	4.8	4.3	9.4					
Hong Kong, China		1.8	7.0	9.4		3.1	7.6	8.2	6.2	-6.3	4.1	11.4	14.2
Japan	7.4	2.5	6.3	13.9	9.1	1.6	4.4	9.5	1.4	2.1	2.6	3.6	3.2
Macao, China	5.7	2.2	14.8	9.2	3.5	4.7	-0.6	-6.9					
Mongolia			14.0				18.0			1.8	-5.0	1.3	-9.6
Republic of Korea	14.1	3.5	10.2	16.6	14.0	6.6	10.5	14.1	-0.7	-1.8	2.3	1.8	-0.7
South-East Asia	**15.7**	**0.6**	**9.6**	**16.3**	**16.3**	**5.5**	**8.9**	**13.8**					
Brunei Darussalam									71.9	33.7	50.0	52.8	50.6
Cambodia									-3.9	-5.0	-2.8	-3.8	-10.9
Indonesia	13.2	-3.8	11.5	30.8	12.1	6.5	6.6	17.0	-2.5	-3.0	4.8	0.1	0.1
Lao PDR	39.2	1.4	13.2	26.9	34.7	6.3	11.3	20.7	-8.9	-6.9	-10.6	-17.2	-15.6
Malaysia	21.4	1.1	7.1	11.0	20.2	5.9	7.6	12.0	-2.1	-9.5	9.0	15.0	17.4
Myanmar	29.2	2.1	3.1	23.3	24.4	8.1	13.6	17.2	-21.9	-3.7	-0.8	3.7	3.3
Philippines		5.4	6.0	6.9		16.9	1.6	6.0	-6.1	-2.6	-2.9	2.0	2.5
Singapore	15.4	1.6	8.3	16.9	17.5	3.1	10.8	13.8	8.5	17.1	11.6	22.7	14.8
Thailand	16.2	-2.6	13.8	14.8	19.6	4.0	9.9	16.9	-8.3	-7.9	7.6	-4.3	-0.1
Timor-Leste											-7.1	78.4	408.3
Viet Nam			16.6				17.5		-4.0	-1.2	3.5	-1.1	-9.4
South and South-West Asia	**7.7**	**5.7**	**19.3**	**21.4**	**8.1**	**6.8**	**17.3**	**15.9**					
Afghanistan												-2.8	-1.5
Bangladesh	9.6	7.0	10.7		17.0	10.0	11.2		-3.1	-2.3	-1.4	0.0	0.9
Bhutan				12.0				25.4	-10.0	3.4	-9.0	-30.4	11.7
India	9.0	7.0	23.9	28.2	12.1	7.4	18.0	20.7	-2.5	-1.6	-1.0	-1.3	-2.8
Iran (Islamic Rep. of)			23.2				16.2		-3.2	3.7	13.0	8.8	5.2
Maldives		7.7	13.9	23.0		8.9	15.1	-6.4	11.2	-4.2	-7.6	-35.9	-55.6
Nepal									-7.6	-2.1	2.9	2.0	2.5
Pakistan	9.7	-1.1	17.8	19.0	7.9	2.4	11.8	8.1	-2.8	-2.9	-0.3	-1.4	-8.4
Sri Lanka				17.9				11.1	-4.5	-5.8	-6.3	-2.5	-9.4
Turkey	9.9	8.7	16.6	20.0	10.8	4.9	21.7	21.6	-1.3	-2.4	-3.7	-4.6	-5.7
North and Central Asia			**23.0**	**36.6**			**18.7**	**28.5**					
Armenia			15.0	34.3			26.1	4.0		-17.0	-14.6	-1.1	-12.6
Azerbaijan			29.1	19.4			20.0	122.3		-13.2	-3.5	1.3	35.5
Georgia			26.5	34.5			21.8	20.1		-18.3	-7.9	-10.9	-22.6
Kazakhstan		5.8	28.1	29.6		11.0	25.9	36.7		-1.3	3.0	-1.8	5.3
Kyrgyzstan		1.2	14.9			4.1	5.9			-16.0	-4.3	2.8	-6.5
Russian Federation			23.8	39.3			18.6	24.7		2.2	18.0	11.0	6.1
Tajikistan										-17.9	-1.6	-2.7	-8.8
Turkmenistan										0.0	8.2	5.1	19.6
Uzbekistan		3.9	10.7	32.5		6.0	9.7	18.7		-0.2	1.8	7.7	13.6
Pacific	**7.7**	**3.4**	**11.5**	**15.4**	**6.3**	**2.8**	**10.4**	**19.0**					
American Samoa			91.2	10.1			30.1	58.2					
Australia	8.2	4.4	10.8	17.2	6.4	3.8	10.6	20.9	-5.1	-5.2	-3.8	-5.8	-4.2
Cook Islands							-6.5						
Fiji			15.7				8.4		-9.9	3.0	-4.0	-12.1	-26.1
French Polynesia			9.7	9.6			-2.9	-0.6					
Guam			34.3	-6.3			22.2	14.2					
Kiribati	4.8				20.1				2.7	3.1	-0.8	-19.1	-0.9
Marshall Islands		6.3	28.1	16.1		-1.5	86.5	16.9					
Micronesia (F.S.)		12.3	-1.2	-2.5		-10.4	-5.8	-19.6					
Nauru	-5.3	16.1	-15.0	18.5	-4.3	-6.1	-34.1	105.9					
New Caledonia			11.8	22.6			11.9	13.6					
New Zealand	8.0	-0.1	13.5	9.4	7.7	-0.7	10.4	12.1	-3.2	-5.0	-5.1	-8.5	-8.9
Niue	32.5	-15.8	-1.7	26.4	8.2	39.2	-16.7	75.8					
Northern Mariana Islands		22.7	8.5	-30.2		20.8	4.1	-0.1					
Palau		10.3	-5.6	14.5		-4.1	-0.5	-3.1					
Papua New Guinea									5.6	18.3	8.5	4.2	2.8
Samoa				6.5				-6.2	6.7	4.9	1.0	-1.6	-9.4
Solomon Islands									-12.6	-23.8	-10.1	-9.8	-6.8
Tonga			11.6				2.5		-14.5	-11.3	-6.2	-2.6	-10.4
Tuvalu				27.1									
Vanuatu									2.7	-2.2	2.0	-7.4	-6.2
Asia and the Pacific		**2.9**	**12.7**	**17.8**	**9.9**	**4.7**	**12.0**	**16.8**					
LLDC			16.2	24.1		10.9	18.1	45.5					
LDC			7.5				10.9						
ASEAN	15.7	0.6	9.6	16.3	16.3	5.5	8.9	13.8					
ECO		4.9	18.0	17.7			18.2	22.1					
SAARC	8.7	5.1	20.2	25.3	11.3	6.7	15.7	18.2					
Central Asia		4.5	20.7	27.6		11.7	19.3	46.9					
Pacific island dev. econ.			15.1	9.7									
Low income			12.8				13.8						
Middle income		3.5	18.8	20.9		7.5	17.5	21.2					
High income	9.7	2.4	7.9	14.5	10.1	2.9	7.4	11.6					
Africa			**12.5**	**16.3**			**11.0**	**14.6**					
Europe	**4.1**	**2.9**	**10.2**	**14.0**	**5.6**	**2.0**	**10.3**	**13.1**					
Latin America and Carib.		**8.8**	**6.2**	**18.3**	**14.1**	**6.8**	**9.7**	**15.8**					
North America	**8.1**	**9.9**	**6.4**	**7.9**	**8.3**	**6.4**	**3.6**	**11.5**					
Other countries/areas		**3.7**	**10.1**	**14.7**		**8.4**	**12.3**						
World	**6.6**	**4.6**	**9.9**	**14.1**	**7.3**	**3.9**	**9.9**	**13.9**					

22.4 International trade in services

	Imports of services				Exports of services			
	Million US Dollars			Growth rate % per annum	Million US Dollars			Growth rate % per annum
	2000	2005	2008	2000-2008	2000	2005	2008	2000-2008
East and North-East Asia	**211805**	**312922**	**464475**	**10.3**	**175320**	**302757**	**470828**	**13.1**
China	36031	83795	158924	20.4	30430	74404	147112	21.8
DPR Korea								
Hong Kong, China	24699	33977	43972	7.5	40433	63700	91213	10.7
Japan	116541	134385	165592	4.5	69087	110497	143704	9.6
Macao, China		1576				6612		
Mongolia	81	401		28.3	78	414		33.1
Republic of Korea	33381	58788	92790	13.6	30534	45129	73815	11.7
South-East Asia	**87520**	**139169**	**204212**	**11.2**	**68527**	**116901**	**182917**	**13.1**
Brunei Darussalam	768	1110			198	617		
Cambodia	337	647		15.1	428	1118		20.1
Indonesia	15037	22049	27984	7.5	5214	12926	15243	14.3
Lao PDR	43	56	108	12.2	176	204	414	11.3
Malaysia	16748	22133	30295	7.7	13940	19597	30344	10.2
Myanmar	328	502			478	259		
Philippines	5247	5865	8756	6.6	3377	4525	10194	14.8
Singapore	29490	55049	79376	13.2	28148	53218	83378	14.5
Thailand	15436	27044	46600	14.8	13832	20138	33709	11.8
Timor-Leste			484				59	
Viet Nam	3252	4480	7931	11.8	2702	4265	7006	12.6
South and South-West Asia	**31741**	**64209**	**97273**	**15.0**	**42056**	**91630**	**151875**	**17.4**
Afghanistan								
Bangladesh	1620	2207	3614	10.5	815	1249	787	-0.4
Bhutan	36	63		6.7	32	52		9.4
India	14576	32635	53289	17.6	16268	52589	103171	26.0
Iran (Islamic Rep. of)	2296	7697		24.6	1382	5167		23.7
Maldives	110	213	348	15.5	348	323	704	9.2
Nepal	200	435		20.1	506	380		0.2
Pakistan	2252	7508	9491	19.7	1380	3678	4125	14.7
Sri Lanka	1622	2089	3001	8.0	953	1540	2003	9.7
Turkey	9029	11363	16074	7.5	20371	26642	34375	6.8
North and Central Asia	**19430**	**51150**	**94880**	**21.9**	**11801**	**30069**	**60969**	**22.8**
Armenia	193	531	972	22.4	137	411	845	21.4
Azerbaijan	485	2653	3889	29.7	260	683	1547	25.0
Georgia	216	632	1235	24.4	214	715	1260	24.8
Kazakhstan	1850	7496	10999	25.0	1053	2228	4383	19.5
Kyrgyzstan	149	297		21.5	62	255		41.0
Russian Federation	16230	38865	76357	21.4	9565	24970	51306	23.4
Tajikistan	57	252	456	29.7	63	146	181	14.2
Turkmenistan								
Uzbekistan	251	425		6.4	447	660		11.6
Pacific	**25745**	**42342**	**59864**	**11.1**	**26786**	**42317**	**58186**	**10.2**
American Samoa								
Australia	18928	30498	45354	11.5	19825	31018	45641	11.0
Cook Islands								
Fiji	327	505	599	7.8	911	856	1010	1.3
French Polynesia		726				1069		
Guam								
Kiribati	23	44		8.8	6	31		20.4
Marshall Islands	28	36	39	4.1	7	9	8	1.7
Micronesia (F.S.)	57	60	64	1.5	16	19	26	4.9
Nauru								
New Caledonia		841				380		
New Zealand	4491	8240	9613	10.0	4408	8299	8777	9.0
Niue								
Northern Mariana Islands								
Palau								
Papua New Guinea	772	1167	1746	10.7	243	302	364	5.2
Samoa	29	56		10.6	59	119		14.7
Solomon Islands	28	26		8.7	49	36		12.1
Tonga	32	55	56	7.2	15	37	37	12.1
Tuvalu	11	12	19	6.7	1	2	2	8.6
Vanuatu	70	74	95	3.9	130	139	221	6.9
Asia and the Pacific	**376240**	**609792**	**920704**	**11.8**	**324489**	**583674**	**924775**	**14.0**
LLDC	3344	12609	18637	24.0	2813	5445	9962	17.1
LDC	3068	4569	7063	11.0	3063	3956	4881	6.0
ASEAN	87287	138935	203728	11.2	68493	116667	182856	13.1
ECO								
SAARC	20416	45140	70523	16.8	20303	59821	111362	23.7
Central Asia	3200	12285	18523	24.5	2236	5099	9663	20.1
Pacific island dev. econ	2326	3604	4897	9.7	2552	2999	3768	5.0
Low income	6236	9301	15267	11.8	5677	8537	12373	10.2
Middle income	139674	275288	462648	16.1	120306	252595	448915	17.9
High income	230318	325191	442771	8.5	198505	322540	463486	11.2
Africa	**40571**	**74986**	**128341**	**15.5**	**33283**	**59554**	**82477**	**12.0**
Europe	**676596**	**1145520**	**1639873**	**11.7**	**722859**	**1297811**	**1928066**	**13.0**
Latin America and Carib.	**78502**	**101205**	**153948**	**8.8**	**66905**	**94130**	**134745**	**9.1**
North America	**267470**	**379437**	**449528**	**6.7**	**336727**	**443003**	**585884**	**7.2**
Other countries/areas	**90414**	**140463**	**224998**	**12.1**	**56854**	**95783**	**135368**	**11.5**
World	**1529793**	**2451402**	**3517391**	**11.0**	**1541118**	**2573956**	**3791316**	**11.9**

22.5 Transport and travel in total services trade

	Transport services						Travel services					
	% of total services imports			% of total services exports			% of total services imports			% of total services exports		
	2000	2005	2008	2000	2005	2008	2000	2005	2008	2000	2005	2008
East and North-East Asia	**29.6**	**31.9**	**33.6**	**31.8**	**31.7**	**33.2**	**30.5**	**28.3**	**20.7**	**18.5**	**21.8**	**16.0**
China	28.9	33.9	31.7	12.1	20.7	26.1	36.4	26.0	22.8	53.3	39.4	27.8
DPR Korea												
Hong Kong, China	25.3	30.8	31.1	31.8	31.9	29.4	50.6	39.2	35.7	14.6	16.2	16.5
Japan	30.0	30.0	32.7	37.0	32.4	32.7	27.3	28.0	16.9	4.9	11.3	7.5
Macao, China		14.7	11.2 (07)		4.6	3.3 (07)		22.7	16.7 (07)		92.6	94.5 (07)
Mongolia	21.4	36.9	32.6 (07)	38.7	48.1	38.1 (07)	63.3	38.9	44.1 (07)	46.3	42.7	53.4 (07)
Republic of Korea	33.1	34.3	41.1	44.8	52.9	59.4	21.4	26.2	17.5	22.4	12.9	11.6
South-East Asia	**37.2**	**39.8**	**41.4**	**29.6**	**28.6**	**27.5**	**16.9**	**17.3**	**17.5**	**39.5**	**29.9**	**33.3**
Brunei Darussalam		29.0	30.4 (06)		50.8	51.2 (06)		33.7	33.7		31.0	30.1 (06)
Cambodia	50.5	55.7	55.0 (07)	16.7	11.4	13.0 (07)	9.9	15.0	15.1 (07)	70.9	75.1	74.3 (07)
Indonesia	25.7	33.8	49.3		22.0	18.4	20.4	16.3	19.3	95.4	35.0	48.4
Lao PDR	11.4	12.3	12.9	11.2	16.0	13.5	18.8	8.9	38.2	64.8	68.1	66.5
Malaysia	35.2	37.8	37.6	20.1	21.3	22.3	12.4	17.7	22.3	35.9	45.1	50.4
Myanmar	77.4	39.3	45.1 (06)	15.9	46.2	46.6 (06)	7.7	6.2	6.6 (06)	34.0	26.1	16.6 (06)
Philippines	39.1	53.3	48.6	13.7	21.3	13.4	31.3	21.5	25.3	53.6	50.1	43.0
Singapore	42.4	37.0	37.6	41.4	35.8	34.7	15.4	18.3	17.9	18.2	11.7	12.7
Thailand	43.8	53.4	49.3	23.6	23.0	21.6	17.9	14.1	11.2	53.8	47.5	52.2
Timor-Leste			9.8			0.9			3.1			41.9
Viet Nam		17.9	13.0		27.4	33.6		20.1	16.4		53.9	56.1
South and South-West Asia	**34.0**	**29.9**	**50.9**	**16.9**	**15.9**	**14.3**	**17.8**	**23.8**	**21.4**	**29.7**	**30.4**	**23.7**
Afghanistan												
Bangladesh	62.5	70.0	72.9 (07)	11.2	9.0	4.9 (07)	17.9	6.2	5.4 (07)	6.2	5.6	4.7 (07)
Bhutan	18.0	3.4		18.2	20.6		67.9	76.2		41.3	49.0	
India	24.4	22.7	40.1 (07)	12.6	11.0	9.7 (07)	19.2	19.0	11.3 (07)	21.5	14.3	12.1 (07)
Iran (Islamic Rep. of)	49.7	17.6	21.9 (07)	46.6	41.0	43.3 (07)	8.9	54.6	56.2 (07)	36.3	20.7	24.2 (07)
Maldives	48.8	44.4	55.0	5.8	6.8	5.7	42.1	32.8	31.3	92.0	88.8	90.3
Nepal	32.4	37.0	39.8 (07)	12.1	8.6	7.2 (07)	36.7	37.5	37.9 (07)	31.2	34.5	39.1 (07)
Pakistan	67.4	34.8	42.4	60.9	29.3	28.8	11.1	17.0	15.9	5.9	4.9	5.9
Sri Lanka	60.0	60.7	65.3	42.6	43.7	49.9	15.0	15.1	14.3	26.4	27.9	17.1
Turkey	27.2	41.6	46.2 (08)	14.5	18.0	22.5	18.9	25.2	21.8	37.4	68.1	63.7
North and Central Asia	**16.1**	**14.6**	**18.6**	**37.1**	**36.3**	**31.2**	**49.2**	**36.8**	**28.3**	**33.9**	**23.9**	**23.4**
Armenia	60.2	39.8	48.2	46.7	22.4	21.3	20.6	44.5	33.3	27.6	53.5	51.2
Azerbaijan	29.7	14.3	17.5	46.0	35.0	51.3	27.2	6.2	8.8	24.2	11.4	12.3
Georgia	41.2	45.6	51.9	50.7	46.4	48.7	51.1	25.7	16.4	45.2	33.6	35.4
Kazakhstan	17.8	15.6	21.5	43.8	45.8	51.1	22.0	10.0	9.3	33.8	31.5	23.1
Kyrgyzstan	47.0	42.2	57.9 (07)	26.9	23.7	20.4 (07)	10.5	21.5	15.4 (07)	24.7	27.5	49.9 (07)
Russian Federation	14.4	13.2	17.0	37.2	36.5	29.3	54.5	44.9	32.6	35.8	23.5	23.3
Tajikistan	69.1	71.0	39.3	86.2	38.2	26.0	3.0	1.5	2.4	1.5	1.1	2.3
Turkmenistan												
Uzbekistan												
Pacific	**32.8**	**34.8**	**32.8**	**22.4**	**20.0**	**20.2**	**32.2**	**34.4**	**32.9**	**47.0**	**54.5**	**55.7**
American Samoa												
Australia	33.2	35.3	33.4	21.7	19.9	19.5	33.8	36.9	35.1	46.7	54.3	55.3
Cook Islands												
Fiji	47.2	56.8	63.6	29.8	34.0	36.4	25.2	20.9	16.3	44.0	56.7	56.2
French Polynesia		27.9	42.7 (07)		23.0	23.3 (07)		41.6	42.3 (07)		48.6	48.6 (07)
Guam												
Kiribati	66.8	55.6	53.4 (07)	11.7	12.8	9.4 (07)	19.5	20.8	22.0 (07)	7.5	9.9	12.3 (07)
Marshall Islands	75.0	72.0	72.6	44.5	54.9	52.9	12.2	13.8	11.6	35.5	34.9	33.8
Micronesia (F.S.)	57.1	59.7	60.8	20.6	23.8	18.6	11.4	10.3	10.0	70.6	69.4	74.9
Nauru												
New Caledonia		25.2	24.9 (07)		17.2	18.2 (07)		14.5	11.4 (07)		39.1	36.2 (07)
New Zealand	31.8	34.1	33.0 (07)	27.7	19.7	21.7 (07)	32.3	32.3	34.2 (07)	51.5	58.6	59.1 (07)
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea	21.1	23.9		4.9	10.3		6.5	4.8		3.0	1.2	
Samoa	48.4	42.6	50.4 (07)	2.5	4.0	4.7 (07)	8.9	16.1	8.9 (07)	69.4	65.5	68.7 (07)
Solomon Islands	16.4	33.3	34.0 (07)	1.3	3.2	11.9 (07)	8.9	5.8	6.9 (07)	7.4	9.1	20.8 (07)
Tonga	50.3	63.0	51.2	6.3	8.4	13.4	13.4	6.9	14.9	51.8	39.7	50.2
Tuvalu	49.7	26.5	37.2	3.2	11.6	12.0	26.9	29.7	26.5	36.5	53.4	62.0
Vanuatu		58.1	62.0		16.4	11.4		15.2	15.5		61.6	72.6
Asia and the Pacific	**31.3**	**32.3**	**35.6**	**28.9**	**28.0**	**28.1**	**27.4**	**26.4**	**21.7**	**28.6**	**27.3**	**25.2**
LLDC	23.7	18.9	24.1	29.5	32.1	37.0	22.5	12.6	12.6	28.2	28.4	27.0
LDC	53.6	54.3	50.0	12.1	12.5	12.4	17.1	12.9	12.1	40.6	44.4	56.0
ASEAN	37.3	39.9	41.5	29.6	26.6	27.5	17.0	17.3	17.5	30.5	29.9	33.3
ECO												
SAARC	35.2	29.0	55.3	17.1	12.9	10.1	18.3	18.2	16.0	21.5	14.4	11.3
Central Asia	24.6	19.1	25.3	36.9	35.3	41.1	22.1	11.3	10.7	25.5	25.7	24.1
Pacific island dev. econ.	31.6	32.8	32.0	18.4	22.7	22.7	19.4	17.6	14.4	41.5	45.4	45.6
Low income	35.8	36.3	31.2	16.9	20.0	24.6	8.1	15.1	13.4	42.2	42.4	48.7
Middle income	30.3	31.8	36.3	19.0	21.3	21.8	27.1	24.9	22.3	43.8	35.7	30.4
High income	31.8	32.6	35.1	35.2	33.5	34.3	28.2	28.1	21.3	19.0	20.3	19.5
Africa	**31.9**	**36.8**	**34.8**	**21.9**	**22.9**	**24.6**	**18.6**	**15.6**	**16.5**	**43.0**	**47.1**	**46.6**
Europe	**23.8**	**23.0**	**23.9**	**23.5**	**22.1**	**22.6**	**30.5**	**27.9**	**25.9**	**29.2**	**24.6**	**22.1**
Latin America and Carib.	**29.8**	**30.5**	**32.5**	**17.4**	**18.6**	**19.5**	**27.4**	**25.0**	**24.2**	**51.0**	**48.8**	**43.4**
North America	**28.0**	**27.1**	**27.8**	**17.2**	**16.2**	**17.6**	**29.7**	**24.1**	**25.2**	**32.3**	**26.2**	**25.9**
Other countries/areas	**25.5**	**25.0**	**27.0**	**21.8**	**21.2**	**21.2**	**34.3**	**28.5**	**25.1**	**40.0**	**30.8**	**29.5**
World	**27.0**	**26.8**	**28.5**	**22.9**	**22.3**	**23.0**	**29.3**	**26.5**	**24.2**	**31.4**	**27.1**	**25.0**

22.6 Intraregional trade

Imports of merchandise from ASEAN

	1990	1995	2000	2005	2008
ASEAN	**16.2**	**17.9**	**22.6**	**24.7**	**24.3**
Brunei Darussalam	35.2 (92)	47.7 (94)	47.7 (98)	47.4 (03)	47.9 (06)
Cambodia			39.1	34.1 (04)	
Indonesia	8.6	10.4	19.3	30.0	31.7
Lao PDR	61.0	70.0	79.9	78.2	77.5
Malaysia	19.3	17.5	24.3	25.5	24.2
Myanmar	46.3	51.5	45.5	51.2	52.8
Philippines	9.5 (92)	11.8	15.9	18.8	25.3
Singapore	17.2	22.3	24.7	26.1	23.4
Thailand	13.1	13.3	17.8	19.5	18.0
Viet Nam		26 (97)	28	25	25 (07)

Exports of merchandise to ASEAN

	1990	1995	2000	2005	2008
ASEAN	**19.1**	**24.7**	**23.0**	**25.3**	**25.7**
Brunei Darussalam	23.5 (92)	23.7 (94)	15.1 (98)	20.2 (03)	24.8 (06)
Cambodia			5.6	3.0 (04)	
Indonesia	10.0	14.3	17.5	18.5	19.8
Lao PDR	75.4	30.7	51.3	55.8	57.9
Malaysia	29.3	27.7	26.5	26.0	25.8
Myanmar	47.0	42.3	23.1	54.8	60.0
Philippines	7.2 (91)	13.6	15.7	17.3	14.4
Singapore	22.4	30.3	27.4	31.3	32.1
Thailand	11.9	21.7	19.4	21.8	22.5
Viet Nam		22 (97)	18	18	17 (07)

Imports of merchandise from ASEAN +3

	1990	1995	2000	2005	2008
ASEAN +3	**32.0**	**39.5**	**42.5**	**46.5**	**43.9**
Brunei Darussalam	53.7 (92)	60.5 (94)	57.0 (98)	64.6 (03)	70.2 (06)
Cambodia			56.6	59.5 (04)	
China	25.7 (92)	37.2	41.8	46.6	41.7
Indonesia	40.4	42.8	47.7	57.1	60.6
Japan	22.8	30.3	35.6	39.6	36.7
Lao PDR	78.9	83.3	89.7	90.3	98.9
Malaysia	47.9	51.4	54.0	56.5	54.2
Myanmar	66.3	86.2	81.1	87.0	94.1
Philippines	35.9 (91)	41.3	44.9	47.1	49.8
Republic of Korea	36.0	37.1	39.1	43.3	42.7 (07)
Singapore	43.7	51.0	50.8	50.2	47.7
Thailand	49.9	50.3	51.5	54.2	51.8
Viet Nam		56.1 (97)	63.3	62.3	64.0 (07)

Exports of merchandise to ASEAN +3

	1990	1995	2000	2005	2008
ASEAN +3	**27.3**	**35.2**	**33.7**	**35.1**	**34.3**
Brunei Darussalam	93.8 (92)	96.0 (94)	86.1 (98)	79.0 (03)	72.8 (06)
Cambodia			8.2	5.2 (04)	
China	22.1 (92)	30.7	26.2	22.9	21.3
Indonesia	61.1	51.6	52.1	55.6	55.2
Japan	19.8	29.6	27.0	34.0	36.6
Lao PDR	83.3	44.5	56.6	61.6	100.0
Malaysia	51.8	45.6	46.0	46.4	50.1
Myanmar	56.7	61.0	36.4	68.8	78.2
Philippines	31.3 (91)	33.1	35.3	48.1	46.4
Republic of Korea	29.4	35.3	34.3	39.9	39.6 (07)
Singapore	34.9	43.2	42.4	48.9	49.8
Thailand	32.0	42.8	40.0	45.8	45.0
Viet Nam		49.4 (97)	48.9	43.1	39.3 (07)

Imports of merchandise from APTA

	1990	1995	2000	2005	2008
APTA	**3.4**	**7.0**	**8.0**	**11.0**	**11.1**
Bangladesh	1.6	3.4	1.1	3.2	6.6 (07)
China	3.4 (92)	5.6	5.7	6.2	7.8
India	3.5	7.0	6.4	11.9	11.0
Lao PDR	0.4	2.5	2.0	4.6	20.7
Republic of Korea	3.5	8.9	12.1	23.7	24.1 (07)
Sri Lanka	2.1	2.3 (94)	2.1 (99)	10.2	6.6

Exports of merchandise to APTA

	1990	1995	2000	2005	2008
APTA	**3.3**	**7.4**	**11.4**	**18.8**	**18.7**
Bangladesh	18.0	28.5	25.8	31.4	32.6 (07)
China	3.5 (92)	8.1	14.1	21.5	19.9
India	1.6	4.8	5.0	10.8	12.9
Lao PDR	0.0	8.5	7.4	10.9	14.2
Republic of Korea	2.6	6.1	8.6	15.6	19.0 (07)
Sri Lanka	14.3	20.0 (94)	19.9 (99)	27.5	30.5

Imports of merchandise from SAFTA

	1990	1995	2000	2005	2008
SAFTA	**4.5**	**4.7**	**4.5**	**3.6**	**3.0**
Afghanistan					22.0
Bangladesh	9.5	15.5	9.6	12.3	14.8 (07)
Bhutan	70.6 (93)	71.8 (94)	75.4 (99)	76.6	75.1
India	0.5	0.7	1.0	0.9	0.7
Maldives		17.5	23.0	17.4	16.7
Nepal		40.7 (94)	37.8	53.6 (03)	
Pakistan	1.7	1.0	2.7	3.0	4.6
Sri Lanka		82.0	227.8	342.7	116.7

Exports of merchandise to SAFTA

	1990	1995	2000	2005	2008
SAFTA	**5.1**	**5.7**	**5.3**	**6.8**	**6.7**
Afghanistan					66.8
Bangladesh	2.4	2.4	1.5	2.9	4.9 (07)
Bhutan	99.4 (93)	99.6 (94)	99.2 (99)	92.9	96.8
India	3.2	5.5	4.4	5.4	5.6
Maldives		22.6	18.1	13.0	11.1
Nepal		12.2 (94)	45.2	53.8 (03)	
Pakistan	4.0	3.4	4.5	11.2	12.1
Sri Lanka	3.8	4.4	11.3	16.5	12.7

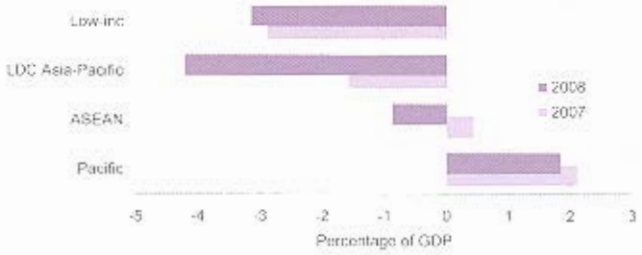
23 Fiscal balance

Asia and the Pacific had been improving fiscal balances, but the trend was reversed in 2008, mainly due to increased government expenditure amidst slower economic growth.

As the financial crises reached Asia and the Pacific, aggregate fiscal balances in many economies deteriorated. The Pacific was one of exceptions, with a fiscal surplus of 1.8%. This region, whose aggregate number to a large extent is determined by the performance of Australia, has not had a fiscal deficit in a decade.

Figure 23.1

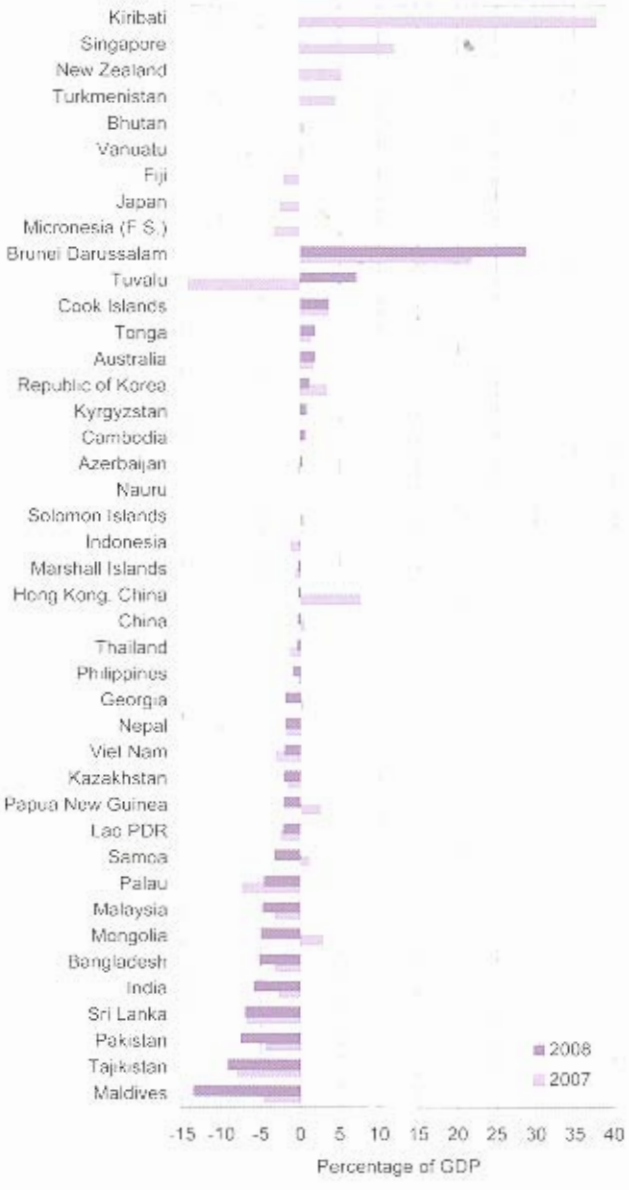
Fiscal balance relative to GDP, selected groups of Asian and Pacific economies, 2007 and 2008



In South-East Asia a 0.5% surplus in 2007 was turned into a 0.9% deficit in 2008, as aggregate government revenue decreased from 20.3 to 19.9% of GDP. Viet Nam, Thailand and Indonesia all improved their fiscal balances by around 1 percentage point, while still running deficits. As oil prices dropped in the second half of 2008 – easing the burden of government fuel subsidies, but decreasing oil earnings – Malaysia's deficit increased to 4.8% of GDP. Notable in the region was Brunei Darussalam with the highest surplus in the Asia-Pacific region, 28.7% of GDP. Its government enjoyed high revenues, measured at 57.4% of GDP, compared with the Asia-Pacific mean of 19.9%.

Figure 23.2

Fiscal balance relative to GDP, Asia and the Pacific, 2007 and 2008



In East and North-East Asia, governments took radical steps to tackle the economic downturn. In late 2008, the Chinese government introduced a fiscal stimulus package of $584 billion, equivalent to 13% of GDP. Although mostly spent in 2009, it still contributed to the 2008 fiscal deficit of 0.4% of GDP. The government of the Republic of Korea also introduced a series of fiscal stimulus packages and its surplus decreased from 3.5 to 1.2% of GDP. The bulk of these packages will be spent in 2009, and consequently the effects on fiscal budgets will mainly be seen in the statistics for 2009.

The SAARC region experienced a fiscal deterioration of 3.0 percentage points of GDP, mainly due to slower growth, increases in government salaries, and government subsidies for food and fuel products. The region's deficit of 6.1% in 2008 was the largest in over a decade. The greatest deficit was in the Maldives, at 13.6% – also the largest in the Asia-Pacific region as a whole. India, too, more than doubled its deficit to 6.0%.

Although the region's fiscal budgets were affected by the global financial and economic crisis in 2008, its aggregate deficit remained at a reasonably low level. It is likely, however, that these numbers will worsen in the following year. The effects of the 1997 Asian crisis, for example, became visible in the statistics for 1998, as government expenditure expanded and revenue decreased. Even though the financial and fiscal situation in Asia-Pacific is significantly stronger this time, the pattern will probably be repeated to some degree.

Government revenue (% of GDP)
Total current and capital revenues received by the central Government. **Aggregates:** Calculated by ESCAP using total GDP in United States dollars as weight. **Source:** Asian Development Bank, Key Indicators 2009. Online database accessed on 7 September 2009.

Government expenditure (% of GDP)
The sum of current and capital expenditures of the central Government. **Aggregates:** Calculated by ESCAP using total GDP in United States dollars as weight. **Source:** Asian Development Bank, Key Indicators 2009. Online database accessed on 7 September 2009.

Fiscal balance (% of GDP)
The difference between total revenues and total expenditures of the central Government. **Aggregates:** Calculated by ESCAP using total GDP in United States dollars as weight. **Source:** Asian Development Bank, Key Indicators 2009. Online database accessed on 7 September 2009.

23.1 Fiscal balance

	Government revenue				Government expenditure				Fiscal balance			
	% of GDP				% of GDP				% of GDP			
	1998	2000	2007	2008	1998	2000	2007	2008	1998	2000	2007	2008
East and North-East Asia	**12.3**	**13.2**	**16.8**		**20.3**	**18.0**	**17.2**		**-8.3**	**-5.0**	**-0.5**	
China	11.7	13.5	19.9	20.4	14.1	16.3	19.3	20.8	-2.4	-2.8	0.6	-0.4
DPR Korea												
Hong Kong, China	16.7	17.1	22.2	18.7	18.5	17.7	14.5	18.9	-1.8	-0.6	7.7	-0.3
Japan	11.5	12.0	12.2		22.2	18.4	14.8		-10.6	-6.4	-2.6	
Macao, China												
Mongolia	26.5	34.0	40.4	34.9	31.4	36.0	36.2	38.7	-14.3	-7.7	2.9	-5.0
Republic of Korea	20.0	22.5	25.0	24.5	18.8	18.1	20.8	22.8	-3.9	1.1	3.5	1.2
South-East Asia	**19.6**	**18.2**	**20.3**	**19.9**	**20.4**	**18.6**	**19.8**	**20.8**	**-2.0**	**-0.8**	**0.5**	**-0.9**
Brunei Darussalam	28.3	49.1	52.1	57.4	59.4	40.6	30.3	28.6	5.4	10.9	21.8	28.7
Cambodia	8.0	10.0	12.1	12.5	13.4	14.8	14.3	13.9	-2.4	-2.1	-0.1	0.7
Indonesia	16.4	14.7	17.9	19.8	18.1	15.8	19.1	19.9	-1.7	-1.1	-1.2	-0.1
Lao PDR	8.7	13.1	13.2	13.9	18.6	20.8	18.5	18.8	-6.6	-4.6	-2.6	-2.2
Malaysia	20.0	17.4	21.8	21.6	21.8	22.9	25.0	26.4	-1.8	-5.5	-3.2	-4.8
Myanmar	7.3	4.2			6.5	3.5			0.8	0.7		
Philippines	17.3	15.3	17.1	16.0	19.2	19.3	17.1	16.6	-1.9	-4.0	-0.2	-0.9
Singapore	31.2	30.3	26.7		19.9	18.8	14.7		3.4	10.0	12.0	
Thailand	15.7	15.1	17.6	17.0	22.4	17.3	18.9	17.4	-7.1	-2.8	-1.3	-0.4
Timor-Leste			261.3				39.1				220.6	
Viet Nam	19.6	20.1	27.2	27.7	20.3	22.6	29.9	29.4	-1.6	-4.3	-3.1	-2.0
South and South-West Asia												
Afghanistan		0.4				2.8						
Bangladesh	9.5	8.5	10.5	11.1	12.9	14.5	14.1	15.5	-2.1	-4.5	-3.2	-5.3
Bhutan	20.7	22.8	19.6		30.3	41.4	29.4		0.9	-3.8	0.6	
India	9.5	9.8	12.4	10.6	14.6	15.5	15.1	16.6	-5.1	-5.7	-2.7	-6.0
Iran (Islamic Rep. of)												
Maldives	27.8	30.0	48.4	44.6	33.3	37.3	61.7	64.0	-1.9	-4.4	-4.7	-13.6
Nepal	10.2	10.5	11.9	12.8	17.3	16.3	16.1	17.1	-5.5	-4.3	-1.8	-2.0
Pakistan	16.0	13.4	14.6	14.6	23.7	18.9	20.9	22.4	-7.6	-5.4	-4.4	-7.6
Sri Lanka	16.7	16.4	15.8	14.9	24.3	25.0	23.2	22.1	-8.2	-9.3	-6.9	-7.0
Turkey												
North and Central Asia												
Armenia	16.0	15.9	17.9	21.3	20.0	20.1	19.4	21.5				
Azerbaijan	13.5	14.7	21.2	28.3	15.4	16.2	21.3	27.9	-1.8	-1.0	-0.3	0.2
Georgia	16.2	15.2	33.9	31.1	22.2	18.6	34.2	36.3	-6.1	-3.6	0.3	-2.0
Kazakhstan	17.5	22.9	20.5	16.6	20.3	22.2	20.8	21.3	-3.9	-0.1	-1.7	-2.1
Kyrgyzstan	17.6	14.2	24.1	24.4	22.0	18.0	25.3	24.3	-3.0	-2.2	0.1	0.8
Russian Federation												
Tajikistan	11.2	14.1	18.9	19.5	14.2	14.7	27.2	28.2	-2.7	-0.6	-8.1	-9.2
Turkmenistan	22.0	23.5	19.9		24.6	23.9			-2.6	-0.3	4.5	
Uzbekistan	31.1	26.0			33.1	26.9			-2.0	-1.0		
Pacific	25.1	27.0	28.1	26.8	25.2	25.2	26.0	25.0	0.0	1.8	2.1	1.8
American Samoa												
Australia	23.5	25.9	26.6	26.8	23.5	24.1	24.9	24.9	0.0	1.8	1.7	1.9
Cook Islands	31.6	30.6	28.6	30.4	41.3	35.2	32.4	32.5	-2.5	-1.8	3.6	3.7
Fiji	34.6	25.4	26.4		35.6	28.5	28.6		-0.9	-3.1	-2.2	
French Polynesia												
Guam												
Kiribati	120.7	95.4	90.7		84.2	86.4	118.8		70.2	42.7	37.9	
Marshall Islands	23.3	22.6	24.1	23.3	52.7	60.5	66.8	60.9	14.2	8.4	-0.7	-0.3
Micronesia (F.S.)	27.5	24.2	22.2		77.9	72.2	63.7		-3.5	-3.7	-3.3	
Nauru									0.0	0.0	0.0	0.0
New Caledonia												
New Zealand	35.8	35.1	38.7		35.4	32.9	33.4		0.4	2.1	5.3	
Niue												
Northern Mariana Islands												
Palau		24.3	23.3	23.1	55.1	70.6	63.3	54.7		-16.1	-7.5	-4.6
Papua New Guinea	24.1	25.7	33.7	26.2	27.3	32.9	35.0	35.0	-1.8	-2.0	2.6	-2.2
Samoa	26.4	25.6	27.3	25.8	32.4	31.2	31.7	34.0	2.0	-0.7	1.1	-3.3
Solomon Islands	34.2	21.6	33.3	33.5	33.8	31.6	36.4	37.9	3.0	-0.6	0.5	0.0
Tonga	28.0	27.1	30.0	30.3	33.0	28.5	30.6	29.9	-2.4	-0.4	1.4	2.0
Tuvalu	99.5	243.2	48.7	49.7	96.4	210.2	74.3	127.1	19.1	-2.2	-14.3	7.2
Vanuatu	20.6	20.9	21.3		28.4	29.0	22.9		-9.4	-7.0	0.3	
Asia and the Pacific	13.5	14.2	17.7		20.3	18.3	18.1		-7.1	-4.3	-0.4	
LLDC	20.1	20.4	20.2	20.8	23.4	21.9	21.0	22.9	-3.4	-1.2	-1.0	-1.6
LDC	9.9	8.6	13.0	12.2	13.5	13.9	15.7	16.5	-2.2	-3.6	-1.6	-4.2
ASEAN	19.6	18.2	20.3	19.9	20.4	18.6	19.6	20.8	-2.0	-0.6	0.4	-0.9
ECO												
SAARC	10.6	10.4	12.7	11.2	16.1	16.1	16.0	17.4	-5.3	-5.6	-3.0	-6.1
Central Asia	21.0	22.3	21.3	21.8	23.8	23.0	21.9	23.8	-3.2	-0.8	-1.0	-1.6
Pacific island dev. econ.												
Low income	15.3	13.9	18.1	19.1	17.9	17.7	21.3	22.0	-2.1	-3.4	-2.9	-3.1
Middle income	12.6	13.3	18.2	18.3	16.0	16.8	18.8	20.1	-3.4	-3.5	-0.6	-1.7
High income	13.9	14.5	17.3		22.0	18.9	17.5		-8.6	-4.7	-0.2	
Africa												
Europe												
Latin America and Carib.												
North America												
Other countries/areas												
World												

24 Inflation and interest rates

In 2008, almost all countries within the Asia-Pacific region experienced rising inflation, largely as a result of higher prices for food and oil. This trend was reversed in mid-2008 as the economic crisis spread, reducing international and domestic demand.

Between 2007 and 2008 aggregate inflation in Asia and the Pacific increased from 4.0 to 6.7% – reaching its highest level since the mid-1990s. This was, nevertheless, well below levels in other developing regions – 12.3% in Africa and 8.1% and Latin America and the Caribbean. Partly due to slower growth rates, European and North American aggregate inflation rates were limited to 3.8 and 3.7% respectively.

Topping the Asia-Pacific list was Azerbaijan, where, between 2007 and 2008, inflation rose from 16.7 to 53.4% – a result of rising food prices and large oil export revenues. At the other end of the scale was Japan where inflation in 2008 was only 1.4%. This rate, even if it represented a decade high for Japan, was still below the second lowest in the Asia-Pacific region – New Zealand's at 4.0%.

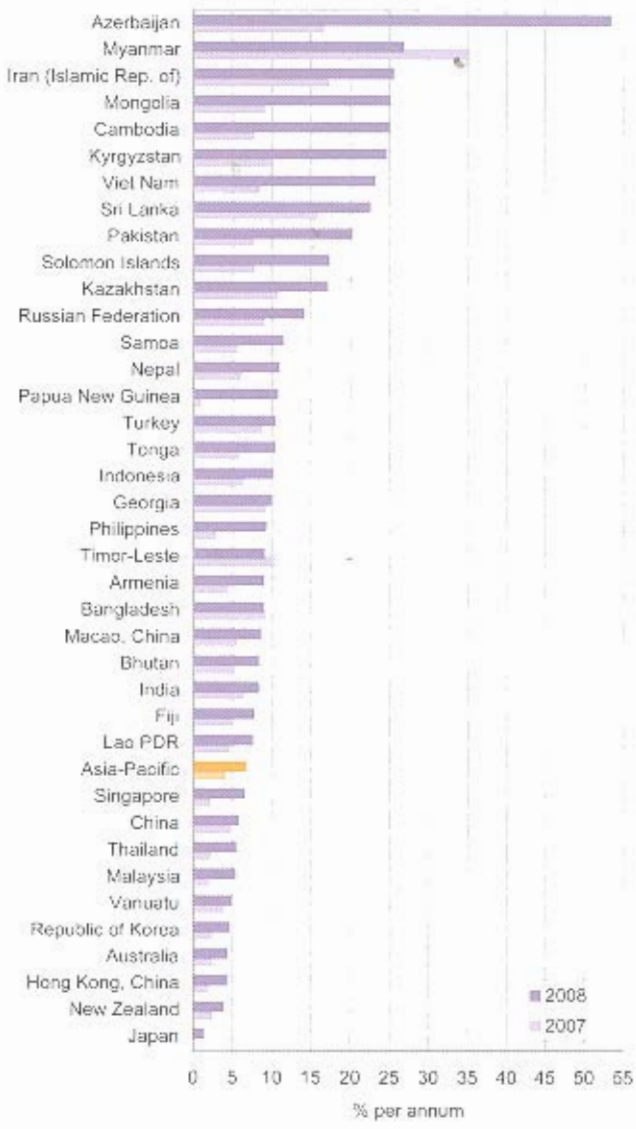
Inflation accelerated across all Asia-Pacific subregions. In East and North-East Asia, in South-East Asia and in the Pacific, the rates reached the highest levels for a decade or more.

In East and North-East Asia, between 2007 and 2008, aggregate inflation increased from 1.8 to 3.2% – all the economies reaching their highest levels for at least a decade. In the Republic of Korea, between 2007 and 2008, the inflation rate almost doubled, from 2.5 to 4.7%, partly because of a sharp depreciation of the currency. China saw a mild increase in inflation, from 4.8 to 5.9%.

North and Central Asia had to face accelerating international food and energy prices during the first half of 2008, increasing the region's aggregate inflation from 9.2% in 2007 to 15.0% in 2008, the highest rate among the subregions. Armenia's inflation rate doubled during 2007-2008, from 4.4 to 8.9%, as government expenditures and

Figure 24.1

Inflation in selected Asia-Pacific countries, 2007 and 2008



monetary aggregates rapidly expanded. Despite government measures such as fixing prices on some commodities, and lowering prices on fuel, Kyrgyzstan's inflation reached 24.5% in 2008, the highest rate since 1999. Georgia was a regional exception, with its moderate 0.8 percentage point increase, to 10.0% in 2008.

The aggregate Pacific inflation rate almost

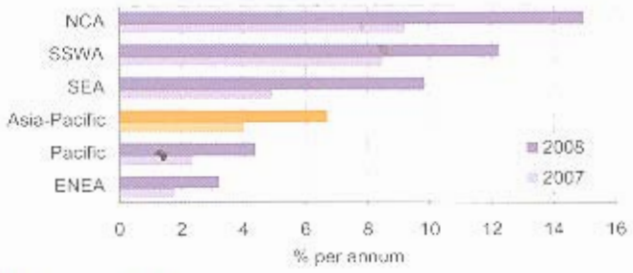
doubled between 2007 and 2008, from 2.4 to 4.4%. Over the same period, Papua New Guinea's inflation increased more than tenfold, from 0.9 to 10.8%, due to an increase in money supply, private-sector growth and a fiscal stimulus. New Zealand, Vanuatu, Fiji and Solomon Islands all reached their highest levels of inflation for more than 15 years.

In South and South-West Asia, between 2007 and 2008, Pakistan's inflation increased from 7.6 to 20.3%, mainly due to the unprecedented rise in global prices. The situation was exacerbated by the weak domestic currency and the removal of government subsidies on fuel food and power.

In South-East Asia, inflation was a major policy concern during the first half of 2008. With the arrival of the financial crisis, the pressure eased somewhat and the focus shifted. Nevertheless, between 2007 and 2008, the rate of inflation doubled, from 4.9 to 9.9%. Neighbouring countries, Viet Nam and Cambodia, experienced sharp acceleration in inflation, reaching 23.1% and 25.0% respectively in 2008. This was mainly attributable to rising food costs, as food has a high weight in these countries' price indices. Inflation in Myanmar on the other hand decelerated, between 2007 and 2008, from 35.0 to 26.8%.

Figure 24.2

Inflation in selected Asia-Pacific groupings, 2007 and 2008

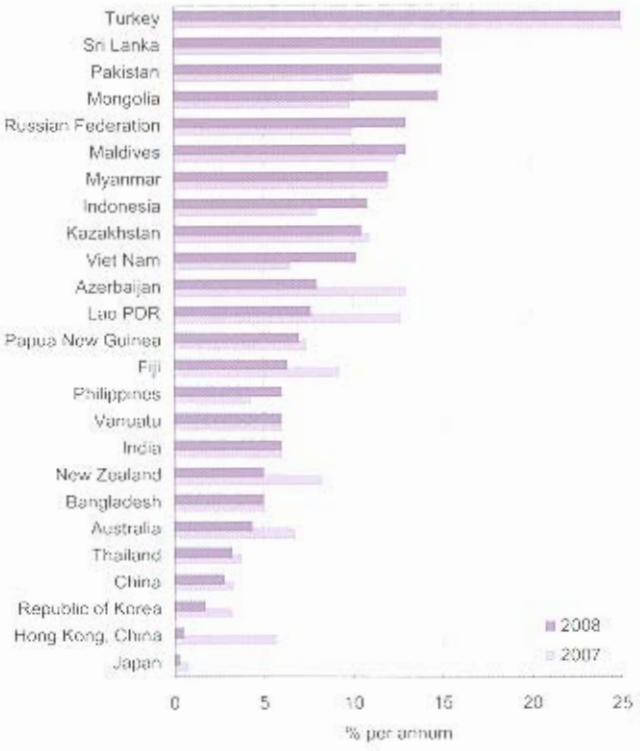


Interest rates

During 2008, Asia-Pacific central banks faced contradicting signals with regard to their interest rate decisions. On one hand, food and oil prices continued to rise in the first part of the year, increasing inflationary pressures. On the other hand, the financial crisis reached Asia-Pacific shores, squeezing financial liquidity and decreasing household consumption and export demand. Moreover, the US dollar further depreciated against a majority of Asian currencies. In these mixed circumstances, interest rate decisions among countries of the region varied greatly.

Figure 24.3

Central bank discount rates, selected Asian and Pacific economies, 2007 and 2008



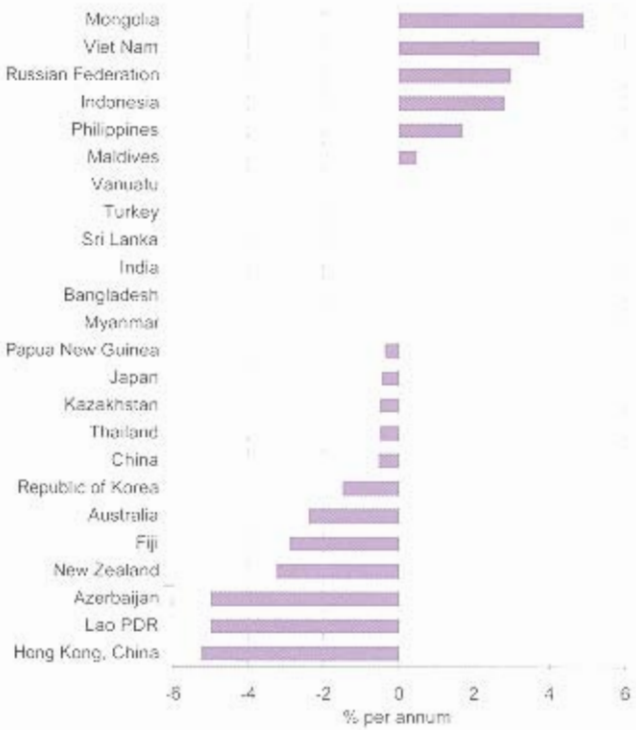
The People's Bank of China started 2008 by tightening monetary policy and repeatedly raising the discount rate. Faced with the financial crisis as well as falling prices of crude oil and food, it lowered the rate during the latter half of the year – from the 2007 year average of 3.3% to 2.8% in 2008. In Japan, the rate decreased from 0.8% in 2007 to 0.3% in 2008, the lowest interest level among all major economies. An exception in East and North-East Asia was Mongolia, which increased its discount rate to 14.8% in 2008, in an attempt to stabilize the value of its falling currency.

The discount rate decisions in South-East Asian corresponded to each country's specific economic environment. In Viet Nam, the discount rate was raised in 2008 by almost 4 percentage points to its highest level in a decade, at 10.3%. The Lao People's Democratic Republic, on the other hand, lowered its rate to 7.7% in 2008, the lowest level in 15 years.

With some of the highest discount rates in Asia and the Pacific, South and South-West Asian central banks generally stood firm, the exceptions being Pakistan and the Maldives which raised their rates. Turkey remained at the "top" position of all Asian and Pacific countries with a 25.0% discount rate in 2008. The country has now had the highest interest rate in the region for 12 consecutive years.

Figure 24.4

Central bank discount rates, difference between 2007 and 2008, selected Asia-Pacific countries



In North and Central Asia policies differed between countries. Despite high inflation, Azerbaijan lowered the interest rate from 13.0% in 2007 to 8.0% in 2008. Facing the same influx of oil-revenues as Azerbaijan, the Russian Federation moved in the opposite direction and increased the discount rates.

The Central Banks of the Pacific generally lowered their discount rates in 2008.

Figure 24.5

Central bank discount rates of selected countries, 2000-2008

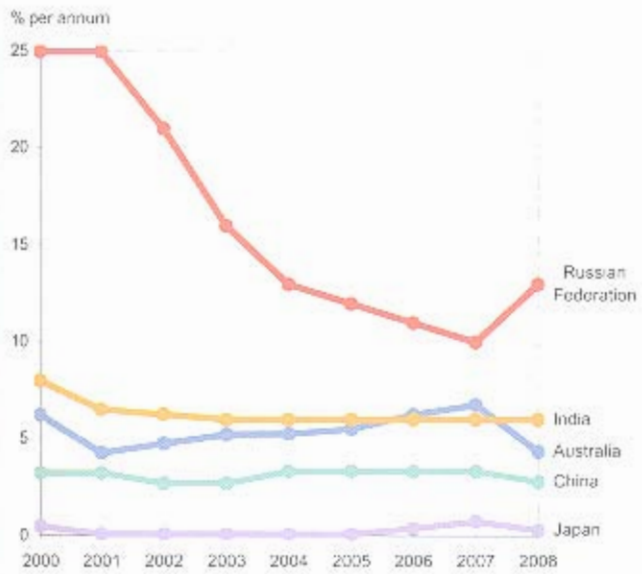
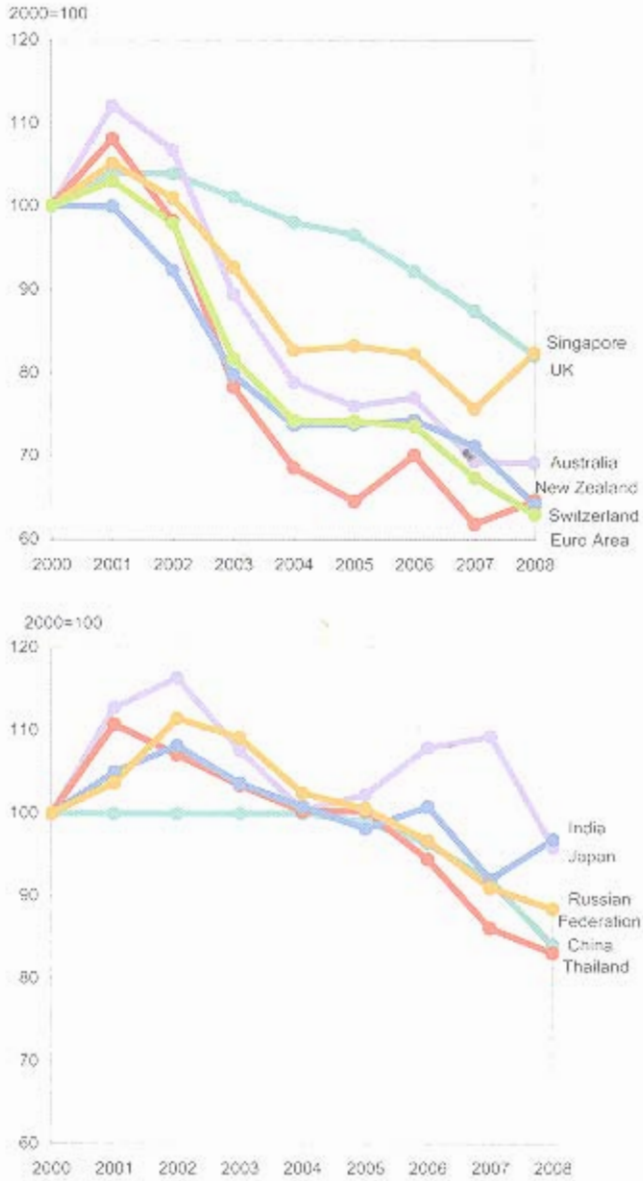


Figure 24.6

Indexed exchange rate of selected major currencies against the US dollar, 2000-2008



Exchange rates

A country's exchange rate is determined by a wide range of factors, including interest rates, economic prospects, international trade, the level of international reserves, and in particular the current account deficit. The US dollar is the standard unit of currency in international markets, and is the unit against which other currencies are normally measured, as well as being a major reserve currency. Because of an unusually high and rising deficit on the US current account, most major currencies appreciated against the dollar during the period 2000-2008. Around the world, the appreciating currencies included the euro (37%), the Swiss franc (36%), the Canadian dollar (28%), and the pound sterling (18%). In the Asia-Pacific

region, they included the New Zealand dollar (35%), the Australian dollar (31%), the Thai baht (17%), the Chinese yuan (16%), the Russian rouble (12%), the Japanese yen (4%), and the Indian rupee (3%).

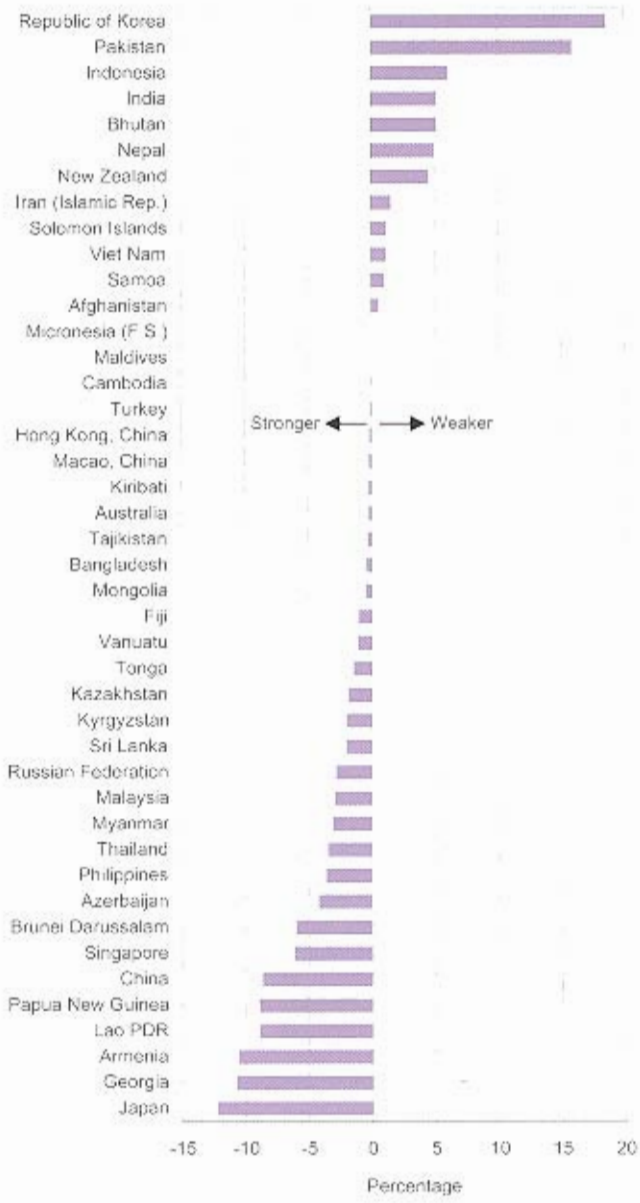
Among the Asia-Pacific currencies for which there are reliable data, 28 appreciated and 12 depreciated against the US dollar in 2008. In East and North-East Asia all currencies but one appreciated, the Japanese yen by as much as 12.2%. The exception, the Republic of Korean won, depreciated by 18.6%, mainly due to an outflow of portfolio investment funds.

The East Asian pattern was repeated in North and Central Asia, where all currencies appreciated against the dollar. The Armenian dram and the Georgian lari grew stronger by over 10%, as overseas remittances continued to pour in to Armenia, and Georgia enjoyed strong inflows of foreign direct investments. In South and South-West Asia most currencies depreciated in 2008 – the value of the Pakistani rupee falling by 15.9%.

The global economic environment has changed dramatically since the latter half of 2008, affecting exchange rates and many other indicators. For an analysis of the latest developments, please refer to the Economic and Social Survey for Asia and the Pacific: http://unescap.org/pdd/publications/index_survey.asp

Figure 24.7

Currency movements against the US dollar, Asia and the Pacific, 2008



Inflation rate (% per annum)
The rate of increase of the level of prices during a given period. It is the percentage change of the consumer price index between two points of time. **Aggregates:** Calculated by ESCAP using the household consumption expenditure component of the GDP in US dollars as weight. **Source:** International Monetary Fund, International Financial Statistics. Online database accessed on 13 August 2009.

Central bank discount rate (% per annum)
The rate at which the central bank lends or discounts eligible paper for deposit money to banks, typically reported on an end-of-period basis. **Source:** International Monetary Fund, International Financial Statistics. Online database accessed on 4 August 2009.

Average exchange rate (national currency per US dollar)
The units of national currency required to purchase one US dollar, usually representing the period average. For some countries or areas, mid-point rates, or the average of buying and selling rates, are used. **Source:** International Monetary Fund, International Financial Statistics. Online database accessed on 4 August 2009.

Exchange rate change over period (percentage)
The average annual rate of change in the exchange rate of the national currency against the US dollar for the period indicated. A positive value means that the national currency has weakened, a negative value indicates a stronger national currency. **Source:** Calculated by ESCAP using the average exchange rate (International Monetary Fund, International Financial Statistics).

24.1 Inflation and interest rates

	Inflation rate (% per annum)						Central bank discount rate (% per annum)					
	1990	1995	2000	2005	2007	2008	1990	1995	2000	2005	2007	2008
East and North-East Asia	**3.6**	**2.1**	**-0.4**	**0.6**	**1.8**	**3.2**						
China	3.1	16.9	0.3	1.8	4.8	5.9	7.9	10.4	3.2	3.3	3.3	2.8
DPR Korea												
Hong Kong, China	10.3	9.0	-3.8	0.9	2.0	4.3		6.3	8.0	5.8	5.8	0.5
Japan	3.1	-0.1	-0.7	-0.3	0.1	1.4	6.0	0.5	0.5	0.1	0.8	0.3
Macao, China	8.0	8.6	-1.6	4.4	5.6	8.6						
Mongolia		0.0	11.6	12.7	9.0	25.1		150.0	8.7	4.4	9.9	14.8
Republic of Korea	8.6	4.5	2.3	2.8	2.5	4.7	7.0	5.0	3.0	2.0	3.3	1.8
South-East Asia	**7.4**	**6.9**	**2.4**	**6.8**	**4.9**	**9.9**						
Brunei Darussalam												
Cambodia		1.1	-0.8	6.3	7.7	25.0						
Indonesia	7.8	9.4	3.7	10.5	6.3	10.1	18.8	14.0	14.5	12.8	8.0	10.8
Lao PDR	35.6	19.6	25.1	7.2	4.5	7.6		32.1	35.2	20.0	12.7	7.7
Malaysia	2.6	3.5	1.5	3.0	2.0	5.4	7.2	6.5				
Myanmar	17.6	25.2	-0.1	9.4	35.0	26.8		12.5	10.0	10.0	12.0	12.0
Philippines	12.7	6.7	3.9	7.6	2.8	9.3	14.0	10.8	13.8	5.7	4.3	6.0
Singapore	3.5	1.7	1.4	0.4	2.1	6.5						
Thailand	5.9	5.8	1.6	4.5	2.2	5.5	12.0	10.5	3.0	5.5	3.8	3.3
Timor-Leste				1.1	10.3	9.1						
Viet Nam			-1.7	8.3	8.3	23.1			6.0	5.0	6.5	10.3
South and South-West Asia	**23.2**	**36.2**	**19.6**	**7.6**	**8.5**	**12.2**						
Afghanistan												
Bangladesh	6.1	10.2	2.2	7.0	9.1	8.9	9.8	6.0	7.0	5.0	5.0	5.0
Bhutan	10.0	9.5	4.0	5.3	5.2	8.4						
India	9.0	10.2	4.0	4.2	6.4	8.3	10.0	12.0	8.0	6.0	6.0	6.0
Iran (Islamic Rep. of)	7.6	49.7	14.5	13.4	17.2	25.5						
Maldives										18.0	12.5	13.0
Nepal	8.2	7.6	2.5	6.8	6.1	10.9	11.0	11.0	7.5	6.0	6.3	
Pakistan	9.1	12.3	4.4	9.1	7.6	20.3	10.0	17.0	13.0	9.0	10.0	15.0
Sri Lanka	21.5	7.7	6.2	11.6	15.8	22.6	15.0	17.0	25.0	15.0	15.0	15.0
Turkey	60.3	88.1	54.9	10.1	8.8	10.4	45.0	50.0	60.0	23.0	25.0	25.0
North and Central Asia		**198.1**	**19.1**	**12.1**	**9.2**	**15.0**						
Armenia		175.0	0.6	0.6	4.4	8.9						
Azerbaijan		411.7	1.9	11.6	16.7	53.4		80.0	10.0	9.0	13.0	8.0
Georgia		162.7	4.1	8.2	9.2	10.0						
Kazakhstan		176.2	13.2	7.6	10.8	17.1		52.5	14.0	8.0	11.0	10.5
Kyrgyzstan			18.7	4.4	10.2	24.5						
Russian Federation		197.5	20.8	12.7	9.0	14.1		160.0	25.0	12.0	10.0	13.0
Tajikistan									20.6	9.0	15.0	
Turkmenistan												
Uzbekistan												
Pacific	**7.1**	**4.6**	**4.3**	**2.7**	**2.4**	**4.4**						
American Samoa												
Australia	7.3	4.6	4.5	2.7	2.3	4.4	15.2	5.8	6.2	5.5	6.8	4.4
Cook Islands												
Fiji	8.2	2.2	1.1	2.4	4.8	7.7	8.0	6.0	8.0	2.8	9.3	6.3
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	6.1	3.8	2.6	3.0	2.4	4.0	13.3	9.8	6.5	7.3	8.3	5.0
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea	7.0	17.3	15.6	1.8	0.9	10.8	9.3	18.0	9.8	9.7	7.4	7.0
Samoa	15.2	-2.9	1.0	1.8	5.5	11.5						
Solomon Islands	8.7	9.6	7.9	7.3	7.7	17.3						
Tonga	9.7	1.5	6.3	8.3	5.9	10.4						
Tuvalu												
Vanuatu	4.8	2.2	2.5	1.2	4.0	4.8			7.0	6.3	6.0	6.0
Asia and the Pacific	**7.4**	**15.2**	**3.2**	**3.1**	**4.0**	**6.7**						
LLDC				7.4	10.2	21.8						
LDC	8.5	11.6	2.4	7.2	12.9	14.5						
ASEAN	7.4	6.9	2.4	6.8	4.9	9.9						
ECO	38.5	72.6	36.8	10.3	10.2	16.1						
SAARC	9.0	10.5	4.0	5.4	7.0	10.7						
Central Asia				7.4	10.9	22.3						
Pacific island dev. econ.												
Low income	8.5	11.7	1.4	7.6	11.3	17.9						
Middle income	15.6	52.0	10.3	6.4	6.6	10.1						
High income	4.0	0.8	-0.1	0.5	0.9	2.4						
Africa	**17.4**	**35.5**	**12.0**	**9.1**	**103.2**	**12.3**						
Europe	**11.7**	**6.6**	**3.1**	**2.3**	**2.7**	**3.8**						
Latin America and Carib.	**1 674.6**	**39.6**	**7.5**	**6.0**	**5.3**	**8.1**						
North America	**5.3**	**2.8**	**3.3**	**3.3**	**2.8**	**3.7**						
Other countries/areas	**10.1**	**8.0**	**0.3**	**2.7**	**3.8**	**9.6**						
World	**30.4**	**15.3**	**4.6**	**3.8**	**3.9**	**5.9**						

24.2 Exchange rates

	Average exchange rate							Exchange rate change over period				
	National currency per US dollar							Percentage				
	1990	1995	2000	2005	2006	2007	2008	90-95	95-00	00-05	00-08	2008
East and North-East Asia												
China	4.78	8.35	8.28	8.19	7.97	7.61	6.95	74.6	-0.9	-1.0	-16.1	-8.7
DPR Korea												
Hong Kong, China	7.79	7.74	7.79	7.76	7.77	7.80	7.79	-0.7	0.7	-0.2	-0.1	-0.2
Japan	144.79	94.06	107.77	110.22	116.30	117.75	103.36	-35.0	14.6	2.3	-4.1	-12.2
Macao, China	8.02	7.97	8.03	8.01	8.00	8.04	8.02	-0.7	0.7	-0.2	-0.1	-0.2
Mongolia		448.61	1 076.67	1 205.22	1 165.37	1 170.96	1 165.74	5 499.5	140.0	11.9	8.3	-0.4
Republic of Korea	707.76	771.27	1 130.96	1 024.12	954.79	929.26	1 102.05	9.0	46.6	-9.4	-2.6	18.6
South-East Asia												
Brunei Darussalam	1.81	1.42	1.72	1.66	1.59	1.51	1.42	-21.8	21.6	-3.5	-17.8	-6.0
Cambodia	426.25	2 450.83	3 840.75	4 092.50	4 103.25	4 056.17	4 054.17	475.0	56.7	6.6	5.6	0.0
Indonesia	1 842.81	2 248.61	8 421.78	9 704.74	9 159.32	9 141.00	9 698.96	22.0	274.5	15.2	15.2	6.1
Lao PDR	707.75	804.69	7 887.64	10 655.20	10 159.90	9 603.16	8 744.06	13.7	880.2	35.1	10.9	-8.9
Malaysia	2.70	2.50	3.80	3.79	3.67	3.44	3.34	-7.4	51.7	-0.3	-12.2	-3.0
Myanmar	6.28	5.61	6.43	5.76	5.78	5.56	5.39	-10.6	14.5	-10.3	-16.2	-3.1
Philippines	24.31	25.71	44.19	55.09	51.31	46.15	44.47	5.8	71.9	24.6	0.6	-3.6
Singapore	1.81	1.42	1.72	1.66	1.59	1.51	1.41	-21.8	21.6	-3.5	-17.9	-6.1
Thailand	25.59	24.92	40.11	40.22	37.88	34.52	33.31	-2.6	61.0	0.3	-16.9	-3.5
Timor-Leste												
Viet Nam	6 482.80	11 038.30	14 167.70	15 858.90	15 994.30	16 105.10	16 302.30	70.3	28.4	11.9	15.1	1.2
South and South-West Asia												
Afghanistan	0.05	0.83	61.63	49.49	49.93	49.96	50.25	1 546.9	7 295.5	-19.7	-18.5	0.6
Bangladesh	34.57	40.28	52.14	64.33	68.93	68.87	68.60	16.5	29.5	23.4	31.6	-0.4
Bhutan	17.51	32.43	44.94	44.10	45.31	41.35	43.51	85.2	38.6	-1.9	-3.2	5.2
India	17.50	32.43	44.94	44.10	45.31	41.35	43.51	85.3	38.6	-1.9	-3.2	5.2
Iran (Islamic Rep. of)	68.21	1 750.86	1 767.39	8 963.96	9 170.94	9 281.15	9 428.53	2 466.9	0.9	407.2	433.6	1.6
Maldives	9.55	11.77	11.77	12.80	12.80	12.80	12.80	23.2	0.0	8.8	8.8	0.0
Nepal	29.37	51.89	71.09	71.37	72.76	66.42	69.76	76.7	37.0	0.4	-1.9	5.0
Pakistan	21.71	31.64	53.65	59.51	60.27	60.74	70.41	45.8	69.5	10.9	31.2	15.9
Sri Lanka	40.06	51.25	77.01	100.50	103.91	110.62	108.33	27.9	50.2	30.5	40.7	-2.1
Turkey	0.00	0.05	0.63	1.34	1.43	1.30	1.30	1 657.4	1 263.8	114.9	108.2	-0.1
North and Central Asia												
Armenia		405.91	539.53	457.69	416.04	342.08	305.97		32.9	-15.2	-43.3	-10.6
Azerbaijan		0.88	0.89	0.95	0.89	0.86	0.82		1.4	5.7	-8.2	-4.3
Georgia			1.98	1.81	1.78	1.67	1.49		66.5	-8.3	-24.6	-10.8
Kazakhstan		60.95	142.13	132.88	126.09	122.55	120.30		133.2	-6.5	-15.4	-1.8
Kyrgyzstan		10.82	47.70	41.01	40.15	37.32	36.57		340.8	-14.0	-23.3	-2.0
Russian Federation		4.56	28.13	28.28	27.19	25.58	24.85		517.0	0.6	-11.6	-2.8
Tajikistan		0.12	2.06	3.12	3.30	3.44	3.43		1 589.9	50.1	65.2	-0.3
Turkmenistan		110.92	5 200.00						4 588.2			
Uzbekistan		29.78	236.61						694.7			
Pacific												
American Samoa												
Australia	1.28	1.35	1.72	1.31	1.33	1.20	1.19	5.3	27.9	-24.1	-30.9	-0.2
Cook Islands												
Fiji	1.48	1.41	2.13	1.69	1.73	1.61	1.59	-5.0	51.4	-20.6	-25.1	-1.0
French Polynesia												
Guam												
Kiribati	1.28	1.35	1.72	1.31	1.33	1.20	1.19	5.3	27.9	-24.1	-30.9	-0.2
Marshall Islands												
Micronesia (F.S.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0
Nauru												
New Caledonia												
New Zealand	1.68	1.52	2.20	1.42	1.54	1.36	1.42	-9.1	44.4	-35.5	-35.4	4.6
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea	0.96	1.28	2.78	3.10	3.06	2.97	2.70	34.0	117.4	11.5	-2.9	-8.9
Samoa	2.31	2.47	3.29	2.71	2.78	2.62	2.64	7.1	32.9	-17.5	-19.5	1.1
Solomon Islands	2.53	3.41	5.09	7.53	7.61	7.65	7.75	34.7	49.4	48.0	52.3	1.3
Tonga	1.28	1.27	1.76	1.94	2.03	1.97	1.94	-0.7	38.4	10.5	10.5	-1.4
Tuvalu												
Vanuatu	117.06	112.11	137.64	109.25	110.64	102.44	101.33	-4.2	22.8	-20.6	-26.4	-1.1
Asia and the Pacific												
LLDC												
LDC												
ASEAN												
ECO												
SAARC												
Central Asia												
Pacific island dev. econ.												
Low income												
Middle income												
High income												
Africa												
Europe												
Latin America and Carib.												
North America												
Other countries/areas												
World												

25 Tourism

Tourism had been rising steadily in the Asia-Pacific region until 2008 when, following with global trends, there was a fall in demand, with implications for some of the region's developing economies.

Between 2007 and 2008, the global growth in international tourist arrivals fell from 6.7 to 2.0% – reflecting an extremely volatile and unfavourable global economy. As the world comes out of recession, tourism growth is also likely to be modest in 2009.

This was an unexpected reversal. Over the period 1995-2007, tourism continued to experience steady growth, of 4.2% per year, confirming its status as the world's largest growth industry. Between 2006 and 2007, international tourist arrivals increased by 6.7% to 900 million. All the regions registered increases, and the Asia-Pacific region led the ranking with a 10.4% increase. Growth in Africa was 9.9% while in Latin America and the Caribbean it was 3.2%. The two mature tourism markets – North America and Europe – experienced contrasting performances. While North America recorded a sharp increase of 6.7%, Europe, the world's largest destination, posted only 4.4% growth.

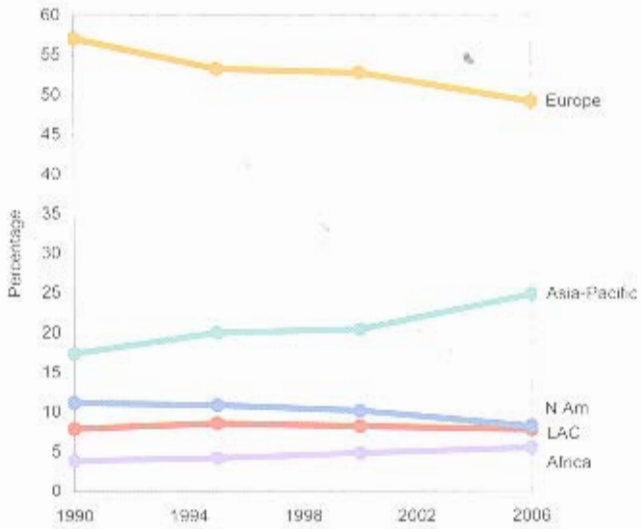
Between 1995 and 2007, the Asia-Pacific region's share of total arrivals increased from 18.7 to 25.7%. Steady growth was also recorded in Africa: over the same period, its share grew from 4.2 to 6.0%. North America and Europe, on the other hand, despite increases in their absolute number of tourist arrivals, saw their shares of the market decline.

Within the Asia-Pacific region, the strongest performance was in the South and South-West Asia subregion, with a hefty increase in tourist arrivals in 2007 of 14.4%. This growth was sustained by the robust performances of Nepal (+37.2%), Turkey (+17.6%), India (+14.3%) and Maldives (+12.3%).

The South-East Asia subregion, which used to be the region's leader, became the second best

Figure 25.1

Shares in international tourist arrivals, global regions, 1990-2007



performer with a 11.7% increase. A double-digit increase in visitors was recorded in Cambodia, Indonesia, Malaysia and Viet Nam. The recovery in Indonesia was mainly boosted by the resurgence of demand for travel to Bali. By contrast, the results for Thailand (+4.6%) and the Philippines (+8.7%), although positive, were rather modest. Thailand has been affected by security concerns, while the Philippines has suffered mainly from supply constraints, particularly in terms of airline capacity.

In the East and North East-Asia subregion, Macao, China, led the growth in tourist arrivals for the second year, with an increase of 21.1% in 2007. China's growth in arrivals (+9.6%) also contributed to the subregion's continuing high performance. Indeed, in recent years China has become a world tourism leader, both inbound and outbound. Since 1995, tourist departures from China have grown tenfold. Among the beneficiaries of China's outbound travel growth were Japan with a 13.8% increase of visitors in 2007 and Hong Kong, China, with an 8.4% increase. Tourist arrivals in the Republic of Korea grew only by 2.2% in 2006, but

Figure 25.2

International tourist departures, selected countries, Asia and the Pacific, 1995 and 2007

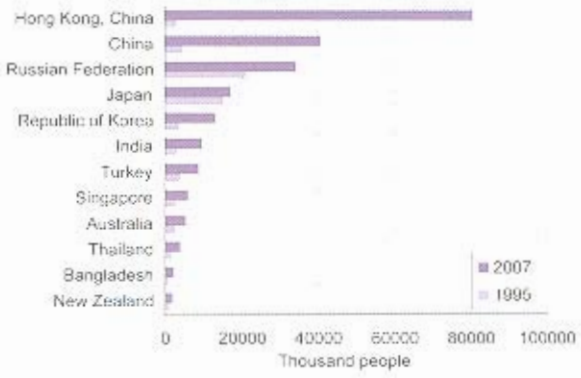
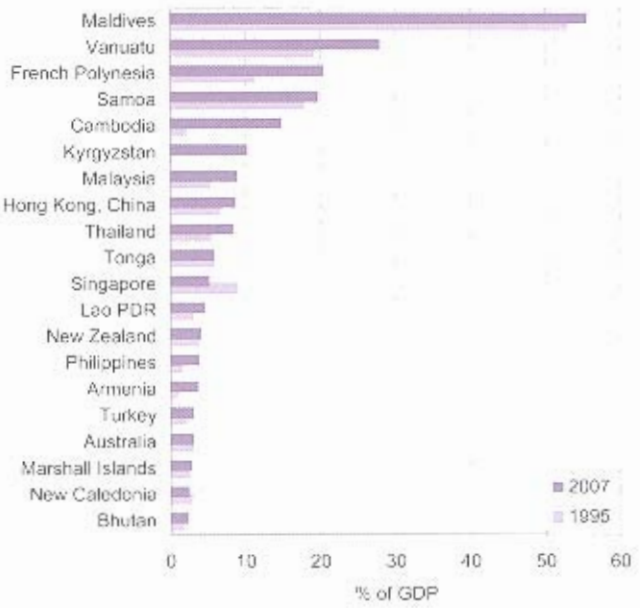


Figure 25.3

International tourism receipts, percentage of GDP, selected countries, Asia and the Pacific, 1995 and 2007



by 4.8% in 2007, probably as a result of an increased marketing campaign.

The North and Central Asia subregion also had a solid performance, averaging a 7.7% annual growth in arrivals over the period 1995-2007. Three major countries contributed to this. Between 2000 and 2007, Kyrgyzstan saw its tourist arrivals growing from a mere 59,000 arrivals to 1.5 million in 2007. Over the same period there were also annual increases in Kazakhstan, by 14.8% and in Azerbaijan by 8.4%. Since the beginning of the 21st century, the countries in this subregion have taken steps to promote themselves as emerging tourism destinations.

The growth in arrivals has been accompanied by a large growth in income. Between 1995 and 2007 worldwide receipts from international tourism more than doubled to $1,028 billion. As in the previous years, Europe received almost half ($466.9 billion) of world revenue, while almost one quarter ($241.7 billion) went to Asia and the Pacific. Between 2000 and 2007, the region increased its share of global tourism receipts from 19.1 to 23.5%, consolidating its position as the second-highest tourism earner.

Tourism can have a huge economic impact – as visitors spend money on accommodation, food and drink, and local transportation. Within the Asia-Pacific region, several countries depend to a substantial extent on tourism. For example, in the Pacific island developing economies as a group, the share of tourism in their GDP averaged 11.9% in 2006, ranging from around 20% in Fiji, French Polynesia and Samoa to 57.1% in Palau. Maldives is also another developing island destination, whose dependence is particularly high. Its revenue from tourism represents more than half of its GDP. In Macao, China, the tourism sector continues to expand thanks to the continuous development of new hotels and casinos: by 2006 tourism accounted for 70% of GDP.

Within South-East Asia, Cambodia continues to successfully capitalize on its main asset, the famous World Heritage cultural site of Angkor Wat. As a result, over the period 2005-2007 tourism contributed on average 14.8% of its GDP. By contrast, in the Lao People's Democratic Republic, between 2006 and 2007, the share of tourism in its GDP declined from 6.9 to 4.6%. However, this result could be misleading because, between 2000 and 2007, international tourism receipts increased in absolute terms, from $114 million to $189 million suggesting that the country is diversifying its economy.

In Thailand, tourism successfully recovered from the 2004 tsunami disaster. Indeed, between 2005 and 2007 the revenue from tourism increased from 6.9 to 8.4% of GDP, returning to its 2000 level. Malaysia too made progress, between 2006 and 2007, tourism's share of GDP rose from 7.9 to 9.0%.

In terms of source markets, international tourism came largely from the traditional industrialized countries of Europe and the Americas. However, over recent years, with rising disposable incomes, many Asia-Pacific emerging economies have shown fast growth. In 2007 outbound tourism from North and Central Asia recorded a significant gain (+15.9%) spearheaded

by Kazakhstan (23.2%) and the Russian Federation (+17.8%). More tourists are also coming from South and South-West Asia (+12.3%), from countries such as India (+17.3%), and from Turkey (+8%). In the East and North-East Asia subregion outbound tourism increased by 10.9% – with China increasing by 18.6% and reinforcing its position as one of the world's leading sources of tourists.

International tourist arrivals (thousands)
Refers to the number of International Tourist Arrivals taking into account the following considerations: (1) Data refer exclusively to tourists (overnight visitors): a visitor who stays at least one night in a collective or private accommodation in the country visited. Same-day visitors are not included. (2) data refer to the number of arrivals and not to the number of persons. The same person who makes several trips to a given country during a given period will be counted as a new arrival each time, as well as a person who travels through several countries on one trip is counted as a new arrival each time. **Aggregates:** Calculated by ESCAP as the sum of individual country values. Missing data have been imputed. **Source:** World Bank, World Development Indicators. Online database accessed on 10 October 2009.

International tourist departures (thousands)
The number of departures that people make from their country of usual residence to any other country for any purpose other than a remunerated activity in the country visited. **Aggregates:** Sum of individual country values. Missing data have been imputed. **Source:** World Bank, World Development Indicators. Online database accessed on 10 October 2009.

International tourism receipts (million US dollars; percentage of GDP)
The receipts earned by a destination country from inbound tourism resulting from expenditure made by visitors from abroad, on lodging, food and drinks, fuel, transport in the country, entertainment, shopping, etc. **Aggregates:** Calculated by ESCAP as the sum of individual country values (total receipts) and using GDP in US dollars as weight. Missing data for some countries and years have been imputed. **Source:** World Bank, World Development Indicators. Online database accessed on 10 October 2009.

Outbound tourism expenditures (million US dollars; percentage of GDP)
The expenditure incurred by people travelling from their country of usual residence to any other country for any purpose other than a remunerated activity in the country visited: on lodging, food and drinks, fuel, transport in the country, entertainment, shopping, etc. **Aggregates:** Calculated by ESCAP as the sum of individual country values (total expenditures) and using GDP in US dollars as weight. Missing data for some countries and years have been imputed. **Source:** World Bank, World Development Indicators. Online database accessed on 10 October 2009.

25.1 International tourists

	Arrivals					Departures				
	Thousands					Thousands				
	1995	2000	2005	2006	2007	1995	2000	2005	2006	2007
East and North-East Asia	**38 579**	**55 456**	**83 685**	**90 292**	**100 063**	**26 706**	**38 555**	**131 105**	**139 753**	**152 468**
China	20 034	31 229	46 809	49 913	54 720	4 520	10 473	31 026	34 524	40 954
DPR Korea										
Hong Kong, China		8 814	14 773	15 821	17 154	3 023	4 611	72 300	75 812	80 682
Japan	3 345	4 757	6 728	7 334	8 347	15 298	17 819	17 404	17 535	17 295
Macao, China	4 202	5 197	9 014	10 683	12 942	46	144	295	272	212
Mongolia	108	137	338	386	452					
Republic of Korea	3 753	5 322	6 023	6 155	6 448	3 819	5 508	10 080	11 610	13 325
South-East Asia	**29 588**	**37 429**	**49 222**	**53 787**	**60 076**	**28 757**	**41 481**	**45 785**	**47 549**	**48 885**
Brunei Darussalam	496	984	815	836	677					
Cambodia			1 333	1 591	1 873	31	41	568	787	996
Indonesia	4 324	5 064	5 002	4 871	5 506	1 782		4 106	4 341	
Lao PDR	60	191	672	842						
Malaysia	7 469	10 222	16 431	17 547	20 973	20 642	30 532			
Myanmar	117	208	232	264	248					
Philippines	1 760	1 992	2 623	2 843	3 092	1 615	1 670	2 144	2 745	
Singapore	6 070	6 062	7 079	7 588	7 957	2 867	4 444	5 159	5 533	6 024
Thailand	6 952	9 579	11 567	13 822	14 464	1 820	1 909	3 047	3 382	4 018
Timor-Leste										
Viet Nam	1 351	2 140	3 468	3 583	4 244					
South and South-West Asia	**11 316**	**15 672**	**28 420**	**28 759**	**32 912**	**9 503**	**13 835**	**21 296**	**22 601**	**25 371**
Afghanistan										
Bangladesh	156	199	208	200	289	830	1 128	1 767	1 819	2 327
Bhutan	5	8	14	17	21					
India	2 124	2 649	3 919	4 447	5 082	3 056	4 416	7 185	8 340	9 780
Iran (Islamic Rep. of)	469	1 342	1 889	2 735		1 000	2 286			
Maldives	315	467	395	602	676	32	42	77	74	
Nepal	363	464	375	384	527	100	166	373	415	469
Pakistan	378	557	798	898	840					
Sri Lanka	403	400	549	560	494	504	624	727	757	862
Turkey	7 083	9 586	20 273	18 916	22 248	3 981	5 284	8 246	8 275	8 938
North and Central Asia	**12 782**	**24 016**	**27 661**	**29 278**	**31 175**	**22 936**	**21 718**	**34 645**	**36 660**	**42 494**
Armenia	12	45	319	381			111	269	329	
Azerbaijan			861	903	1 010		1 326	1 830	1 836	1 631
Georgia	85	367	560	983	1 052	228	315			
Kazakhstan		1 471	3 143	3 468	3 876		1 247	3 004	3 688	4 544
Kyrgyzstan	36	59	319	766	1 654	42	47	201	454	
Russian Federation	10 290	21 169	22 201	22 486	22 909	21 329	18 371	28 416	29 107	34 285
Tajikistan		4					6			
Turkmenistan	218	3	12	6	8	21	78	33	33	38
Uzbekistan	92	302	242	281			217	572	893	
Pacific		**9 147**	**10 383**	**10 415**		**3 798**	**5 173**	**7 095**	**7 280**	**7 925**
American Samoa	34	44	24	25		40	41	35	41	
Australia		4 530	5 020	5 064		2 519	3 498	4 756	4 941	5 462
Cook Islands										
Fiji	318	294	550	545	539	68	83			
French Polynesia	172	252	208	222	218	63				
Guam	1 362	1 287	1 228	1 212						
Kiribati	4	5	3	4	5					
Marshall Islands	6	5	9	6	7					
Micronesia (F.S.)		21	19	19	21					
Nauru										
New Caledonia	86	110	101	100	103	59	69	96	100	106
New Zealand		1 780	2 353	2 390	2 434	920	1 283	1 872	1 861	1 978
Niue										
Northern Mariana Islands										
Palau	53	58	86	87	93					
Papua New Guinea	42	58	69	78	104	51	52			
Samoa	68	88	102	116	122		61	52		
Solomon Islands	12	5	9	11	14					
Tonga	29	35	42	39						
Tuvalu										
Vanuatu	44	58	62	68		11	12	14	15	16
Asia and the Pacific	**100 482**	**141 720**	**199 371**	**212 531**	**234 679**	**91 700**	**120 762**	**239 926**	**253 843**	**277 143**
LLDC		3 260	6 299	7 438	9 056	1 479	3 187	6 285	7 651	8 361
LDC			3 405	4 099	4 685	1 062	1 439	2 851	3 162	3 934
ASEAN	29 588	37 429	49 222	53 787	60 076	28 757	41 481	45 785	47 549	48 885
ECO	10 345	13 900	27 541	27 977	32 656	6 249	10 491	16 810	18 103	19 422
SAARC	3 744	4 744	6 258	7 108	7 929	4 522	6 265	10 129	11 405	13 512
Central Asia		2 847	5 460	6 792	8 266	1 607	3 347	6 229	7 553	8 209
Pacific island dev. econ	2 917	2 837	3 010	2 961		359	392	467	478	485
Low income	3 164	4 554	6 853	7 915	9 962	1 253	1 594	3 484	4 371	5 142
Middle income	64 724	97 554	136 678	146 782	161 576	61 833	81 727			
High income		39 612	53 840	57 834	63 141	28 614	37 441	112 027	117 729	125 149
Africa	**23 048**	**33 018**	**45 331**	**49 798**	**54 728**	**12 734**	**14 565**	**19 328**	**18 726**	**19 077**
Europe	**291 488**	**359 723**	**392 772**	**415 088**	**433 455**	**285 326**	**363 438**	**423 271**	**429 065**	**442 644**
Latin America and Carib.	**46 050**	**54 596**	**62 836**	**63 876**	**65 894**	**23 210**	**30 715**	**37 511**	**39 399**	**41 768**
North America	**60 809**	**71 197**	**68 247**	**69 542**	**74 223**	**69 631**	**80 649**	**84 763**	**86 564**	**89 396**
Other countries/areas	**15 679**	**23 626**	**33 502**	**36 270**	**39 844**	**16 327**	**20 713**	**19 191**	**17 272**	**20 621**
World	**535 972**	**687 632**	**807 029**	**852 889**	**911 470**	**579 267**	**760 402**	**1 008 132**	**1 035 792**	**1 100 372**

25.2 Tourism receipts and expenditures

	International tourism receipts						Outbound tourism expenditures					
	Million US dollars			% of GDP			Million US dollars			% of GDP		
	1995	2005	2007	1995	2005	2007	1995	2005	2007	1995	2005	2007
East and North-East Asia	**33 164**	**77 714**	**90 905**	**0.5**	**1.0**	**1.0**	**57 637**	**103 647**	**109 634**	**0.9**	**1.3**	**1.2**
China	8 730	31 842	41 126	1.2	1.4	1.2	3 668	24 715	33 264	0.5	1.1	1.0
DPR Korea												
Hong Kong, China	9 604	13 588	15 015	6.7	7.6	8.7	10 497	13 305	15 086	7.3	7.5	7.3
Japan	4 894	15 555	12 422	0.1	0.3	0.3	36 764	48 102	37 261	0.7	1.1	0.9
Macao, China	3 233	8 236		46.6	71.0			428			3.7	
Mongolia	33	203		2.3	8.8		20	173		1.4	7.5	
Republic of Korea	6 670	8 290	8 947	1.2	1.0	0.9	6 341	16 924	23 359	1.2	2.0	2.2
South-East Asia	**30 129**	**39 481**	**62 408**	**4.4**	**4.4**	**4.8**	**14 322**	**26 100**	**33 745**	**2.1**	**2.9**	**2.6**
Brunei Darussalam		191			2.0			374			3.9	
Cambodia	71	929	1 284	2.1	14.8	14.9	8	138	194	0.2	2.2	2.2
Indonesia	5 229	5 094	5 833	2.4	1.8	1.3	2 172	4 740	6 120	1.0	1.7	1.4
Lao PDR	52	147	189	3.1	5.4	4.6	30			1.8		
Malaysia	5 044	10 389	16 798	5.5	7.5	9.0	2 314	4 339	6 245	2.5	3.1	3.3
Myanmar	169	85		2.2	0.7		18	34		0.2	0.3	
Philippines	1 141	2 755	3 518	1.5	2.8	3.8	422	1 547	2 007	0.6	1.6	1.4
Singapore	7 611	5 909	8 680	9.1	4.9	5.2	4 631	10 011	11 844	5.5	8.3	7.1
Thailand	9 257	12 102	20 623	5.5	6.9	8.4	4 271	4 917	6 887	2.5	2.8	2.8
Timor-Leste												
Viet Nam		1 880			3.6							
South and South-West Asia	**9 166**	**30 838**	**35 788**	**1.1**	**1.8**	**1.5**	**3 180**	**18 561**	**23 336**	**0.4**	**1.1**	**1.0**
Afghanistan												
Bangladesh	25	79	76	0.1	0.1	0.1	233	375	514	0.6	0.7	0.7
Bhutan	5	19	30	1.7	2.3	2.4						
India	2 582	7 652	10 729	0.7	0.9	0.9	996	7 798		0.3	1.0	
Iran (Islamic Rep. of)	205	1 364	1 834	0.2	0.7	0.6	241	4 560	6 526	0.2	2.3	2.3
Maldives	211	287	586	52.9	38.3	55.5	31	92	126	7.8	12.3	11.9
Nepal	232	160	234	4.7	1.7	1.9	136	221	402	2.8	2.4	3.3
Pakistan	582	828	900	0.7	0.6	0.5	446	1 753	2 043	0.5	1.4	1.2
Sri Lanka	367	729	750	2.7	3.0	2.3	186	552	709	1.4	2.3	2.2
Turkey	4 957	19 720	20 649	2.2	4.1	3.1	911	3 210	3 720	0.4	0.7	0.6
North and Central Asia	**4 681**	**9 412**	**15 398**	**1.1**	**1.1**	**1.0**	**12 285**	**20 299**	**26 974**	**2.8**	**2.3**	**1.8**
Armenia	14	240	343	1.1	4.9	3.7	3	284	345	0.2	5.8	3.7
Azerbaijan	87	100	317	2.8	0.8	1.0	146	188	381	4.7	1.4	1.2
Georgia		287	441		4.5	4.3		237	277		3.7	2.7
Kazakhstan	155	801	1 213	0.8	1.4	1.2	283	940	1 355	1.4	1.6	1.3
Kyrgyzstan	5	94	392	0.3	3.8	10.3	7	94	193	0.5	3.8	5.1
Russian Federation	4 312	7 806	12 587	1.1	1.0	1.0	11 599	18 425	24 289	2.9	2.4	1.9
Tajikistan		10	16		0.4	0.7		4	7		0.2	0.3
Turkmenistan												
Uzbekistan		28			0.2							
Pacific	**15 903**	**30 299**	**37 227**	**3.5**	**3.5**	**3.4**	**6 397**	**19 043**	**23 898**	**1.4**	**2.2**	**2.2**
American Samoa												
Australia	11 915	22 566	29 065	3.1	3.1	3.1	4 587	15 593	19 844	1.2	2.1	2.1
Cook Islands												
Fiji	369	676		18.8	23.0		64	132		3.3	4.5	
French Polynesia	326	759	876	11.3	20.4	20.5		430	600		11.6	14.0
Guam												
Kiribati	2			5.4								
Marshall Islands	3	6	5	2.5	4.1	2.9		0			0.3	
Micronesia (F.S.)		17			7.3			6			2.6	
Nauru												
New Caledonia	108	149	197	3.0	2.4	2.5		122	149		2.0	1.9
New Zealand	2 318	5 162	5 406	3.8	4.6	4.1	1 289	2 657	3 066	2.1	2.4	2.4
Niue												
Northern Mariana Islands												
Palau		97			67.1			2			1.0	
Papua New Guinea	25	4		0.5	0.1		58	56		1.2	1.2	
Samoa	36	80	107	17.8	18.3	19.7	3	17	14	1.5	3.9	2.6
Solomon Islands	17	7		4.7	1.7		13	11		3.6	2.7	
Tonga	10	15	15	5.9	6.9	6.0		4	10		1.8	4.0
Tuvalu												
Vanuatu	45	104	142	19.2	28.1	28.0	5	13	13	2.1	3.5	2.6
Asia and the Pacific	**93 043**	**187 744**	**241 726**	**1.0**	**1.5**	**1.6**	**93 821**	**187 650**	**217 587**	**1.0**	**1.5**	**1.4**
LLDC	616	1 848	3 064	1.1	1.5	1.4	701	2 031	3 022	1.3	1.7	1.4
LDC	865	1 900	2 718	1.4	1.9	2.1	477	901	1 318	0.8	0.9	1.0
ASEAN	30 129	39 481	62 408	4.4	4.4	4.8	14 322	26 100	33 745	2.1	2.9	2.6
ECO	6 024	22 991	25 410	1.3	2.5	1.9	2 110	10 876	14 352	0.5	1.2	1.1
SAARC	4 004	9 754	13 305	0.8	0.9	0.9	2 028	10 791	13 090	0.4	1.0	0.9
Central Asia	369	1 606	2 811	0.8	1.5	1.5	686	1 874	2 685	1.5	1.8	1.4
Pacific island dev. econ.	1 670	2 571		11.2	12.8		521	793	988	3.5	4.0	4.0
Low income		3 412			1.9		434	866	1 350	0.4	0.5	0.6
Middle income	43 580	103 272	141 612	1.7	1.9	1.7	28 127	78 838	104 168	1.1	1.4	1.3
High income	47 489	81 060	94 621	0.7	1.2	1.4	65 260	107 946	112 069	1.0	1.6	1.6
Africa	**13 080**	**33 019**	**44 370**	**2.5**	**3.4**	**3.4**	**7 406**	**16 972**	**23 977**	**1.4**	**1.7**	**1.9**
Europe	**229 027**	**376 852**	**466 938**	**2.3**	**2.6**	**2.6**	**193 511**	**369 755**	**445 800**	**2.0**	**2.5**	**2.5**
Latin America and Carib.	**27 654**	**51 342**	**61 525**	**1.5**	**1.8**	**1.6**	**17 184**	**32 907**	**43 062**	**0.9**	**1.2**	**1.1**
North America	**103 364**	**139 474**	**163 362**	**1.3**	**1.0**	**1.1**	**55 394**	**122 442**	**141 230**	**0.7**	**0.9**	**0.9**
Other countries/areas	**14 038**	**28 469**	**33 112**	**3.6**	**3.3**	**2.9**	**26 683**	**35 504**	**45 995**	**6.9**	**4.1**	**4.0**
World	**486 148**	**827 850**	**1 028 350**	**1.6**	**1.8**	**1.9**	**410 850**	**761 997**	**918 692**	**1.4**	**1.7**	**1.7**

26 Biodiversity, protected areas and forests

Economic development in Asia and the Pacific continues to incur huge environmental and socio-economic costs, reflected in deforestation, forest degradation and biodiversify loss.

In 2008 Asia and the Pacific had the world's highest number of threatened species, with almost one third of all threatened plants, and over one third of all threatened animal species. Many of the most serious problems are in South-East Asia which has six of the ten countries in the region with the highest numbers of threatened animal and plant species.

2010 has been designated the International Year of Biodiversity, the year by which signatories to the 2002 Convention on Biodiversity, agreed "to achieve a significant reduction of the current rate of biodiversity loss". While it is difficult to accurately track changes in the numbers of threatened species, it is clear that most countries of the region will not meet the 2010 target.

In Asia and the Pacific, the terrestrial area designated as legally protected is just short of 9% of the total surface area, two percentage points lower than the global proportion. Of the subregions, East and North-East Asia has the highest proportion of protected areas and North and Central Asia the lowest. Considering the large number of threatened species in ASEAN countries, their proportion of protected land areas, 8.4%, appears modest.

With respect to marine protected areas, the area designated as legally protected in 2007 was just under five% of territorial waters. Among the countries which have updated their data since 2008, no changes in coverage were recorded. However, data are missing for several countries, including one which has taken a significant step, Kiribati. In 2008 this island country established the Phoenix Islands Protected Area. At 410,960 square-kilometres – nearly the size of the Black Sea – this is world's largest protected area and conserves globally important coral ecosystems and deep-sea habitats. While commercial fishing is restricted in designated zones, subsistence fishing and sustainable use is permitted.

Other important steps have been taken. In 2009, Indonesia, Malaysia, Papua New Guinea, the Philippines, Solomon Islands and Timor-Leste agreed on a 10-year action plan to implement the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI). Conservation and sustainable use of this area, covering six-million square-kilometres of ocean will have important benefits. This is not only because this is one of the world's most important areas of marine biodiversity, but also because it will support marine-based industries and livelihoods, such as the tuna industry. In a region where fish is part of the daily diet, the successful implementation of the CTI will also be critical for food security.

Forests

The data available for forests are unchanged from the 2008 *Yearbook*, which pointed to the losses in primary forests as an indicator of declining ecosystem health, as well as declining ecosystem services. It also showed that of the Asia-Pacific countries or areas for which data are available, between 1990 and 2005, just over half maintained their primary forest coverage. Other countries had slowed or stabilized their rates of loss, with two countries suffering an accelerated loss of primary forest cover – Viet Nam and Nepal. The rates of loss of primary forests were fastest for 2000-2005 for Indonesia, Papua New Guinea, Mongolia, Cambodia, Viet Nam and the Democratic People's Republic of Korea. These countries accounted for 25% of the world's total losses during that period, and 46% of the area lost since 1990. Fragmentation of forests is a major cause of biodiversity loss globally, but particularly in South-East Asia.

However, some countries showed significant expansion in forest area including plantation forests. China, Viet Nam and Samoa, for example, have made massive investments in reforestation.

Figure 26.1

Threatened plant and animal species, Asia and the Pacific, 2008

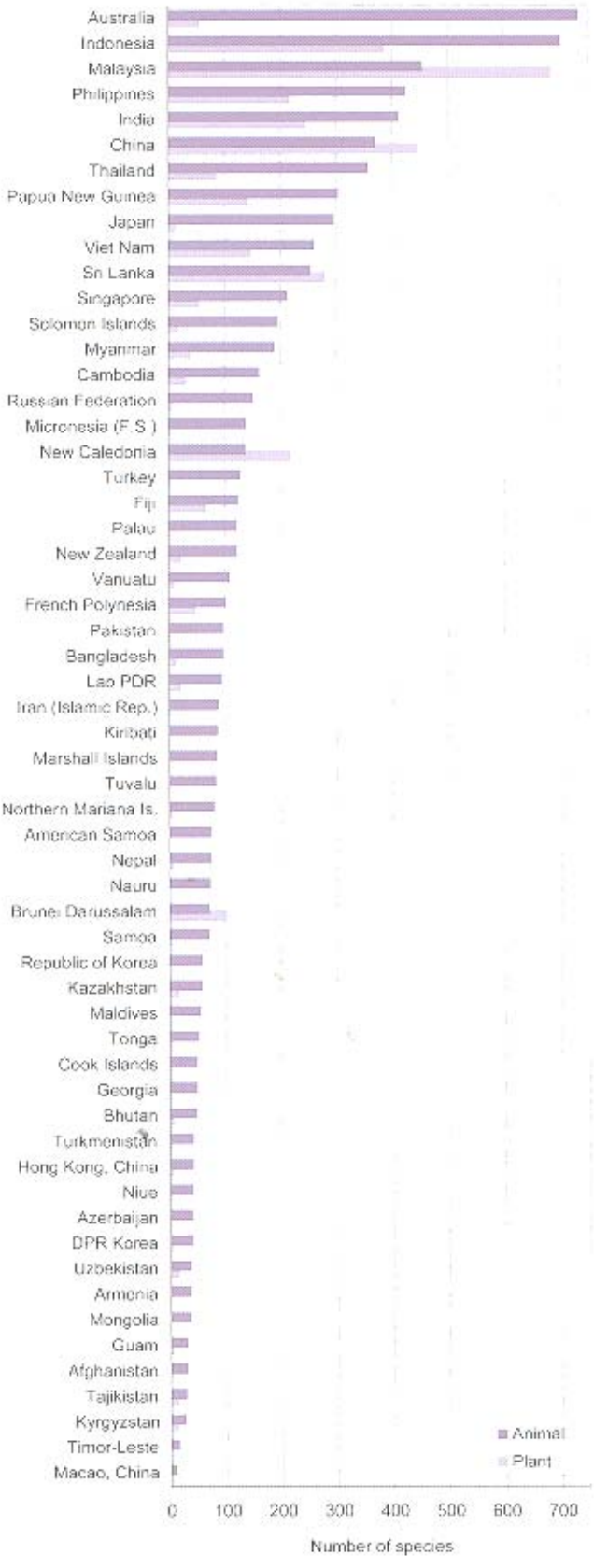


Figure 26.2

Ratio of protected terrestrial areas to surface area, 1990-2008

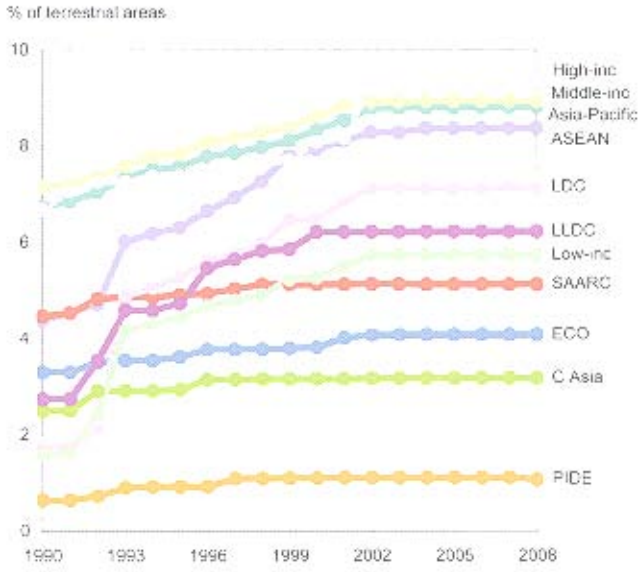


Figure 26.3

Ratio of protected marine areas to territorial water, 1990-2008

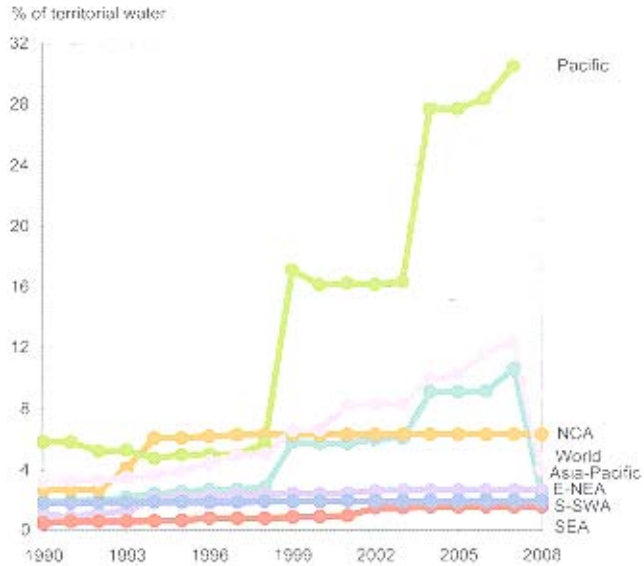


Figure 26.4

Proportion of protected marine areas, 1990 and 2008



Figure 26.5

Annual change in forest area, Asia and the Pacific, 1990-2000 and 2000-2007

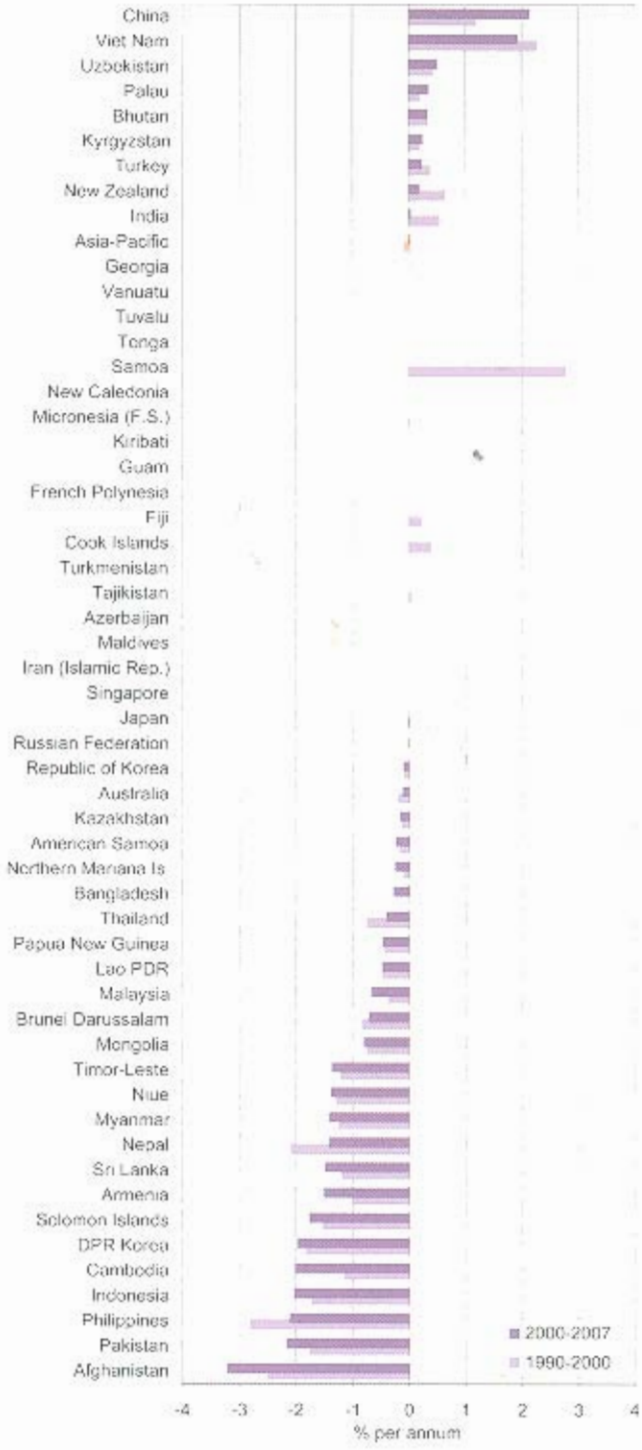


Figure 26.6

Proportion of primary, modified and plantation forest, Asia and the Pacific, 2005

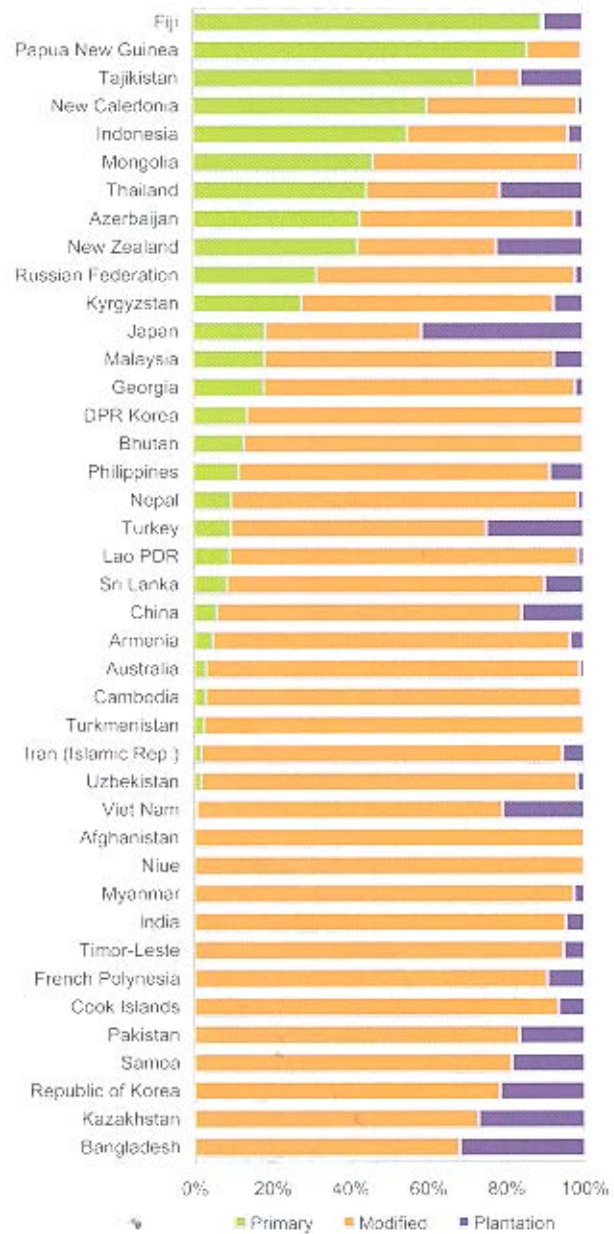
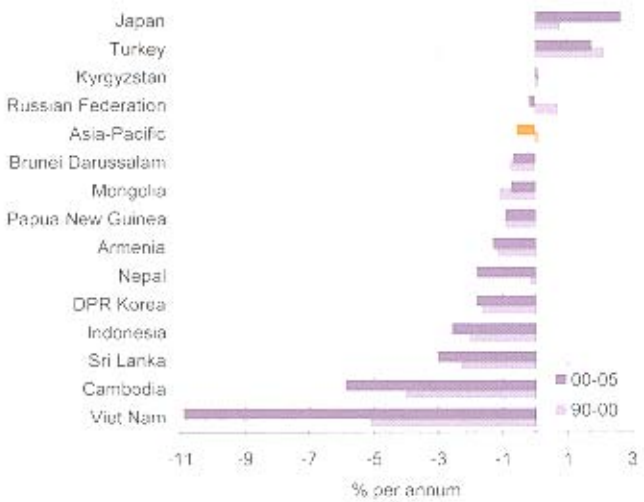


Figure 26.7

Largest changes in primary forest cover, 1990-2000 and 2000-2005



Marine areas protected (square kilometres; percentage of territorial water)
The overall surface of protected marine areas as adopted by the International Union for Conservation of Nature. Covers any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment. Only protected areas that are nationally designated are included in this indicator. **Aggregates:** Calculated by ESCAP as the sum of individual country values (value in square kilometres); and using total territorial water as weight (value as a percentage of territorial water). **Source:** United Nations Millennium Development Goals Indicators. Online database accessed on 27 August 2009.

Terrestrial areas protected (square kilometres; percentage of surface area)
The total land area dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means. Only protected areas that are nationally designated are included in this indicator. **Aggregates:** Calculated by ESCAP as the sum of individual country values (value in square kilometres); and using surface area as weight (value as a percentage of surface area). **Source:** United Nations Millennium Development Goals Indicators and Food and Agriculture Organization of the United Nations, Global Forest Resources Assessment. Online database accessed on 27 August 2009.

Forest area (square kilometres; percentage of land area)
The total land area covered by forest. Forest land spans more than a half a hectare with trees higher than five metres and a canopy cover of more than 10%, or trees able to reach these thresholds in situ. **Aggregates:** Calculated by ESCAP as the sum of individual country values (value in square kilometres); and using total land area as weight (value as a percentage of land area). **Source:** Food and Agriculture Organization of the United Nations, Global Forest Resources Assessment. Online database accessed on 27 August 2009.

Forest area, average annual growth rate (% per annum)
The average rate of change in forest area, calculated as an arithmetic mean for a range-year period. Expressed as a percentage. **Aggregates:** Averages are calculated using sum of individual country values within each group of forest area. **Source:** Calculated by ESCAP using total forest area.

Forest, primary (square kilometres)
Forest/Other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed. Includes areas where collection of non-wood forest products occurs, provided the human impact is small. Some trees may have been removed. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** Food and Agriculture Organization of the United Nations, Global Forest Resources Assessment. Online database accessed on 26 November 2008.

Forest, modified and semi natural (square kilometres)
The total area covered by modified natural forests and semi-natural forests. Modified natural forests cover forests and other wooded lands of naturally regenerated native species where there are clearly visible indications of human activities. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** Food and Agriculture Organization of the United Nations, Global Forest Resources Assessment. Online database accessed on 26 November 2008

Forest, productive and protection plantation (square kilometres)
The total area covered by productive plantations and protection plantations. Productive plantation covers forest and other wooded land of introduced species and in some cases native species, established through planting or seeding mainly for production of wood or non-wood goods. Protection plantation covers forest and other wooded land of native or introduced species, established through planting or seeding mainly for provision of services, such as environmental protection, pest control and conservation of habitats to biological diversity. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** Food and Agriculture Organization of the United Nations, Global Forest Resources Assessment. Online database accessed on 26 November 2008.

Forest primary (% of total forest area)
Share of primary forest in the total forest area. **Aggregates:** Calculated by ESCAP using total forest area as weight. **Source:** Food and Agriculture Organization of the United Nations, Global Forest Resources Assessment. Online database accessed on 27 August 2009.

Primary forest area, average annual growth rate (% per annum)
The average annual rate of change in primary forest area, calculated as the arithmetic mean over the period. Expressed as a percentage. **Aggregates:** Calculated by ESCAP as the annual rate of change of the regional sums. **Source:** ESCAP calculated using primary forest area.

Threatened species (total by taxonomic groups) (number of species)
The number of threatened species as listed by the International Union for Conservation of Nature and Natural Resources (IUCN) as: critically endangered (CR); or endangered (EN); or vulnerable (VU). The IUCN classification uses quantitative criteria based on population size, rate of decline, and area of distribution to assign species to the above categories. The listing in a higher extinction risk category implies a higher expectation of extinction, and over the time-frames specified more species listed in a higher category are expected to go extinct than those in a lower one (without effective conservation action). Data are presented for each country by taxonomic groups: mammals, birds, reptiles, amphibians, fishes, molluscs, other invertebrates, and plants. **Source:** IUCN. Online database accessed on 27 October 2009.

26.1 Protected areas

	Protected marine areas						Protected land areas					
	Square kilometres			% of territorial water			Square kilometres			% of surface area		
	1990	2000	2008	1990	2000	2008	1990	2000	2008	1990	2000	2008
East and North-East Asia	**10 654**	**23 893**	**26 089**	**1.1**	**2.4**	**2.6**	**1 247 313**	**1 614 280**	**1 732 023**	**9.9**	**12.9**	**13.8**
China	456	1 449	1 453	0.1	0.3	0.3	1 135 190	1 337 780	1 452 693	11.2	13.2	14.3
DPR Korea							3 159	3 159	3 159	1.8	1.8	1.8
Hong Kong, China	42	63	66				474	485	485	43.1	44.1	44.1
Japan	7 448	19 673	21 791	1.8	4.7	5.2	40 375	50 699	53 350	5.1	6.4	6.7
Macao, China												
Mongolia							63 899	217 912	217 912	4.1	13.9	13.9
Republic of Korea	2 706	2 708	2 779	3.2	3.2	3.3	4 216	4 245	4 424	2.3	2.3	2.4
South-East Asia	**28 528**	**50 250**	**87 778**	**0.5**	**0.9**	**1.5**	**385 558**	**638 799**	**673 026**	**4.4**	**7.9**	**8.4**
Brunei Darussalam	3	3	3	0.1	0.1	0.1	2 931	3 420	3 420	27.7	32.4	32.4
Cambodia		66	66		0.4	0.4		43 399	43 399	0.1	21.9	21.9
Indonesia	16 283	25 481	60 005	0.5	0.8	1.8	164 776	287 985	299 925	3.5	5.5	5.7
Lao PDR							1 783	37 545	37 545	0.8	15.9	15.9
Malaysia	3 605	6 741	6 741	2.5	4.6	4.6	61 925	66 674	66 971	13.0	14.1	14.1
Myanmar	380	766	766	0.2	0.5	0.5	19 926	28 329	45 024	2.4	3.4	5.4
Philippines	1 433	11 643	11 945	0.1	0.7	0.7	36 417	51 110	51 460	2.0	2.7	2.7
Singapore		5	5		0.8	0.8	29	34	35	2.2	2.6	2.7
Thailand	4 047	4 317	4 317	3.6	3.9	3.9	70 182	103 605	104 452	11.2	16.6	16.7
Timor-Leste								938	2 174		3.1	7.3
Viet Nam	777	1 226	3 930	0.3	0.4	1.4	5 569	15 559	18 621	0.9	2.5	3.0
South and South-West Asia	**8 220**	**8 706**	**8 861**	**1.8**	**1.9**	**1.9**	**341 134**	**390 714**	**412 425**	**4.3**	**4.9**	**5.1**
Afghanistan							1 079	1 079	1 079	0.2	0.2	0.2
Bangladesh	214	214	214	0.5	0.5	0.5	2 563	2 976	3 140	1.4	1.6	1.7
Bhutan							5 707	11 561	11 561	12.1	24.6	24.6
India	2 691	2 892	2 892	1.4	1.5	1.5	141 662	156 291	156 916	4.1	4.5	4.5
Iran (Islamic Rep. of)	2 676	2 676	2 831	3.3	3.3	3.5	83 583	94 483	115 261	4.8	5.5	6.7
Maldives												
Nepal							9 980	24 333	24 477	6.8	16.5	16.6
Pakistan	339	339	339	1.1	1.1	1.1	70 465	71 309	71 309	8.5	8.6	8.6
Sri Lanka	30	315	315	0.1	1.0	1.0	12 526	13 518	13 518	12.9	14.0	14.0
Turkey	2 270	2 270	2 270	2.8	2.8	2.8	13 569	15 164	15 164	1.6	1.8	1.8
North and Central Asia	**36 374**	**85 087**	**85 087**	**2.7**	**6.3**	**6.3**	**1 482 904**	**1 677 714**	**1 678 627**	**6.5**	**7.4**	**7.4**
Armenia							2 160	2 160	2 440	7.2	7.2	8.2
Azerbaijan							5 276	5 695	6 328	5.2	5.6	6.2
Georgia							1 982	2 720	2 720	2.6	3.6	3.6
Kazakhstan							69 425	76 227	76 227	2.5	2.8	2.8
Kyrgyzstan							4 888	6 210	6 210	2.4	3.1	3.1
Russian Federation	36 374	85 087	85 087	2.7	6.3	6.3	1 374 902	1 543 566	1 543 566	7.5	8.4	8.4
Tajikistan							3 261	19 581	19 581	2.3	13.7	13.7
Turkmenistan							12 866	12 866	12 866	2.5	2.5	2.5
Uzbekistan							8 124	8 689	8 689	1.8	1.9	1.9
Pacific	**117 847**	**483 588**	**1 480 300**	**5.8**	**16.1**		**649 008**	**780 692**	**906 678**	**6.4**	**7.8**	**9.0**
American Samoa	170	171	171	1.7	1.7	1.7	33	34	34	0.3	0.3	0.3
Australia	113 086	467 367	1 040 776	12.1	50.1		565 190	683 844	808 972	6.5	7.9	9.3
Cook Islands	1	13	13				2	6	6	0.8	2.6	2.6
Fiji	22	189	209		0.1	0.1	359	394	394	0.2	0.2	0.2
French Polynesia	78	192	192		0.1	0.1	34	43	43	0.6	1.1	1.1
Guam	32	47	47	0.7	1.0	1.0	54	115	115	1.1	2.2	2.2
Kiribati	454	460	410 960	0.6	0.6		338	344	399	0.4	0.4	0.5
Marshall Islands		718	718		0.6	0.6		39	39	0.1	21.8	21.8
Micronesia (F.S.)	5	24	32				56	71	71	0.1	0.1	0.1
Nauru												
New Caledonia	197	257	257	0.2	0.2	0.2	1 346	1 374	1 374	1.0	1.0	1.0
New Zealand	175	303	12 861	0.1	0.2	7.1	72 019	79 096	79 755	16.0	17.5	17.7
Niue		30	30		1.0	1.0		30	30		0.9	0.9
Northern Mariana Islands	2	6	6				20	20	20	0.1	0.1	0.1
Palau	15	90	261	0.5	3.0	8.7	1	6	6	0.2	0.2	0.2
Papua New Guinea	3 521	3 521	3 521	0.5	0.5	0.5	8 996	14 317	14 363	0.7	1.2	1.2
Samoa	36	136	136	0.4	1.3	1.3	67	77	103	0.5	0.6	0.8
Solomon Islands		83	99				16	209	220	0.1	0.1	0.1
Tonga	35	9 916	9 916		2.2	2.2	5	128	191	0.7	17.2	25.5
Tuvalu		36	36		0.2	0.2					0.2	0.2
Vanuatu	18	29	59				472	543	543	0.4	0.4	0.4
Asia and the Pacific	**201 623**	**651 524**	**1 688 115**	**1.9**	**5.7**	**2.2**	**4 105 917**	**5 102 199**	**5 402 779**	**6.7**	**8.3**	**8.8**
LLDC							188 468	423 656	424 915	2.8	6.2	6.2
LDC	1 102	1 790	412 336	0.3	0.5	0.5	41 931	151 333	169 664	1.8	6.5	7.1
ASEAN	28 528	50 250	87 778	0.5	0.9	1.5	385 558	637 861	670 852	4.4	7.9	8.4
ECO	5 285	5 285	5 440	2.7	2.7	2.8	272 556	311 303	332 714	3.3	3.8	4.1
SAARC	3 274	3 760	3 760	1.1	1.3	1.3	243 982	281 067	282 000	4.5	5.1	5.1
Central Asia							108 002	134 148	135 061	2.5	3.2	3.2
Pacific island dev. econ.	4 586	15 918	426 663		0.8	0.8	11 799	17 780	17 951	0.7	1.1	1.1
Low income	1 371	2 274	4 976	0.3	0.4	1.0	60 372	190 859	210 924	1.6	5.3	5.7
Middle income	76 480	158 547	604 277	0.9	1.8	2.1	3 358 855	4 087 927	4 239 826	7.1	8.6	8.9
High income	123 771	490 624	1 078 783	7.2	25.6		686 688	823 377	951 993	6.7	8.1	9.4
Africa	**16 042**	**40 069**	**49 355**	**1.2**	**2.5**	**2.9**	**2 904 200**	**3 067 167**	**3 202 561**	**9.3**	**9.8**	**10.3**
Europe	**28 180**	**45 293**	**48 522**	**2.5**	**3.5**	**3.8**	**571 848**	**757 985**	**799 639**	**8.2**	**11.0**	**11.7**
Latin America and Carib.	**65 514**	**253 738**	**341 579**		**7.9**	**9.9**	**2 182 157**	**3 690 297**	**4 661 856**	**9.7**	**16.5**	**21.0**
North America	**319 182**	**452 156**	**1 138 057**	**8.3**	**11.7**	**5.0**	**2 802 052**	**3 028 137**	**3 043 646**	**9.1**	**10.1**	**10.2**
Other countries/areas	207	4 413	4 423		1.4	1.4	174 109	874 687	875 288	6.5	24.4	24.4
World	630 748	1 447 193	3 270 051	3.2	6.7	4.0	12 740 283	16 520 472	17 985 769	8.2	10.7	11.7

26.2 Forest areas

	Forest area				Proportion of land area covered by forests				Change rate	
	Square kilometres				% of land area				% per annum	
	1990	1995	2000	2007	1990	1995	2000	2007	90-00	00-07
East and North-East Asia	**2 081 550**	**2 169 090**	**2 256 630**	**2 525 416**	**18.1**	**18.9**	**19.7**	**22.0**	**0.8**	**1.6**
China	1 571 410	1 670 710	1 770 010	2 054 056	16.8	17.9	19.0	22.0	1.2	2.1
DPR Korea	82 010	75 110	68 210	59 334	68.1	62.4	56.6	49.3	-1.8	-2.0
Hong Kong, China										
Japan	249 500	249 130	248 760	248 648	68.4	68.3	68.2	68.2	0.0	0.0
Macao, China										
Mongolia	114 920	110 785	106 650	100 868	7.4	7.1	6.9	6.5	-0.7	-0.8
Republic of Korea	63 710	63 395	63 080	62 510	64.5	64.2	63.8	64.5	-0.1	-0.1
South-East Asia	**2 456 053**	**2 316 538**	**2 177 023**	**1 983 613**	**56.3**	**53.2**	**50.0**	**45.7**	**-1.2**	**-1.3**
Brunei Darussalam	3 130	3 005	2 880	2 740	59.4	57.0	54.6	52.0	-0.8	-0.7
Cambodia	129 460	122 435	115 410	100 094	73.3	69.4	65.4	56.7	-1.1	-2.0
Indonesia	1 165 670	1 072 095	978 520	847 522	64.3	59.2	54.0	46.8	-1.7	-2.0
Lao PDR	173 140	169 230	165 320	159 860	75.0	73.3	71.6	69.3	-0.5	-0.5
Malaysia	223 760	219 835	215 910	206 096	68.1	66.9	65.7	62.7	-0.4	-0.7
Myanmar	392 190	368 865	345 540	312 892	60.0	56.4	52.9	47.9	-1.3	-1.4
Philippines	105 740	92 615	79 490	66 472	35.5	31.1	26.7	23.0	-2.8	-2.1
Singapore	23	23	23	23	3.4	3.4	3.4	3.3	0.0	0.0
Thailand	159 650	153 895	148 140	144 024	31.2	30.1	29.0	28.2	-0.7	-0.4
Timor-Leste	9 660	9 100	8 540	7 756	65.0	61.2	57.4	52.2	-1.2	-1.4
Viet Nam	93 630	105 440	117 250	134 134	28.8	32.4	37.7	43.3	2.3	1.9
South and South-West Asia	**996 149**	**1 007 173**	**1 018 196**	**1 011 709**	**13.9**	**14.0**	**14.1**	**14.1**	**0.2**	**-0.1**
Afghanistan	13 090	11 620	10 150	8 078	2.0	1.8	1.6	1.2	-2.5	-3.2
Bangladesh	8 820	8 829	8 837	8 664	6.8	6.8	6.8	6.7	0.0	-0.3
Bhutan	30 350	30 880	31 410	32 166	64.6	77.1	78.4	83.8	0.3	0.3
India	639 390	657 465	675 540	677 598	21.5	22.1	22.7	22.8	0.6	0.0
Iran (Islamic Rep. of)	110 750	110 750	110 750	110 750	6.8	6.8	6.8	6.8	0.0	0.0
Maldives	9	9	9	9	3.0	3.0	3.0	3.0	0.0	0.0
Nepal	46 170	43 585	39 000	35 304	33.7	30.5	27.2	24.6	-2.1	-1.4
Pakistan	25 270	23 215	21 160	18 164	3.3	3.0	2.7	2.4	-1.8	-2.2
Sri Lanka	23 500	22 160	20 820	18 734	36.4	34.3	32.2	29.0	-1.2	-1.5
Turkey	96 800	98 660	100 520	102 242	12.6	12.8	13.1	13.3	0.4	0.2
North and Central Asia	**8 249 124**	**8 250 360**	**8 252 418**	**8 246 336**	**39.1**	**40.3**	**39.1**	**40.3**	**0.0**	**0.0**
Armenia	3 378	3 255	3 050	2 742	12.0	11.5	10.8	9.7	-1.0	-1.5
Azerbaijan	9 360	9 360	9 360	9 360	11.2	11.2	11.3	11.3	0.0	0.0
Georgia	27 598	27 599	27 600	27 601	39.7	39.7	39.7	39.7	0.0	0.0
Kazakhstan	34 106	33 935	33 650	33 258	1.3	1.3	1.2	1.2	-0.1	-0.2
Kyrgyzstan	8 408	8 474	8 583	8 737	4.4	4.4	4.5	4.6	0.2	0.3
Russian Federation	8 090 136	8 091 092	8 092 685	8 085 986	49.4	49.4	49.4	49.4	0.0	0.0
Tajikistan	4 084	4 090	4 100	4 100	2.9	2.9	2.9	2.9	0.0	0.0
Turkmenistan	41 270	41 270	41 270	41 270	8.8	8.8	8.8	8.8	0.0	0.0
Uzbekistan	30 784	31 285	32 120	33 282	7.2	7.4	7.6	7.8	0.4	0.5
Pacific	**2 125 049**	**2 102 651**	**2 080 252**	**2 055 340**	**25.1**	**24.8**	**24.5**	**24.2**	**-0.2**	**-0.2**
American Samoa	184	182	181	178	92.0	91.0	90.5	89.0	-0.2	-0.2
Australia	1 679 040	1 662 745	1 646 450	1 632 912	21.9	21.6	21.4	21.3	-0.2	-0.1
Cook Islands	149	152	155	155	62.1	63.3	64.6	64.6	0.4	0.0
Fiji	9 790	9 895	10 000	10 000	53.6	54.2	54.7	54.7	0.2	0.0
French Polynesia	1 050	1 050	1 050	1 050	28.7	28.7	28.7	28.7	0.0	0.0
Guam	259	259	259	259	48.0	48.0	48.0	48.0	0.0	0.0
Kiribati	22	22	22	22	2.7	2.7	2.7	2.7	0.0	0.0
Marshall Islands										
Micronesia (F.S.)	633	634	634	634	90.4	90.6	90.6	90.6	0.0	0.0
Nauru										
New Caledonia	7 170	7 170	7 170	7 170	39.2	39.2	39.2	39.2	0.0	0.0
New Zealand	77 200	79 730	82 260	83 422	28.8	29.8	30.7	31.2	0.6	0.2
Niue	172	162	151	137	66.2	62.3	58.1	52.7	-1.3	-1.4
Northern Mariana Islands	341	342	338	332	74.2	74.3	73.5	72.2	-0.1	-0.3
Palau	366	389	396	406	84.4	84.6	86.1	88.3	0.2	0.4
Papua New Guinea	315 230	308 278	301 325	291 588	69.6	68.1	66.5	64.4	-0.5	-0.5
Samoa	1 300	1 505	1 710	1 710	45.9	53.2	60.4	60.4	2.8	0.0
Solomon Islands	27 680	25 695	23 710	20 924	98.9	91.8	84.7	74.8	-1.5	-1.8
Tonga	36	36	36	36	5.0	5.0	5.0	5.0	0.0	0.0
Tuvalu	10	10	10	10	33.3	33.3	33.3	33.3	0.0	0.0
Vanuatu	4 395	4 395	4 395	4 395	36.1	36.1	36.1	36.1	0.0	0.0
Asia and the Pacific	**15 907 925**	**15 845 812**	**15 784 519**	**15 822 414**	**30.1**	**30.5**	**29.9**	**30.5**	**-0.1**	**0.0**
LLDC	511 060	497 769	484 663	469 025	7.7	7.5	7.2	7.0	-0.5	-0.5
LDC	838 296	796 180	754 063	691 884	39.9	38.2	35.8	33.2	-1.1	-1.2
ASEAN	2 445 393	2 307 438	2 168 483	1 975 857	56.3	53.1	49.9	45.7	-1.2	-1.3
ECO	373 922	372 659	371 663	369 241	4.8	4.8	4.7	4.7	-0.1	-0.1
SAARC	785 599	797 763	806 926	798 717	16.5	16.7	16.8	16.7	0.2	-0.1
Central Asia	158 988	159 268	159 733	160 350	3.9	3.9	3.9	3.9	0.0	0.1
Pacific island dev. econ.	368 809	360 176	351 542	339 006	66.2	66.6	65.0	62.7	-0.5	-0.5
Low income	983 786	948 963	914 520	864 479	30.8	29.8	28.6	27.2	-0.7	-0.8
Middle income	12 842 385	12 829 716	12 817 493	12 918 567	31.2	31.8	31.1	32.0	0.0	0.1
High income	2 081 423	2 066 809	2 052 190	2 039 066	24.7	24.5	24.3	24.2	-0.1	-0.1
Africa	**6 993 581**	**6 774 844**	**6 556 105**	**6 273 331**	**23.6**	**22.9**	**22.1**	**21.2**	**-0.6**	**-0.6**
Europe	**1 812 140**	**1 852 197**	**1 894 457**	**1 941 164**	**31.6**	**32.4**	**33.1**	**34.1**	**0.4**	**0.3**
Latin America and Carib.	**9 928 221**	**9 703 500**	**9 478 776**	**9 146 056**	**49.6**	**47.9**	**47.3**	**45.1**	**-0.5**	**-0.5**
North America	**6 087 862**	**6 106 092**	**6 124 322**	**6 135 452**	**32.5**	**32.8**	**32.6**	**32.9**	**0.1**	**0.0**
Other countries/areas	**52 438**	**53 297**	**54 157**	**54 846**	**1.4**	**1.4**	**1.4**	**1.4**	**0.3**	**0.2**
World	**40 772 819**	**40 329 421**	**39 886 105**	**39 373 263**	**31.2**	**31.0**	**30.5**	**30.3**	**-0.2**	**-0.2**

26.3 Primary, modified and plantation forest

	Primary			Modified and semi natural	Productive and protection plantation	Primary forest				
						Share in forest area			Change rate	
	Square kilometres					% of forest area			% per annum	
	1990	2000	2005	2005	2005	1990	2000	2005	90-00	00-05
East and North-East Asia	**220 650**	**215 480**	**218 080**	**1 798 870**	**431 660**	**10.6**	**9.5**	**8.9**	**-0.2**	**0.2**
China	116 320	116 320	116 320	1 642 890	313 690	7.4	6.6	5.9	0.0	0.0
DPR Korea	11 290	9 390	8 520	53 350		13.8	13.8	13.8	-1.8	-1.9
Hong Kong, China										
Japan	37 640	40 540	45 910	99 550	103 210	15.1	16.3	18.5	0.7	2.5
Macao, China										
Mongolia	55 400	49 230	47 330	54 070	1 120	48.2	46.2	46.2	-1.2	-0.8
Republic of Korea				49 010	13 640					
South-East Asia	**844 740**	**694 640**	**619 790**	**1 293 470**	**125 610**	**34.4**	**31.9**	**30.4**	**-1.9**	**-2.3**
Brunei Darussalam	3 130	2 880	2 780			100.0	100.0	100.0	-0.8	-0.7
Cambodia	7 660	4 560	3 220	100 660	590	5.9	4.0	3.1	-5.1	-6.7
Indonesia	704 190	559 410	487 020	363 940	33 990	60.4	57.2	55.0	-2.3	-2.7
Lao PDR	14 900	14 900	14 900	144 280	2 240	8.6	9.0	9.2	0.0	0.0
Malaysia	38 200	38 200	38 200	154 970	15 730	17.1	17.7	18.3	0.0	0.0
Myanmar				313 730	8 490					
Philippines	8 290	8 290	8 290	57 130	6 200	7.8	10.4	11.6	0.0	0.0
Singapore	20	20	20			87.0	87.0	87.0	0.0	0.0
Thailand	64 510	64 510	64 510	49 700	30 990	40.4	43.5	44.4	0.0	0.0
Timor-Leste				7 550	430					
Viet Nam	3 840	1 870	850	101 510	26 950	4.1	1.6	0.7	-6.9	-14.6
South and South-West Asia	**20 000**	**20 910**	**21 040**	**920 250**	**72 260**	**2.0**	**2.1**	**2.1**	**0.4**	**0.1**
Afghanistan				8 670						
Bangladesh				5 920	2 790					
Bhutan	4 130	4 130	4 130	27 800	20	13.6	13.1	12.9	0.0	0.0
India				644 750	32 260					
Iran (Islamic Rep. of)	2 000	2 000	2 000	102 590	5 160	1.8	1.8	1.8	0.0	0.0
Maldives										
Nepal	3 910	3 840	3 490	32 340	530	8.1	9.8	9.6	-0.2	-1.9
Pakistan				15 840	3 180					
Sri Lanka	2 570	1 970	1 670	15 710	1 950	10.9	9.5	8.6	-2.6	-3.3
Turkey	7 390	8 970	9 750	66 630	25 370	7.6	8.9	9.6	2.0	1.7
North and Central Asia	**2 433 380**	**2 597 440**	**2 570 830**	**5 495 700**	**181 550**	**29.5**	**31.5**	**31.2**	**0.7**	**-0.2**
Armenia	170	150	140	2 590	100	5.0	4.9	4.9	-1.2	-1.4
Azerbaijan	4 000	4 000	4 000	5 160	200	42.7	42.7	42.7	0.0	0.0
Georgia	5 000	5 000	5 000	22 000	600	18.1	18.1	18.1	0.0	0.0
Kazakhstan				24 280	9 090					
Kyrgyzstan	2 370	2 400	2 410	5 620	660	28.2	28.0	27.7	0.1	0.1
Russian Federation	2 417 260	2 581 310	2 554 700	5 363 580	169 630	29.9	31.9	31.6	0.7	-0.2
Tajikistan	2 970	2 970	2 970	470	660	72.7	72.4	72.4	0.0	0.0
Turkmenistan	1 040	1 040	1 040	40 230		2.5	2.5	2.5	0.0	0.0
Uzbekistan	570	570	570	31 770	610	1.9	1.8	1.7	0.0	0.0
Pacific	**340 420**	**365 260**	**352 750**	**1 643 120**	**38 640**	**16.0**	**17.6**	**17.1**	**0.7**	**-0.7**
American Samoa										
Australia		52 330	52 330	1 566 790	17 660		3.2	3.2		0.0
Cook Islands				140	10					
Fiji	8 950	8 940	8 940	50	1 010	91.4	89.4	89.4	0.0	0.0
French Polynesia				950	100					
Guam										
Kiribati										
Marshall Islands										
Micronesia (F.S.)										
Nauru										
New Caledonia	4 310	4 310	4 310	2 770	100	60.1	60.1	60.1	0.0	0.0
New Zealand	35 060	35 060	35 060	29 510	18 520	45.4	42.6	42.2	0.0	0.0
Niue				140						
Northern Mariana Islands										
Palau										
Papua New Guinea	292 100	264 620	252 110	41 340	920	92.7	87.8	85.6	-1.0	-1.0
Samoa				1 390	320					
Solomon Islands										
Tonga				40						
Tuvalu										
Vanuatu										
Asia and the Pacific	**3 859 190**	**3 893 730**	**3 782 490**	**11 151 410**	**849 720**	**24.3**	**24.7**	**23.9**	**0.1**	**-0.6**
LLDC	89 460	83 230	80 960	377 260	15 230	17.5	17.2	17.1	-0.7	-0.5
LDC	30 600	27 430	25 740	642 340	15 410	3.7	3.6	3.6	-1.1	-1.3
ASEAN	844 740	694 640	619 790	1 285 920	125 180	34.5	32.0	30.5	-1.9	-2.3
ECO	20 340	21 950	22 740	301 260	45 930	5.4	5.9	6.1	0.8	0.7
SAARC	10 610	9 940	9 290	751 030	40 730	1.3	1.2	1.2	-0.7	-1.3
Central Asia	16 120	16 130	16 130	132 120	11 920	10.1	10.1	10.1	0.0	0.0
Pacific island dev. econ	305 360	277 870	265 360	46 820	2 460	82.8	79.0	77.5	-0.9	-0.9
Low income	47 510	40 500	36 930	798 320	43 520	4.8	4.4	4.2	-1.6	-1.8
Middle income	3 731 520	3 718 090	3 605 150	8 604 230	652 980	29.1	29.0	28.0	0.0	-0.6
High income	80 160	135 140	140 410	1 748 580	153 230	3.9	6.6	6.9	5.4	0.8
Africa	**417 200**	**390 020**	**376 700**	**3 805 440**	**131 680**	**6.0**	**5.9**	**5.9**	**-0.7**	**-0.7**
Europe	**82 730**	**89 200**	**84 790**	**1 561 050**	**106 800**	**4.6**	**4.7**	**4.4**	**0.8**	**-1.0**
Latin America and Carib.	**6 909 590**	**6 655 370**	**6 437 380**	**2 176 680**	**131 380**	**69.6**	**70.2**	**69.7**	**-0.4**	**-0.7**
North America	**2 706 920**	**2 706 820**	**2 696 060**	**3 265 590**	**170 610**	**44.5**	**44.2**	**44.0**	**0.0**	**-0.1**
Other countries/areas	**220**	**220**	**220**	**46 770**	**7 520**	**0.4**	**0.4**	**0.4**	**0.0**	**0.0**
World	**13 975 850**	**13 735 360**	**13 377 640**	**22 007 140**	**1 397 710**	**34.3**	**34.4**	**33.9**	**-0.2**	**-0.5**

26.4 Threatened species

	Total	Mammals	Birds	Reptiles	Amphibians	Fishes	Molluscs	Other inverts	Plants
	Number of species in 2008								
East and North-East Asia									
China	816	74	65	30	90	70	1	20	446
DPR Korea	43	9	20		1	8		2	3
Hong Kong, China	48	2	16	1	5	13	1	4	6
Japan	309	27	40	12	20	40	25	133	12
Macao, China	10		4			6			
Mongolia	36	11	21			1		3	
Republic of Korea	58	9	30		2	14		3	
South-East Asia									
Brunei Darussalam	171	35	21	6	3	8			99
Cambodia	193	37	25	12	3	18		67	31
Indonesia	1 067	183	115	27	33	111	3	229	366
Lao PDR	115	46	23	11	5	6		3	21
Malaysia	1 141	70	42	21	47	49	19	207	686
Myanmar	227	45	41	22		17	1	63	38
Philippines	641	39	67	9	48	60	3	199	216
Singapore	267	12	14	4		22		161	54
Thailand	443	57	44	22	4	50	1	179	86
Timor-Leste	15	4	5	1		5			
Viet Nam	408	54	39	27	17	33		91	147
South and South-West Asia									
Afghanistan	32	11	13	1	1	3		1	2
Bangladesh	109	34	28	20	1	12		2	12
Bhutan	55	28	17	1	1			1	7
India	659	96	76	25	65	40	2	109	246
Iran (Islamic Rep. of)	90	16	20	9	4	21		19	1
Maldives	55	2		3		12		38	
Nepal	81	32	32	7	3				7
Pakistan	99	23	27	10		22		15	2
Sri Lanka	534	30	13	8	53	31		119	280
Turkey	131	17	15	13	10	60		13	3
North and Central Asia									
Armenia	37	9	12	5		4		6	1
Azerbaijan	40	7	15	5		9		4	
Georgia	49	10	10	7	1	12		9	
Kazakhstan	73	16	21	2	1	13		4	16
Kyrgyzstan	40	6	12	2		3		3	14
Russian Federation	158	33	51	6		32	1	28	7
Tajikistan	42	8	9	1		8		2	14
Turkmenistan	45	9	15	1		12		5	3
Uzbekistan	52	11	15	2		8		1	15
Pacific									
American Samoa	77	1	8	2		8	5	52	1
Australia	788	57	49	38	48	84	175	282	55
Cook Islands	50	1	15	1		7		25	1
Fiji	190	6	10	6	1	11	3	87	66
French Polynesia	149	1	32	1		13	29	26	47
Guam	35	2	12	2		9	6		4
Kiribati	87	1	5	1		7	1	72	
Marshall Islands	85	2	5	1		10	1	66	
Micronesia (F.S.)	144	6	9	3		13	4	104	5
Nauru	73	1	2			8		62	
New Caledonia	355	9	14	2		17	11	84	218
New Zealand	143	8	69	12	4	14	5	10	21
Niue	41	2	8	1		7		23	
Northern Mariana Islands	85	5	14	1		9	4	47	5
Palau	126	4	2	2		12	5	97	4
Papua New Guinea	446	41	36	9	11	38	2	167	142
Samoa	73	2	7	1		8	1	52	2
Solomon Islands	211	17	20	4	2	12	2	138	16
Tonga	56	2	4	2		9	2	33	4
Tuvalu	83	2	1	1		8	1	70	
Vanuatu	118	8	8	2		11	1	78	10
Asia and the Pacific									
LLDC									
LDC									
ASEAN									
ECO									
SAARC									
Central Asia									
Pacific island dev. econ.									
Low income									
Middle income									
High income									
Africa									
Europe									
Latin America and Carib.									
North America									
Other countries/areas									
World									

27 Air and water pollution

Many countries in Asia and the Pacific will be seriously affected by climate change resulting from emissions of greenhouse gases. Already, rising sea levels in the South Pacific are causing people to leave their homes. While some countries have slowed the growth in CO_2 emissions, on a global level emissions are still increasing relentlessly.

Between 1995 and 2005, the Asia-Pacific share of global CO_2 emissions grew from 42 to 48 per cent. In 2006, the region emitted nearly 14 billion tons of CO_2, an increase of 5.3 per cent from the previous year. This trend has been driven by middle-income countries. However these economies have the possibility to switch to low-carbon growth patterns, since they possess sufficient financial resources to implement efficiency improvements.

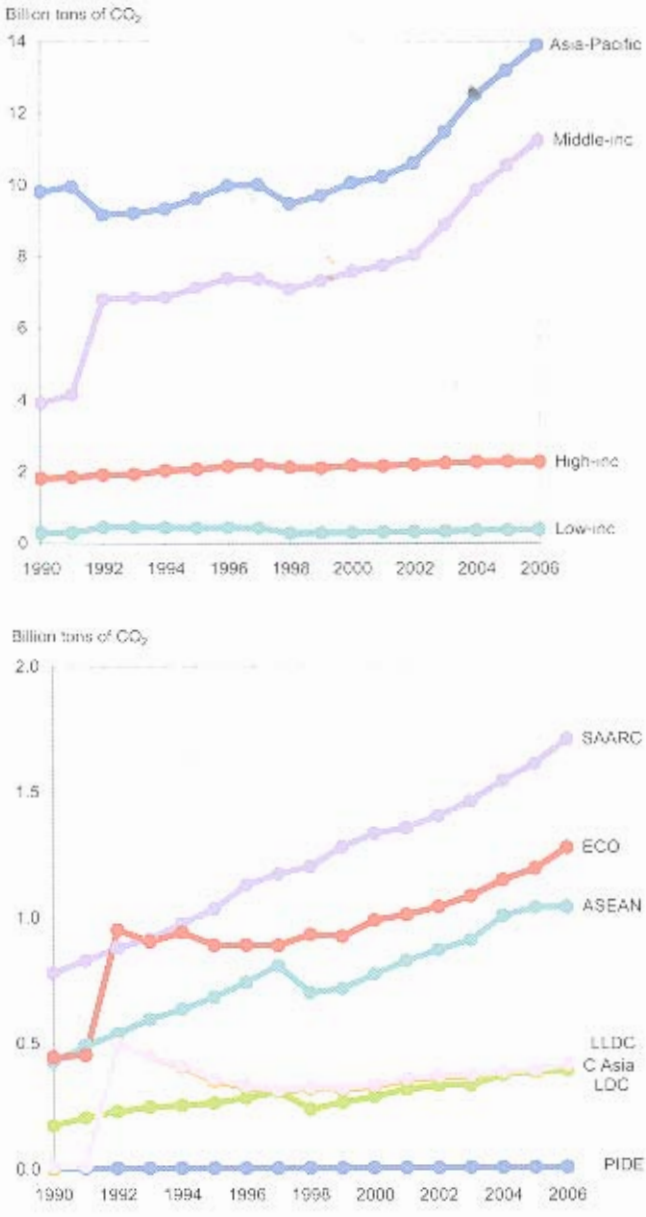
Countries in Asia and the Pacific will face adverse consequences from changing weather patterns, including variability of seasonal precipitation, droughts and floods. With the majority of the population living in, or near, coastal areas, rising sea levels and storm surges will pose challenges for adaptation.

The Asia-Pacific region's historical share of emissions and its contribution to the climate change are relatively small. Even today, per capita CO_2 levels in the region are still well below the global average. Nevertheless, in recent years India, China, and some of the Central Asian economies have been increasing emissions. Between 1990 and 2006, the region's per capita footprint increased from 2 to 3.4 tons – though this is still far from the rate in Europe, at 7.9 tons. The "leading" region, North America, produced 5.5 times more – 18.8 tons of CO_2 per capita.

The large disparities in global per capita emissions reflect different income levels, which result in contrasting life styles and consumption patterns, as well as different industry structures and production methods. While consumption

Figure 27.1

CO_2 emissions in Asia and the Pacific, 1990-2006



throughout Asia-Pacific is on the rise, it is still significantly lower than in developed countries. In the last decade, however, the Asia-Pacific middle-income countries have increased their per capita carbon footprint. Countering this trend in all countries will require improvements in energy

Figure 27.2

CO_2 emissions per capita, selected Asia and the Pacific grouping and world, 1990-2006

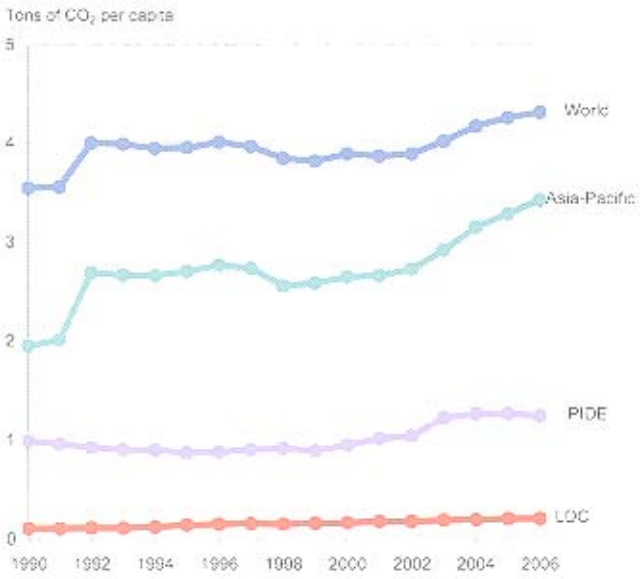
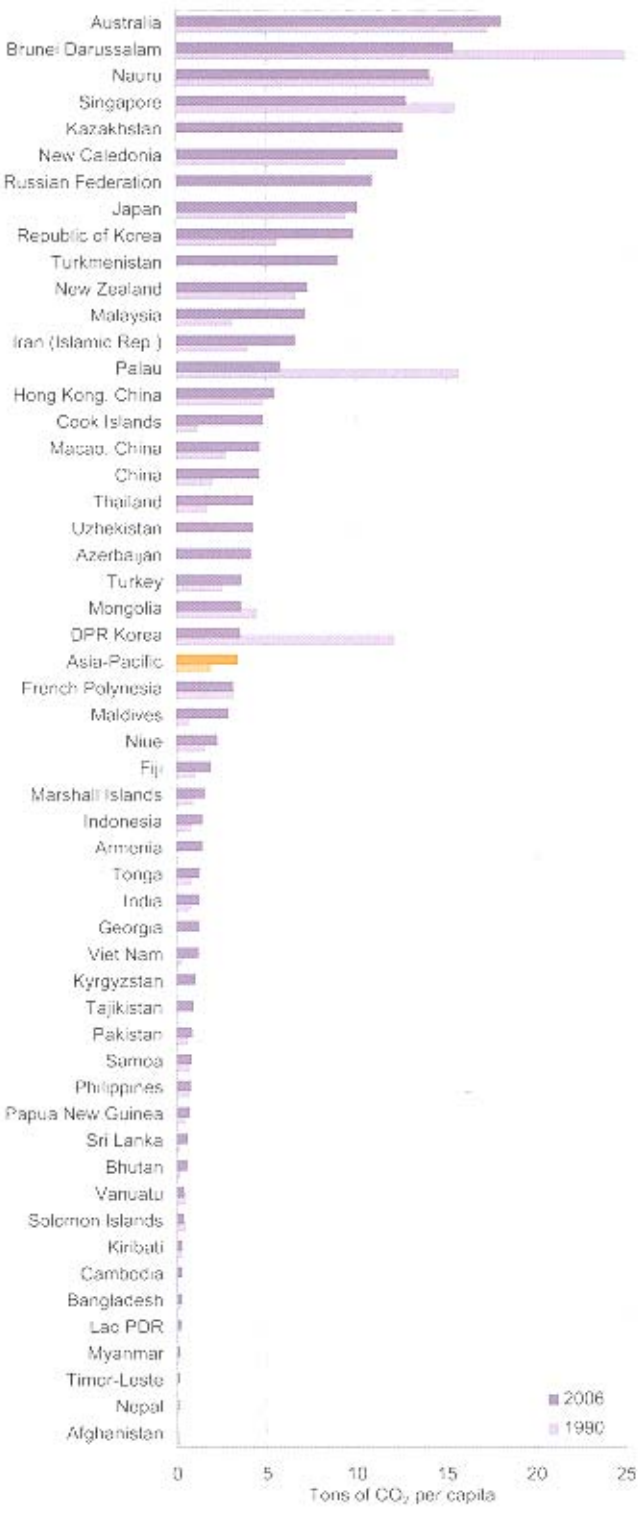


Figure 27.3

CO_2 emissions per capita, selected Asia-Pacific countries, 1990 and 2006



efficiency and a policy-supported introduction of renewable energy sources.

While per capita emissions in Asia and the Pacific have risen steadily overall, some countries have done better than others at reducing emissions. Countries that improved include Singapore, Brunei Darussalam, the Democratic People's Republic of Korea and Mongolia. At the other end of the scale are the Islamic Republic of Iran, New Caledonia and the Republic of Korea. Nevertheless, bearing in mind the size of both its population and its economies, the region overall is reducing the carbon intensity of economic growth.

In this regard the higher income countries are doing better than the middle and low-income economies which will need to introduce appropriate interventions that encourage low-carbon green growth. In fact, there is a lot of scope for decoupling economic growth from carbon emissions. While some high-income countries have managed to reduce the carbon intensity of their economic growth (relative decoupling), their absolute emissions may still be growing, and be higher than in low-income countries that exhibit higher carbon intensity. Reaching a situation where economic growth is achieved with declining total emissions (absolute decoupling) requires further investments in environmentally sound technologies. That could not only halt the growth in emissions but also help countries in the region establish a competitive advantage in an increasingly carbon-constrained world.

Since the mid-1990s, the overall use of ozone-depleting substances has decreased significantly. In the Asia-Pacific region, the largest emitters include the Republic of Korea, Japan, Thailand, Singapore, Malaysia, Brunei Darussalam, and China. Conversely, the most significant decline in per capita consumption has been in the Pacific island developing economies.

The Asia-Pacific region is also a substantial

Figure 27.4

CO_2 emissions per unit of GDP, by income grouping, 1990-2006

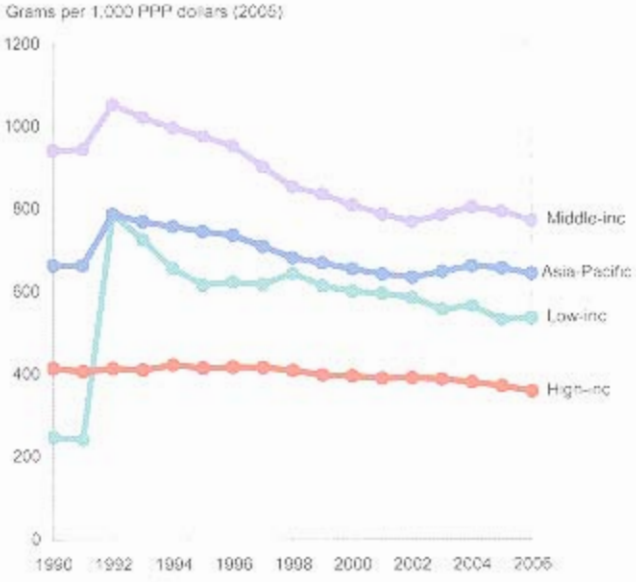


Figure 27.5

Consumption of ozone-depleting substances per capita, selected groupings, and world, 1991 to 2007

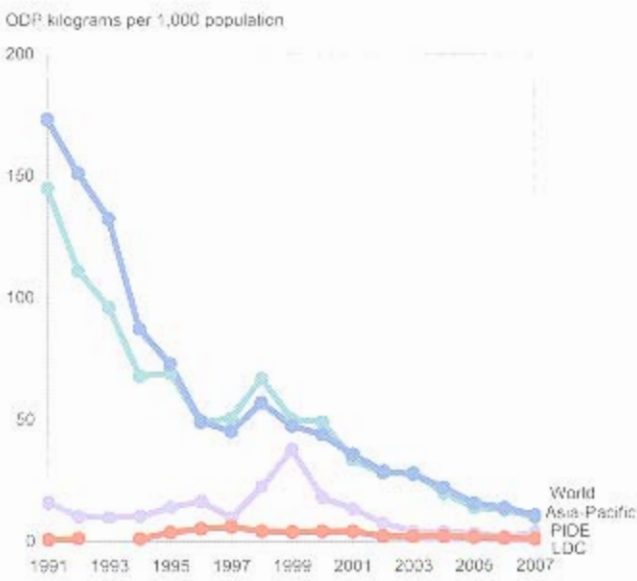
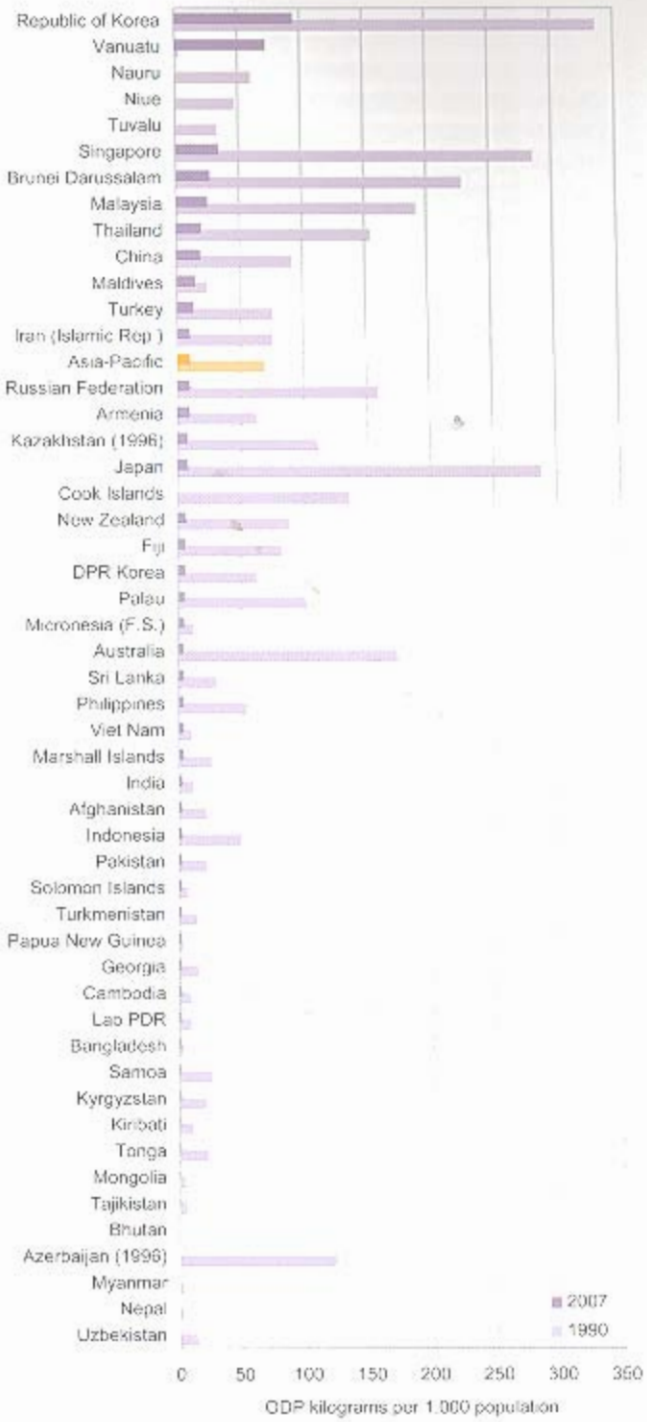


Figure 27.6

Consumption of ozone-depleting substances per capita, selected Asia-Pacific countries, 1990 and 2007



contributor to emissions of nitrous oxide, although per capita figures are small compared with those in other parts of the world. The sources are agricultural, industrial and natural processes. The agricultural sources include animal manure, agricultural soil management, fertilizer use, and aerobic decomposition of organic matter.

Combustion and incineration also produce fine atmospheric particles – particulate matter, PM10 – which are dangerous to human and animal health, causing a host of respiratory and cardiovascular diseases. PM10 levels can be reduced by effective pollution control and monitoring. Luckily, the dispersal of particulate matter has decreased significantly since 1990. Most of this reduction has been in urban areas, but PM10 production persists at high levels in rural areas as a result of wildfires and the widespread use of fuel wood.

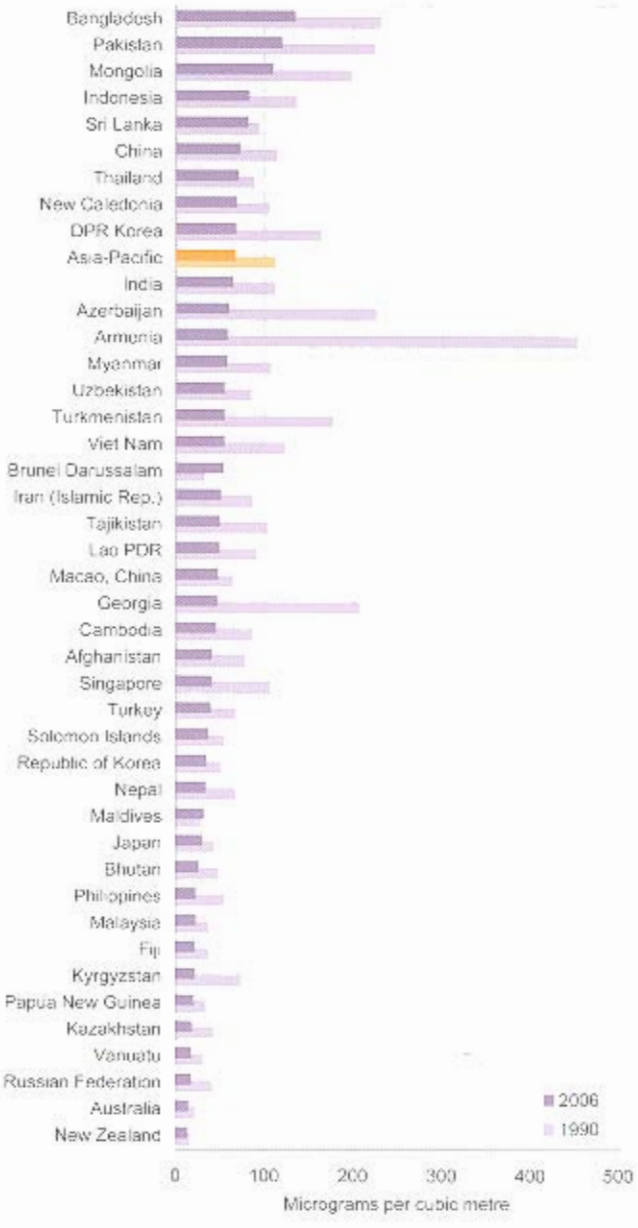
Figure 27.7

Nitrous oxide emissions per capita, global regions, 1990 and 2006



Figure 27.8

Concentration of particulate matter in urban areas, selected Asia-Pacific countries, 1990 and 2006



Carbon dioxide emissions (million tons of CO_2; average annual growth rate in percentage per annum)
Estimates of total carbon dioxide (CO_2) emissions include anthropogenic emissions, less removal by sinks, of carbon dioxide (CO_2). The term "total" implies that emissions from all national activities are considered. The typical sectors for which CO_2 emissions/removals are estimated are energy, industrial processes, agriculture, waste, and the sector of land use, land-use change and forestry (LULUCF); average annual growth rate: calculated as an arithmetic mean for a range-year period. **Aggregates:** Calculated by ESCAP as the sum of individual country values (value in million tons of CO_2); and average annual growth rate (value as a percentage per annum). **Source:** United Nations Millennium Development Goals Indicators Online database accessed on 27 August 2009.

Carbon dioxide emissions per capita (tons of carbon dioxide)
The quantity of estimated carbon dioxide emissions (tons of carbon dioxide) divided by total population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** United Nations Millennium Development Goals Indicators; and World Population Prospects: The 2008 Revision Population Database. Online database accessed on 27 August 2009.

Carbon dioxide emissions (grams per 1,000 (2005 PPP dollars))
The quantity of estimated carbon dioxide emissions divided by the total value of the gross domestic product (GDP) expressed in purchasing power parities (PPPs) (constant 2005). **Aggregates:** Calculated by ESCAP using GDP in United States dollars as weight. **Source:** Calculated by ESCAP using data from United Nations Millennium Development Goals; and World Bank, World Development Indicators. Online database accessed on 27 August 2009.

Consumption of ozone-depleting substances per capita (ODP kilograms per 1,000 population)
The sum of the national annual consumption in tons of the individual substances in the group of ozone-depleting substances multiplied by their ozone-depleting potential. Ozone-depleting substances are any substance containing chlorine or bromine that destroys the stratospheric ozone layer. Expressed as ODP kilograms per 1,000 population **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** United Nations Millennium Development Goals Indicators; and World Population Prospects: The 2008 Revision, Population Database. Online database accessed on 27 August 2009.

Consumption of ozone-depleting substances per unit of GDP (ODP kilograms per 1,000,000 (2005 PPP dollars))
The sum of the national annual consumption in weighted tons of the individual substances in the group of ozone-depleting substances multiplied by their ozone-depleting potential. Ozone-depleting substances are any substance containing chlorine or bromine that destroys the stratospheric ozone layer. Expressed as ODP kilograms per 1,000,000 units of GDP measured in 2005 PPP dollars. **Aggregates:** Calculated by ESCAP using GDP (2005 PPP dollars) as weight. **Source:** Calculated by ESCAP using data from United Nations Millennium Development Goals; and World Bank, World Development Indicators. Online database accessed on 27 August 2009.

Nitrous oxide emissions (gigagrams of N_2O; kilograms N_2O per capita)
Total emissions of nitrogen oxide, nitrous oxide estimated using a model (RIVM) and data from the following EDGAR subdivisions: Energy, agriculture, waste and others. "Others" include industrial process emissions, nitrous oxide usage and tropical and temperate forest fires. Nitrous oxide emissions per capita: The quantity of estimated nitrous oxide emissions (gigagrams of N_2O) divided by total population. **Aggregates:** Calculated by ESCAP as the sum of individual country values (total amount of N_2O); and using total population as weight for nitrous oxide per capita (kilograms per capita). **Source:** United Nations Environment Programme, Emission Database for Global Atmospheric Research (EDGAR version 4.0) and World Population Prospects: The 2008 Revision Population. Online database accessed on 10 September 2009.

PM10 concentration in urban area (micrograms per cubic metre)
Atmospheric particles of 10 micrometres or smaller less from natural and human sources. **Aggregates:** Calculated by ESCAP using urban population as weight. **Source:** World Bank, World Development Indicators. Online database accessed on 5 October 2009.

27.1 Carbon dioxide emissions level and trend

	Carbon dioxide emissions					Average anual growth rate			
	Million tons of CO_2					% per annum			
	1990	1995	2000	2005	2006	90-95	95-00	00-05	2006
East and North-East Asia	**4 112.1**	**5 187.4**	**5 240.3**	**7 535.6**	**8 007.7**	**4.8**	**0.2**	**7.5**	**6.3**
China	2 414.7	3 244.0	3 405.8	5 625.6	6 103.5	6.1	1.0	10.6	8.5
DPR Korea	244.8	259.3	77.0	83.5	84.8	1.2	-21.6	1.6	1.6
Hong Kong, China	27.7	31.6	40.6	41.1	39.0	2.7	5.1	0.2	-5.0
Japan	1 172.2	1 265.1	1 260.2	1 300.2	1 293.4	1.5	-0.1	0.6	-0.5
Macao, China	1.0	1.2	1.6	2.3	2.2	3.8	5.6	7.2	-3.2
Mongolia	10.0	7.9	7.5	8.8	9.4	-4.6	-1.1	3.3	7.2
Republic of Korea	241.6	378.2	447.6	474.2	475.2	9.4	3.4	1.2	0.2
South-East Asia	**427.1**	**684.9**	**777.6**	**1 044.7**	**1 046.2**	**9.9**	**2.6**	**6.1**	**0.1**
Brunei Darussalam	6.4	5.5	6.5	5.9	5.9	-3.0	3.4	-2.0	0.1
Cambodia	0.5	1.4	2.3	3.7	4.1	26.1	9.4	10.5	9.5
Indonesia	150.5	226.0	245.9	330.8	333.5	8.7	1.5	6.1	0.8
Lao PDR	0.2	0.3	1.1	1.4	1.4	6.0	27.5	5.8	1.3
Malaysia	56.6	121.1	126.6	183.3	187.9	16.4	0.9	7.7	2.5
Myanmar	4.3	7.0	8.9	10.5	10.0	10.2	5.0	3.3	-4.3
Philippines	44.5	63.1	78.9	76.4	68.3	7.2	4.6	-0.6	-10.6
Singapore	46.9	47.1	52.3	59.6	56.2	0.1	2.1	2.6	-5.6
Thailand	95.8	161.5	201.5	271.1	272.5	13.6	2.1	6.1	0.5
Timor-Leste				0.2	0.2				0.0
Viet Nam	21.4	29.8	53.6	101.8	106.1	6.9	12.4	13.7	4.2
South and South-West Asia	**1 155.8**	**1 497.9**	**1 898.3**	**2 299.1**	**2 448.1**	**5.3**	**4.9**	**3.9**	**6.5**
Afghanistan	2.7	1.3	0.8	0.7	0.7	-13.9	-9.3	-2.2	-0.4
Bangladesh	15.5	22.8	27.9	40.1	41.6	8.0	4.1	7.6	3.7
Bhutan	0.1	0.2	0.4	0.4	0.4	14.2	9.5	0.0	-2.8
India	690.6	920.1	1 186.7	1 423.8	1 510.4	5.9	5.2	3.7	6.1
Iran (Islamic Rep. of)	227.2	284.9	339.2	436.0	467.0	4.6	3.6	5.2	7.1
Maldives	0.2	0.3	0.5	0.7	0.9	12.3	12.7	6.3	28.2
Nepal	0.6	2.0	3.2	3.2	3.2	26.3	9.7	-0.4	2.3
Pakistan	68.6	84.5	106.4	134.1	142.7	4.3	4.7	4.7	6.4
Sri Lanka	3.8	5.8	10.2	11.6	11.9	9.0	11.9	2.7	2.5
Turkey	146.6	176.0	223.0	248.5	269.5	3.7	4.8	2.2	8.4
North and Central Asia		**1 911.0**	**1 773.4**	**1 902.9**	**1 974.8**		**-1.5**	**1.4**	**3.8**
Armenia		3.5	3.5	4.3	4.4		-0.1	4.6	0.5
Azerbaijan		33.6	30.5	35.3	35.1		-1.9	2.9	-0.7
Georgia		2.3	4.5	4.8	5.5		14.5	1.1	15.0
Kazakhstan		166.7	127.8	177.2	193.5		-5.2	6.8	9.2
Kyrgyzstan		4.7	4.6	5.6	5.6		-0.1	3.7	-0.1
Russian Federation		1 559.4	1 443.7	1 515.5	1 564.7		-1.5	1.0	3.2
Tajikistan		5.3	4.3	5.8	6.4		-4.4	6.3	10.1
Turkmenistan		34.6	35.6	41.8	44.1		0.6	3.2	5.6
Uzbekistan		100.9	118.8	112.6	115.7		3.3	-1.1	2.8
Pacific	**322.0**	**342.1**	**367.6**	**406.8**	**413.5**	**1.2**	**1.5**	**2.0**	**1.6**
American Samoa									
Australia	293.1	310.5	329.1	365.8	372.0	1.2	1.2	2.1	1.7
Cook Islands	0.0	0.0	0.0	0.1	0.1	0.0	5.7	16.4	6.5
Fiji	0.8	0.9	0.9	1.7	1.6	1.6	-0.6	14.1	-3.3
French Polynesia	0.6	0.6	0.6	0.9	0.8	-1.6	2.2	5.6	-3.9
Guam									
Kiribati	0.0	0.0	0.0	0.0	0.0	0.0	8.4	-4.7	11.5
Marshall Islands	0.0	0.1	0.1	0.1	0.1	6.6	3.1	1.8	9.5
Micronesia (F.S.)									
Nauru	0.1	0.1	0.1	0.1	0.1	1.0	-0.4	1.0	0.0
New Caledonia	1.6	1.7	2.3	2.8	2.9	1.3	5.8	4.0	5.0
New Zealand	22.7	25.5	31.1	30.1	30.5	2.3	4.1	-0.7	1.3
Niue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Northern Mariana Islands									
Palau	0.2	0.1	0.1	0.1	0.1	-13.5	0.5	0.0	0.0
Papua New Guinea	2.1	2.0	2.7	4.6	4.6	-1.0	5.7	11.4	0.2
Samoa	0.1	0.1	0.1	0.2	0.2	1.1	1.0	2.6	0.0
Solomon Islands	0.2	0.2	0.2	0.2	0.2	0.0	0.5	1.8	0.0
Tonga	0.1	0.1	0.1	0.1	0.1	7.4	1.9	1.8	0.0
Tuvalu									
Vanuatu	0.1	0.1	0.1	0.1	0.1	-1.2	4.2	1.7	4.5
Asia and the Pacific	**9 813.5**	**9 623.3**	**10 057.2**	**13 189.0**	**13 890.3**	**-0.4**	**0.9**	**5.6**	**5.3**
LLDC	13.7	361.1	338.2	397.0	419.8	92.3	-1.3	3.3	5.7
LDC	174.7	263.5	290.2	390.6	395.0	8.6	2.0	6.1	1.1
ASEAN	427.1	684.9	777.6	1 044.5	1 046.0	9.9	2.6	6.1	0.1
ECO	445.0	892.5	991.2	1 197.5	1 280.1	14.9	2.1	3.9	6.9
SAARC	782.0	1 037.0	1 336.1	1 614.5	1 711.7	5.8	5.2	3.9	6.0
Central Asia	0.0	351.6	329.7	387.4	410.2		-1.3	3.3	5.9
Pacific island dev. econ.	6.1	6.1	7.4	10.9	11.0	-0.1	4.0	8.1	0.7
Low income	290.0	434.9	302.4	368.8	379.6	8.4	-7.0	4.1	2.9
Middle income	3 912.8	7 121.1	7 582.6	10 537.2	11 232.1	12.7	1.3	6.8	6.6
High income	1 814.1	2 067.1	2 172.1	2 282.8	2 278.3	2.6	1.0	1.0	-0.2
Africa	**697.1**	**773.9**	**916.8**	**1 089.3**	**1 067.9**	**2.1**	**3.4**	**3.5**	**-2.0**
Europe	**3 355.5**	**4 711.1**	**4 431.8**	**4 639.2**	**4 646.1**	**7.0**	**-1.2**	**0.9**	**0.1**
Latin America and Carib.	1 078.4	1 203.0	1 325.1	1 448.8	1 513.2	2.2	2.0	1.8	4.4
North America	**5 315.9**	**5 680.1**	**6 280.2**	**6 402.3**	**6 298.2**	**1.3**	**2.0**	**0.4**	**-1.6**
Other countries/areas	501.9	652.3	825.8	978.6	1 016.1	5.4	4.8	3.5	3.8
World	**20 762.4**	**22 643.6**	**23 836.9**	**27 747.2**	**28 431.7**	**1.7**	**1.0**	**3.1**	**2.5**

27.2 Carbon dioxide emissions per capita and per unit of GDP (PPP)

	Carbon dioxide emissions per capita (Tons of carbon dioxide)					Carbon dioxide emissions per unit of GDP (PPP) (Grams per 1,000 (2005 PPP dollars))				
	1990	1995	2000	2005	2006	1990	1995	2000	2005	2006
East and North-East Asia	**3.1**	**3.7**	**3.5**	**4.9**	**5.2**	**765**	**754**	**643**	**711**	**703**
China	2.1	2.7	2.7	4.3	4.6	1 935	1 458	1 013	1 059	1 029
DPR Korea	12.2	11.9	3.4	3.5	3.6					
Hong Kong, China	4.8	5.1	6.1	5.8	5.5	205	181	204	169	150
Japan	9.5	10.1	9.9	10.2	10.1	366	366	347	336	326
Macao, China	2.8	3.0	3.7	4.9	4.7	138	124	166	132	110
Mongolia	4.5	3.3	3.0	3.4	3.6	2 045	1 862	1 542	1 323	1 306
Republic of Korea	5.6	8.4	9.6	9.9	9.9	530	670	544	462	440
South-East Asia	**1.0**	**1.4**	**1.5**	**1.9**	**1.9**	**415**	**462**	**462**	**485**	**463**
Brunei Darussalam	25.0	18.7	19.6	15.8	15.5	505	372	412	336	322
Cambodia	0.0	0.1	0.2	0.3	0.3		159	175	185	183
Indonesia	0.8	1.2	1.2	1.5	1.5	406	422	439	469	448
Lao PDR	0.1	0.1	0.2	0.2	0.2	57	56	140	137	128
Malaysia	3.1	5.9	5.4	7.1	7.2	470	640	530	608	590
Myanmar	0.1	0.2	0.2	0.2	0.2	309	378	333	256	256
Philippines	0.7	0.9	1.0	0.9	0.8	299	381	393	305	259
Singapore	15.6	13.5	13.0	13.8	12.8	649	426	348	322	281
Thailand	1.6	3.2	3.3	4.3	4.3	426	534	560	609	582
Timor-Leste				0.2	0.2				249	264
Viet Nam	0.3	0.4	0.7	1.2	1.2	358	337	432	572	551
South and South-West Asia	**0.9**	**1.1**	**1.2**	**1.4**	**1.5**	**546**	**572**	**569**	**511**	**503**
Afghanistan	0.2	0.1	0.0	0.0	0.0				29	28
Bangladesh	0.1	0.2	0.2	0.3	0.3	197	234	222	245	238
Bhutan	0.2	0.5	0.7	0.6	0.6	130	212	245	169	151
India	0.8	1.0	1.1	1.3	1.3	673	700	680	582	563
Iran (Islamic Rep. of)	4.0	4.6	5.1	6.3	6.6	668	709	692	678	685
Maldives	0.7	1.1	1.8	2.3	2.9		433	528	575	619
Nepal	0.0	0.1	0.1	0.1	0.1	47	116	146	122	120
Pakistan	0.6	0.7	0.7	0.8	0.9	378	372	399	394	395
Sri Lanka	0.2	0.3	0.5	0.6	0.6	109	129	177	166	158
Turkey	2.6	2.8	3.3	3.4	3.6	335	343	357	318	323
North and Central Asia		**8.7**	**8.1**	**8.7**	**9.0**		**1 435**	**1 213**	**957**	**908**
Armenia		1.1	1.1	1.4	1.5		635	491	346	307
Azerbaijan		4.3	3.8	4.2	4.2		2 357	1 524	935	691
Georgia		0.5	1.0	1.1	1.2		277	410	305	320
Kazakhstan		10.5	8.5	11.7	12.6		2 343	1 588	1 345	1 327
Kyrgyzstan		1.0	0.9	1.1	1.1		630	630	627	608
Russian Federation		10.5	9.8	10.5	10.9		1 340	1 145	893	858
Tajikistan		0.9	0.7	0.9	1.0		864	689	600	617
Turkmenistan		8.3	7.9	8.6	9.0				1 847	
Uzbekistan		4.4	4.8	4.2	4.3		3 030	2 954	2 150	2 059
Pacific	**12.2**	**12.0**	**12.0**	**12.3**	**12.4**	**672**	**631**	**556**	**526**	**520**
American Samoa										
Australia	17.4	17.2	17.2	18.0	18.1	733	693	594	566	559
Cook Islands	1.2	1.2	1.8	4.5	4.8					
Fiji	1.1	1.2	1.1	2.0	1.9	339	317	277	475	443
French Polynesia	3.2	2.7	2.7	3.3	3.2					
Guam										
Kiribati	0.3	0.3	0.4	0.3	0.3	297	288	281	212	257
Marshall Islands	1.0	1.3	1.5	1.5	1.6					
Micronesia (F.S.)										
Nauru	14.4	14.0	13.5	14.1	14.1					
New Caledonia	9.5	9.0	10.7	12.0	12.4					
New Zealand	6.7	6.9	8.1	7.3	7.4	357	343	367	295	294
Niue	1.6	1.6	2.0	2.2	2.3					
Northern Mariana Islands										
Palau	15.7	6.7	5.1	5.8	5.8					
Papua New Guinea	0.5	0.4	0.5	0.8	0.7	303	191	254	404	394
Samoa	0.8	0.8	0.8	0.9	0.9	279	280	244	223	219
Solomon Islands	0.5	0.4	0.4	0.4	0.4	323	220	259	261	246
Tonga	0.8	1.1	1.2	1.3	1.3	305	365	368	380	364
Tuvalu										
Vanuatu	0.5	0.4	0.4	0.4	0.4	137	111	122	127	123
Asia and the Pacific	**2.0**	**2.7**	**2.7**	**3.3**	**3.4**	**665**	**747**	**657**	**659**	**646**
LLDC		3.2	2.8	3.0	3.2		1 977	1 528	1 151	1 045
LDC	0.1	0.2	0.2	0.2	0.2	188	227	224	210	198
ASEAN	1.0	1.4	1.5	1.9	1.9	415	462	462	485	463
ECO	1.8	2.7	2.7	3.0	3.2	461	673	621	584	568
SAARC	0.7	0.8	1.0	1.1	1.1	584	606	602	525	511
Central Asia		5.1	4.6	5.2	5.5		2 196	1 706	1 330	1 205
Pacific island dev. econ.	1.0	0.9	1.0	1.3	1.3	303	218	256	392	378
Low income	1.0	1.2	0.8	0.9	0.9	248	619	603	534	539
Middle income	1.5	2.4	2.4	3.1	3.3	943	978	812	796	775
High income	9.2	10.2	10.4	10.7	10.7	416	417	397	373	360
Africa	**1.1**	**1.1**	**1.1**	**1.2**	**1.1**	**514**	**529**	**534**	**508**	**470**
Europe	**8.7**	**8.1**	**7.6**	**7.9**	**7.9**	**414**	**421**	**346**	**325**	**314**
Latin America and Carib.	**2.4**	**2.5**	**2.6**	**2.6**	**2.7**	**341**	**326**	**311**	**298**	**295**
North America	**18.7**	**19.0**	**19.9**	**19.3**	**18.8**	**609**	**578**	**522**	**474**	**453**
Other countries/areas	**7.5**	**7.2**	**7.6**	**8.0**	**8.1**	**647**	**648**	**721**	**687**	**668**
World	**3.6**	**4.0**	**3.9**	**4.3**	**4.3**	**537**	**564**	**504**	**493**	**481**

27.3 Ozone-depleting substances

	Consumption of ozone-depleting substances per capita						Consumption of ozone-depleting substances per unit of GDP (2005 PPP)					
	ODP kilograms per 1,000 population						ODP kilograms per 1,000,000 (2005 PPP dollars)					
	1990	1995	2000	2005	2006	2007	1990	1995	2000	2005	2006	2007
East and North-East Asia	**142.1**	**115.9**	**76.3**	**25.0**	**24.7**	**20.2**	**40.4**	**25.4**	**14.1**	**3.7**	**3.4**	**2.6**
China	62.2	91.2	71.7	23.7	22.7	19.0	47.8	49.6	27.0	5.9	5.1	3.8
DPR Korea		61.2	49.3	12.0	1.0	5.3						
Hong Kong, China												
Japan	974.7	287.8	47.3	8.4	8.3	7.8	37.5	10.4	1.6	0.3	0.3	0.2
Macao, China												
Mongolia		3.3	4.8	1.7	1.0	0.7		1.8	2.3	0.6	0.4	0.2
Republic of Korea		336.9	296.1	112.2	135.3	94.9		22.5	16.7	5.2	6.0	4.0
South-East Asia		**58.7**	**32.6**	**14.6**	**8.2**	**5.8**		**19.0**	**10.0**	**3.7**	**2.1**	**1.4**
Brunei Darussalam		228.2	143.3	112.4	75.8	27.0		4.5	3.0	2.4	1.6	0.6
Cambodia		8.5	7.6	3.7	2.5	1.4		10.7	7.5	2.5	1.6	0.8
Indonesia		48.0	26.6	12.4	2.5	2.2		17.0	9.7	3.9	0.7	0.6
Lao PDR		9.0	8.4	3.6	3.2	1.3		7.7	6.0	2.1	1.7	0.7
Malaysia	231.7	191.5	104.6	40.7	37.0	25.0	34.9	20.9	10.2	3.5	3.0	2.0
Myanmar		1.2	0.6	0.3	0.0	0.0		2.8	1.0	0.4		
Philippines	55.7	53.0	39.4	14.4	9.3	3.7	23.4	22.4	15.2	4.9	3.1	1.2
Singapore	1 609.6	285.0	41.8	35.3	75.9	34.1	67.1	9.0	1.1	0.8	1.7	0.7
Thailand	123.2	184.9	81.9	35.1	22.0	19.7	31.1	27.4	14.7	5.2	3.1	2.7
Timor-Leste												
Viet Nam		9.6	4.7	5.5	4.7	3.5		7.9	3.0	2.6	2.1	1.4
South and South-West Asia		**16.9**	**19.5**	**5.3**	**5.0**	**3.1**		**8.9**	**8.9**	**1.9**	**1.7**	**1.0**
Afghanistan		21.1	0.0	5.9	3.9	2.3				6.1	3.9	
Bangladesh	1.7	2.3	5.8	1.8	1.4	1.2	2.6	3.0	6.5	1.7	1.2	1.0
Bhutan		0.2		0.2	0.2	0.1		0.1		0.0	0.0	0.0
India		10.8	17.9	3.8	4.6	2.6		7.8	10.7	1.8	2.0	1.0
Iran (Islamic Rep. of)	24.6	75.4	85.1	34.6	16.0	10.3	4.1	11.7	11.6	3.8	1.7	1.0
Maldives	20.9	23.8	16.9	9.2	18.2	14.6		9.3	4.9	2.3	3.8	2.9
Nepal		1.4	4.1	0.0	0.0	0.0		1.7	4.5	0.0	0.0	0.0
Pakistan	12.6	21.2	17.5	3.7	4.3	2.0	8.0	12.2	9.7	1.8	2.0	0.9
Sri Lanka	12.6	30.3	13.4	6.4	6.0	3.9	6.3	12.3	4.4	2.3	1.6	1.0
Turkey	77.8	75.3	24.0	11.1	12.5	12.8	10.0	9.0	2.5	1.0	1.1	1.1
North and Central Asia	**790.9**	**125.7**	**122.4**	**4.6**	**6.4**	**7.2**	**66.8**	**19.9**	**18.6**	**0.5**	**0.6**	**0.7**
Armenia		62.6	8.4	26.4	20.5	9.6		36.7	3.6	6.9	4.4	1.8
Azerbaijan			10.9	2.6	0.1	0.1			4.4	0.6	0.0	0.0
Georgia		15.3	13.9	7.7	3.3	1.4		9.3	6.0	2.2	0.8	0.3
Kazakhstan	142.5		40.0	2.6	5.2	7.8	20.3		7.4	0.3	0.5	0.8
Kyrgyzstan		21.2	10.9	3.1	1.7	1.1		17.3	7.3	1.8	1.0	0.6
Russian Federation	881.9	159.2	175.5	5.4	8.3	9.8	69.7	20.3	20.4	0.5	0.7	0.7
Tajikistan		5.7	4.6	0.5	0.5	0.6		5.3	4.6	0.4	0.3	0.3
Turkmenistan	39.6	13.5	5.2	5.6	4.6	1.7				1.2		
Uzbekistan		13.3	1.8	0.1	0.1	0.0		9.1	1.1	0.1	0.1	0.0
Pacific	**402.3**	**124.7**	**21.0**	**7.4**	**3.8**	**4.2**	**18.6**	**6.6**	**1.0**	**0.3**	**0.2**	**0.2**
American Samoa												
Australia	435.0	172.2	25.3	8.3	3.4	4.0	18.6	7.0	0.9	0.3	0.1	0.1
Cook Islands		135.1										
Fiji	57.8	81.6	3.1	7.2	6.5	5.4	17.3	22.4	0.8	1.7	1.5	1.3
French Polynesia												
Guam												
Kiribati		10.4				1.1		10.5				0.9
Marshall Islands	25.4	25.5	11.5		1.7	3.4	3.1	3.0	1.8		0.2	
Micronesia (F.S.)		12.1	9.3	4.6	0.9	4.5		3.9	3.2	1.6	0.3	1.7
Nauru		60.2	39.8									
New Caledonia												
New Zealand	353.1	87.6	5.0	10.2	9.1	6.5	18.7	4.3	0.2	0.4	0.4	0.3
Niue		47.2										
Northern Mariana Islands												
Palau		99.7	3 667.6	9.9	4.9	4.9		7.6	286.9	0.8	0.4	
Papua New Guinea		2.7	9.7	3.1	1.1	1.5		1.2	4.9	1.6	0.6	0.8
Samoa		26.1	4.0	1.1	1.1	1.1		9.3	1.2	0.3	0.3	0.3
Solomon Islands	6.7	6.6	1.9	2.3	4.9	1.8	4.2	3.3	1.3	1.6	3.3	1.1
Tonga		22.6	5.1			1.0		7.3	1.5			0.3
Tuvalu		32.5										
Vanuatu		2.9			11.7	72.8		0.8			3.5	21.2
Asia and the Pacific		**69.3**	**49.4**	**14.1**	**13.0**	**10.1**	**40.8**	**19.7**	**12.4**	**2.8**	**2.5**	**1.8**
LLDC		13.1	8.5	2.8	2.3	1.8			5.1	1.1	0.8	0.5
LDC		4.0	4.3	1.9	1.4	1.1	2.6	3.5	5.5	1.8	1.4	0.9
ASEAN		58.7	32.6	14.6	8.2	5.8		19.0	10.0	3.7	2.1	1.4
ECO	39.0	41.8	29.3	10.3	7.4	5.4	8.9	10.5	7.0	2.0	1.4	0.9
SAARC		11.3	16.1	3.6	4.2	2.3		6.2	10.1	1.6	1.9	1.0
Central Asia			13.0	3.2	2.6	2.3			5.2	0.8	0.6	0.5
Pacific island dev. econ.		14.2	18.3	3.5	2.2	3.8		5.4	8.0	1.6	1.0	1.7
Low income		9.4	7.0	3.0	1.9	1.7		5.8	4.2	1.9	1.5	1.0
Middle income		62.3	51.2	14.3	12.8	10.1	45.4	25.6	17.5	3.6	3.0	2.2
High income	910.5	284.2	102.0	33.4	39.0	28.4	35.7	11.7	3.9	1.2	1.3	0.9
Africa		**28.0**	**21.6**	**8.0**	**5.5**	**3.5**	**31.7**	**13.2**	**10.1**	**3.3**	**2.1**	**1.3**
Europe												
Latin America and Carib.	**189.3**	**93.8**	**60.3**	**26.3**	**20.7**	**13.1**	**25.7**	**12.4**	**7.4**	**3.0**	**2.3**	**1.4**
North America	**859.2**	**177.6**	**15.5**	**34.2**	**29.5**	**26.6**	**27.8**	**5.4**	**0.4**	**0.8**	**0.7**	**0.6**
Other countries/areas		**186.6**	**98.2**	**59.5**	**53.6**	**48.0**		**18.1**	**10.0**	**4.3**	**3.9**	**3.5**
World		**73.1**	**44.1**	**15.9**	**14.1**	**11.0**	**31.7**	**12.9**	**7.0**	**2.2**	**1.9**	**1.4**

27.4 Other pollutants

	Nitrous oxide emissions								Concentration of PM10 in urban area				
	Gigagrams of N_2O				Kilograms per capita				Micrograms per m^3				
	1990	1995	2000	2005	1990	1995	2000	2005	1990	1995	2000	2005	2006
East and North-East Asia	**1 095.5**	**1 284.5**	**1 297.3**	**1 467.4**	**0.8**	**0.9**	**0.9**	**1.0**	**106.3**	**85.9**	**79.5**	**70.1**	**68.2**
China	933.6	1 120.5	1 145.3	1 338.1	0.8	0.9	0.9	1.0	114.0	92.0	85.0	75.0	73.0
DPR Korea	24.3	10.8	8.7	8.8	1.2	0.5	0.4	0.4	165.0	98.0	93.0	73.0	68.0
Hong Kong, China	0.5	0.6	0.7	0.6	0.1	0.1	0.1	0.1					
Japan	96.7	99.3	79.7	73.5	0.8	0.8	0.6	0.6	43.0	37.0	33.0	31.0	30.0
Macao, China	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.0	52.0	55.0	49.0	48.0
Mongolia	15.4	16.3	15.9	11.0	6.9	7.2	6.6	4.3	198.0	134.0	130.0	113.0	110.0
Republic of Korea	24.9	37.0	47.1	35.4	0.6	0.8	1.0	0.7	51.0	51.0	47.0	37.0	35.0
South-East Asia	**812.5**	**934.8**	**920.5**	**1 023.8**	**1.8**	**1.9**	**1.8**	**1.8**	**108.1**	**88.4**	**85.0**	**69.0**	**61.4**
Brunei Darussalam	3.3	3.8	3.9	4.0	12.9	12.7	11.7	10.9	32.0	56.0	66.0	59.0	54.0
Cambodia	11.9	13.1	10.7	19.4	1.2	1.2	0.8	1.4	86.0	50.0	48.0	46.0	46.0
Indonesia	358.9	415.0	445.3	533.4	2.0	2.2	2.2	2.4	137.0	114.0	119.0	95.0	83.0
Lao PDR	16.2	17.5	14.2	24.1	3.8	3.6	2.6	4.1	91.0	52.0	54.0	50.0	49.0
Malaysia	55.3	60.6	56.0	59.9	3.1	2.9	2.4	2.3	37.0	32.0	27.0	24.0	23.0
Myanmar	245.6	276.9	216.7	206.5	6.0	6.3	4.6	4.3	107.0	90.0	77.0	64.0	58.0
Philippines	27.3	29.7	35.7	37.6	0.4	0.4	0.5	0.4	55.0	58.0	48.0	26.0	23.0
Singapore	0.5	3.7	18.6	3.1	0.2	1.0	4.6	0.7	106.0	53.0	44.0	41.0	41.0
Thailand	57.6	66.8	58.3	65.2	1.0	1.1	0.9	1.0	88.0	85.0	79.0	78.0	71.0
Timor-Leste	0.4	0.5	0.5	0.7	0.5	0.6	0.6	0.7					
Viet Nam	35.5	47.2	60.4	69.9	0.5	0.6	0.8	0.8	123.0	78.0	70.0	61.0	55.0
South and South-West Asia	**754.2**	**867.2**	**935.3**	**984.4**	**0.6**	**0.6**	**0.6**	**0.6**	**128.8**	**120.7**	**104.6**	**77.4**	**74.6**
Afghanistan	6.8	6.6	8.3	8.6	0.5	0.4	0.4	0.4	78.0	63.0	49.0	44.0	41.0
Bangladesh	48.8	58.9	63.1	68.6	0.4	0.5	0.4	0.4	231.0	195.0	162.0	140.0	135.0
Bhutan	0.6	0.6	0.9	0.8	1.0	1.1	1.6	1.2	48.0	45.0	36.0	27.0	26.0
India	486.1	562.1	602.5	632.6	0.6	0.6	0.6	0.6	112.0	109.0	93.0	68.0	65.0
Iran (Islamic Rep. of)	52.6	59.9	68.2	74.9	0.9	1.0	1.0	1.1	86.0	89.0	80.0	54.0	51.0
Maldives	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	28.0	29.0	34.0	34.0	32.0
Nepal	11.1	12.2	13.0	13.9	0.6	0.6	0.5	0.5	67.0	57.0	49.0	36.0	34.0
Pakistan	56.6	65.2	75.4	82.9	0.5	0.5	0.5	0.5	224.0	202.0	184.0	120.0	120.0
Sri Lanka	5.4	5.9	5.9	5.9	0.3	0.3	0.3	0.3	94.0	88.0	99.0	92.0	82.0
Turkey	86.0	95.7	98.0	96.1	1.5	1.6	1.5	1.4	68.0	57.0	52.0	40.0	40.0
North and Central Asia	**597.0**	**343.9**	**368.9**	**343.8**	**2.8**	**1.6**	**1.7**	**1.6**	**67.2**	**44.0**	**41.2**	**29.0**	**27.3**
Armenia	2.3	1.5	1.5	1.8	0.7	0.5	0.5	0.6	463.0	122.0	90.0	67.0	59.0
Azerbaijan	8.1	5.5	6.2	7.9	1.1	0.7	0.8	0.9	226.0	140.0	130.0	59.0	60.0
Georgia	6.6	5.4	6.3	6.3	1.6	1.1	1.3	1.4	208.0	139.0	65.0	50.0	47.0
Kazakhstan	94.3	58.4	46.0	51.4	5.7	3.7	3.1	3.4	43.0	34.0	27.0	20.0	19.0
Kyrgyzstan	11.0	4.8	4.9	4.7	2.5	1.1	1.0	0.9	75.0	33.0	28.0	24.0	22.0
Russian Federation	432.3	234.0	263.5	222.3	2.9	1.6	1.8	1.6	41.0	27.0	28.0	19.0	18.0
Tajikistan	4.4	4.3	3.5	4.4	0.8	0.7	0.6	0.7	103.0	69.0	51.0	51.0	50.0
Turkmenistan	7.0	7.6	9.2	13.8	1.9	1.8	2.0	2.8	177.0	87.0	81.0	57.0	55.0
Uzbekistan	29.1	22.3	27.9	31.1	1.4	1.0	1.1	1.2	85.0	85.0	81.0	61.0	55.0
Pacific	**242.8**	**224.8**	**278.5**	**246.3**	**9.0**	**7.7**	**8.9**	**7.3**	**25.2**	**24.1**	**22.7**	**18.2**	**16.9**
American Samoa	0.0	0.0	0.1	0.1	0.1	0.1	1.2	1.2					
Australia	188.0	171.0	223.4	186.8	11.0	9.4	11.7	9.2	23.0	21.0	19.0	16.0	15.0
Cook Islands	0.0	0.0	0.0	0.0	0.6	0.7	0.7	0.5					
Fiji	1.1	1.2	1.1	1.2	1.5	1.6	1.4	1.4	37.0	36.0	34.0	23.0	22.0
French Polynesia	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.3					
Guam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Kiribati	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1					
Marshall Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Micronesia (F.S.)	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3					
Nauru	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1					
New Caledonia	0.3	0.3	0.3	0.3	1.7	1.3	1.2	1.2	106.0	79.0	103.0	74.0	69.0
New Zealand	33.0	35.2	36.2	41.0	9.8	9.6	9.3	10.0	16.0	17.0	18.0	14.0	14.0
Niue	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.5					
Northern Mariana Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Palau	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Papua New Guinea	8.0	9.0	9.0	7.9	1.9	1.9	1.7	1.3	34.0	36.0	33.0	24.0	21.0
Samoa	0.1	0.1	0.1	0.1	0.7	0.6	0.6	0.7					
Solomon Islands	11.8	7.4	7.8	8.3	37.6	20.5	18.7	17.6	54.0	33.0	35.0	38.0	37.0
Tonga	0.1	0.1	0.1	0.1	0.6	0.6	0.7	0.7					
Tuvalu	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.4					
Vanuatu	0.3	0.4	0.4	0.4	2.0	2.1	2.0	1.7	31.0	34.0	27.0	20.0	18.0
Asia and the Pacific	**3 501.9**	**3 655.2**	**3 800.6**	**4 065.6**	**1.1**	**1.0**	**1.0**	**1.0**	**112.0**	**96.9**	**87.8**	**70.3**	**67.3**
LLDC	206.2	157.8	151.5	173.6	2.1	1.4	1.3	1.3	103.4	70.1	61.6	46.0	43.3
LDC	353.5	394.3	335.8	351.4	1.7	1.7	1.3	1.3	170.3	140.4	117.3	100.4	96.0
ASEAN	812.1	934.3	919.9	1 023.1	1.9	2.0	1.8	1.8	108.1	88.4	85.0	69.0	61.4
ECO	356.0	330.4	347.6	375.9	1.2	1.0	1.0	0.9	137.9	123.1	113.1	77.2	76.1
SAARC	615.4	711.6	769.1	813.4	0.5	0.6	0.6	0.5	133.9	125.3	108.2	80.2	77.3
Central Asia	164.7	109.9	105.5	121.5	2.5	1.6	1.5	1.6	125.3	80.5	68.3	48.2	45.1
Pacific island dev. econ.	21.7	18.6	18.9	18.5	3.4	2.6	2.3	2.0	37.7	37.4	35.2	26.1	23.4
Low income	444.8	474.8	431.4	459.9	1.4	1.3	1.1	1.1	152.7	119.3	102.1	87.0	82.3
Middle income	2 709.7	2 829.6	2 959.2	3 260.9	1.0	1.0	0.9	1.0	112.0	98.1	89.4	70.7	67.7
High income	347.4	350.8	409.9	344.8	1.8	1.7	2.0	1.6	43.6	38.7	35.0	30.9	29.7
Africa	**1 864.1**	**1 797.1**	**1 724.2**	**1 821.6**	**2.9**	**2.5**	**2.1**	**2.0**	**120.7**	**100.2**	**80.4**	**64.6**	**58.7**
Europe	**1 520.6**	**1 297.7**	**1 118.7**	**1 129.1**	**2.7**	**2.2**	**1.9**	**1.9**	**40.7**	**32.1**	**27.9**	**23.6**	**22.5**
Latin America and Carib.	**1 202.1**	**1 244.6**	**1 290.7**	**1 496.5**	**2.7**	**2.6**	**2.5**	**2.7**	**58.6**	**48.4**	**43.4**	**37.4**	**35.1**
North America	**973.2**	**1 107.5**	**966.3**	**936.9**	**3.4**	**3.7**	**3.0**	**2.8**	**29.5**	**25.7**	**23.8**	**21.7**	**20.6**
Other countries/areas	**62.0**	**66.4**	**72.0**	**76.4**	**0.8**	**0.7**	**0.7**	**0.6**	**140.1**	**151.2**	**123.8**	**98.9**	**92.2**
World	**9 022.5**	**9 064.4**	**8 854.4**	**9 414.5**	**1.7**	**1.6**	**1.4**	**1.4**	**96.9**	**83.7**	**74.5**	**60.5**	**57.3**

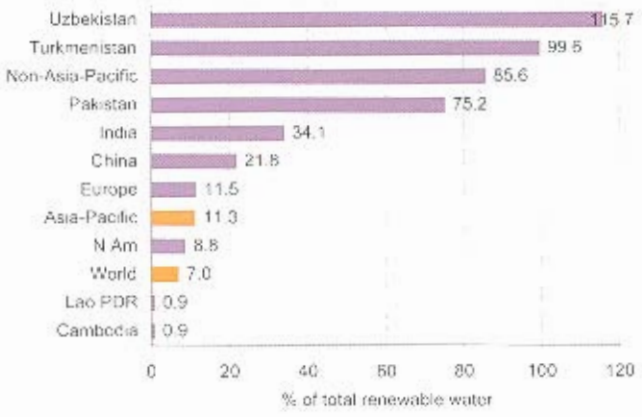
28 Water use

Asia and the Pacific has increasing concerns about water security. Population growth and increasing economic activity are leading to greater consumption of this limited resource – problems that are likely to be exacerbated by climate change.

Having the largest land area of the world's regions, the Asia-Pacific region also has the largest share of the world's freshwater resources. Total internal renewable water resources are 21,135 billion cubic metres. But this impressive endowment is coupled with large populations and high water utilization rates which give the region the world's the second lowest per capita renewable water resources. On average, the region withdraws about 11% of its total renewable water resources, second in the world, after the water-scarce Middle East, and on par with utilization rates in Europe.

Figure 28.1

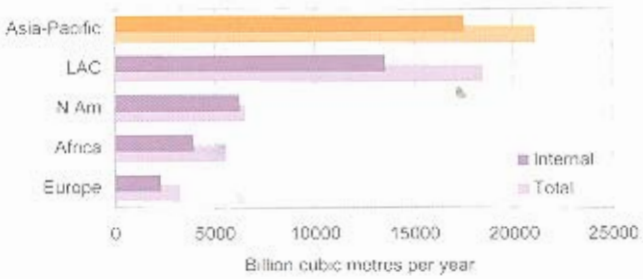
Water utilization rate, selected countries and regions, 2002



Some countries, such as Uzbekistan and Tajikistan, withdraw very close to, or even more than, their total surface and groundwater combined, but others, such as Cambodia and the Lao People's Democratic Republic, utilize hardly 1% of their total available water.

Figure 28.2

Available water resources, global, 2007



Achieving water for all does not, however, depend only on endowment. Water scarcity can occur even in countries rich in renewable resources. If countries are to achieve water security they must ensure that it is properly conserved and used, and equitably distributed among households, farms, industry and the environment.

Per capita water availability in Asia and the Pacific is the second-lowest in the world, at 5,224 cubic metres – way below the world average of 8,349 cubic metres – primarily as a result of its high population. If anything, the situation is likely to get worse, not just in countries that had low levels of renewable resources to start with, like the Maldives, India, Pakistan and Uzbekistan but also in countries, such as Afghanistan and the Philippines, which have high population growth rates.

Figure 28.3

Change in availability of total renewable water per capita, selected Asia-Pacific countries, 1992-1997 and 2002-2007

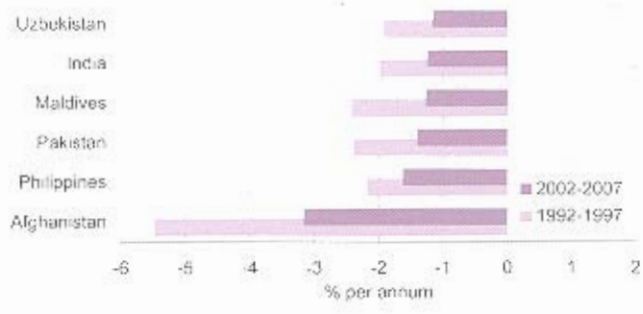
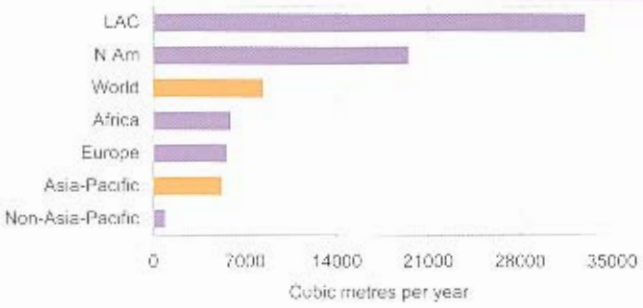


Figure 28.4

Renewable water per capita, global regions, 2007



Physical water scarcity is only one part of the equation. As seen in Chapter 11, in Asia and the Pacific, access to safe drinking water is still a concern for as many as 680,000 people. Per capita use of domestic water in Asia and the Pacific is also the world's second lowest, after Africa. One of the problems is that primary users of water are increasingly located further away from freshwater sources, and in many developing countries the lack of infrastructure leads to water shortages.

While the regional average domestic withdrawal is 47.5 cubic metres, in the least developed countries it is only 15.0 cubic metres – far lower than in Africa at 25.1 cubic metres. The region's lowest withdrawals are in Cambodia, Myanmar and Papua New Guinea, with less than 10 cubic metres per capita. At the other end of the scale is New Zealand with 258 cubic metres per capita. Generally, the people most affected by water scarcity are in the poorest countries.

By far the largest consumer of water in the Asia-Pacific region is agriculture which takes 79.2% of the total, compared to the world average of 69.6% – though this is lower than in Africa at 85.5% which has much lower levels of total renewable and internal renewable water resources.

Agriculture's share has, nevertheless, fallen since 1990 in all Asia-Pacific subregions, though there has been an increase in some countries, such as the Islamic Republic of Iran, Turkey and Kazakhstan. As might be expected, it is the poorest countries that are using more water for agriculture. In 2002, in the low-income economies, 88.1% was extracted for this purpose, compared with 78.9% in the middle-income economies and only 62.4% in the high-income economies. More recent data from the Caucasus region indicate, however, an increase in the proportion of water used for agriculture since 1990 – by 6 percentage points in Georgia and 3 in Azerbaijan. Indeed other countries may use more water for agriculture in response to rising global food prices.

Across the region many economies are using more water for industry. China and Viet Nam, for example, between 1992 and 2002, more than tripled their industrial water use. In 2002, the average share of water withdrawal for industry in Asia and the Pacific reached 13.1%. This proportion rose in all subregions, except for some countries of North and Central Asia, where the share actually fell by a couple of percentage points. Data are unavailable for the Pacific island developing economies.

Figure 28.5

Domestic water per capita, 2002

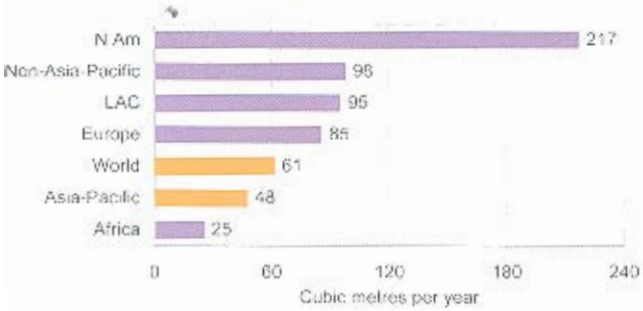


Figure 28.6

Proportion of water withdrawal for agriculture, selected Asia-Pacific countries, 1992 and 2002

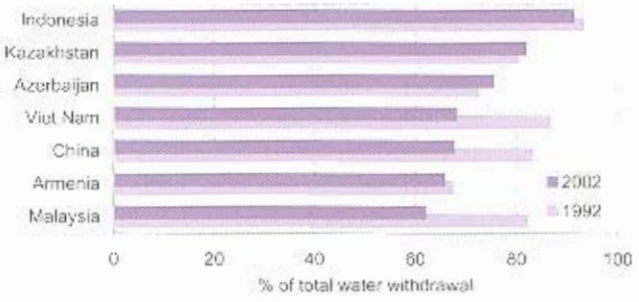


Figure 28.7

Proportion of water withdrawal for industry, selected Asia-Pacific countries, 1992 and 2002

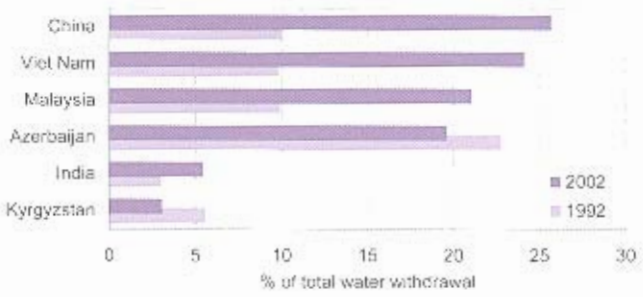
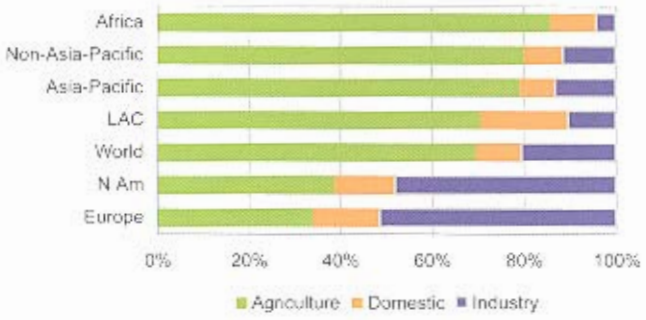


Figure 28.8

Water withdrawal by sector in the regions of the world, 2002



Water resources, total renewable (billion cubic metres per year)
The sum of internal renewable water resources and natural incoming flow originating outside the country, taking into consideration the quantity of flows reserved to upstream and downstream countries through formal or informal agreements or treaties. This gives the maximum theoretical amount of water actually available for the country **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture. Online database accessed on 4 August 2009.

Water resources: total internal renewable (billion cubic metres per year)
Average annual flow of rivers and recharge of groundwater generated from endogenous precipitation. **Aggregates:** Calculated by ESCAP as the sum of individual country values **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture. Online database accessed on 4 August 2009.

Water resources: total renewable per capita (cubic metres per year)
The sum of internal renewable water resources and natural incoming flow originating outside the country, taking into consideration the quantity of flows reserved to upstream and downstream countries through formal or informal agreements or treaties. This gives the maximum theoretical amount of water actually available for the country. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture; and World Population Prospects: The 2008 Revision Population Database. Online database accessed on 4 August 2009.

Domestic water withdrawal per capita
Drinking water plus water withdrawn for homes, municipalities, commercial establishments, and public services, divided by population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture; and World Population Prospects: The 2008 Revision Population Database. Online database accessed on 4 August 2009.

Annual withdrawals of ground and surface water (% of total renewable water)
The gross amount of water extracted in a day from any source either permanently or temporarily. Water sources can be either withdrawn from surface water, groundwater or produced (non-conventional water sources), such as reused treated wastewater and desalinated water. **Aggregates:** Averages are calculated using total renewable water as weight. **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture. Online database, accessed on 7 August 2009.

Total water withdrawal (billion cubic metres per year)
The gross quantity of water withdrawn for agricultural, industrial and domestic purposes in a given country. Does not include other categories of water use, such as for cooling of power plants, mining, recreation, navigation, or fisheries. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture. Online database accessed on 4 August 2009.

Water withdrawal, domestic use (% of total water withdrawal)
The total water withdrawn by the public distribution network. It can include that part of the industries, which are connected to the network divided by the total water withdrawal **Aggregates:** Calculated by ESCAP as the sum of individual country values of domestic sector divided by sum of individual country values of total water withdrawal. **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture. Online database accessed on 4 August 2009.

Water withdrawal share in agriculture (% of total water withdrawal)
Agricultural water withdrawal (quantity of water used for agricultural purposes, including irrigation and for livestock. Methods for computing agricultural water withdrawal vary from country to country) divided by the total water withdrawal. **Aggregates:** Calculated by ESCAP as the sum of individual country values of water withdrawal by the agricultural sector divided by sum of individual country values of total water withdrawal. **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture. Online database accessed on 4 August 2009.

Water withdrawal share in industry (% of total water withdrawal)
Quantity of water used for industrial purposes. Usually, this sector refers to self-supplied industries not connected to any distribution network divided by the total water withdrawal **Aggregates:** Calculated by ESCAP as the sum of individual country values of water withdrawal by the industrial sector divided by sum of individual country values of total water withdrawal. **Source:** Food and Agriculture Organization of the United Nations, FAO Information system on Water and Agriculture. Online database accessed on 4 August 2009.

28.1 Water resources and domestic use

	Renewable water						Domestic water withdrawal per capita			Annual withdrawals of ground and surface water		
	Total	Internal	Per capita							% of total renewable water		
	Billion cubic metres per year		Cubic metres per year				Cubic metres per year					
	2007	2007	1992	1997	2002	2007	1992	1997	2002	1992	1997	2002
East and North-East Asia	**3 441**	**3 409**	**2 504**	**2 388**	**2 300**	**2 248**			**45.1**			**21.3**
China	2 830	2 812	2 391	2 274	2 184	2 130	29.6	20.2	32.0	17.7	18.1	21.8
DPR Korea	77	67	3 713	3 464	3 315	3 254			76.9			11.7
Hong Kong, China												
Japan	430	430	3 457	3 409	3 373	3 361	136.7		136.5	21.3		20.4
Macao, China												
Mongolia	35	35	15 110	14 347	13 868	13 361		35.0	35.9		1.2	1.3
Republic of Korea	70	65	1 594	1 522	1 474	1 451		135.6	140.0			26.7
South-East Asia	**7 063**	**5 674**	**15 448**	**14 214**	**13 208**	**12 504**			**40.1**			**4.5**
Brunei Darussalam	9	9	31 261	27 395	24 324	22 254				0.9	1.1	
Cambodia	476	121	45 834	39 712	35 909	33 537			4.5			0.9
Indonesia	2 838	2 838	15 035	13 972	13 050	12 400	25.1		30.4	2.6		2.9
Lao PDR	334	190	77 126	67 812	61 741	57 914			24.1			0.9
Malaysia	580	580	30 387	26 768	23 909	22 211	42.9	61.9	62.7	1.7		1.6
Myanmar	1 046	881	25 269	23 609	22 357	21 613			8.8			3.2
Philippines	479	479	7 469	6 692	6 026	5 553		59.6	59.5		5.8	6.0
Singapore	1	1	189	162	144	137						
Thailand	410	210	7 374	6 968	6 647	6 462	26.9		35.2			21.2
Timor-Leste												
Viet Nam	891	367	12 893	11 767	10 943	10 338	28.9		68.0	6.1		8.0
South and South-West Asia	**4 104**	**2 174**	**3 149**	**2 841**	**2 596**	**2 429**			**44.1**			**26.1**
Afghanistan	65	55	4 425	3 337	2 926	2 492			18.9			35.8
Bangladesh	1 211	105	10 233	9 205	8 353	7 761	14.4	30.5	17.5			6.6
Bhutan	95	95	177 580	183 859	160 776	146 432			33.8			0.4
India	1 897	1 261	2 113	1 913	1 753	1 647	27.9		48.3	26.4		34.1
Iran (Islamic Rep. of)	138	129	2 323	2 152	2 041	1 957		93.9	66.8		60.4	64.4
Maldives	0	0	131	116	106	100						
Nepal	210	198	10 462	9 233	8 246	7 605		10.8	11.8			4.8
Pakistan	225	55	1 892	1 676	1 501	1 400	21.0		21.8	69.1		75.2
Sri Lanka	50	50	2 852	2 721	2 647	2 603	11.1		15.9	19.5		25.2
Turkey	214	227	3 591	3 289	3 045	2 889	87.4		91.3	14.8		19.7
North and Central Asia	**4 834**	**4 592**	**22 216**	**22 065**	**22 099**	**22 062**			**93.2**			**4.8**
Armenia	8	7	2 251	2 472	2 547	2 581	280.5	275.2	169.4	45.1	37.6	22.3
Azerbaijan	35	8	4 652	4 356	4 214	4 125	98.9	27.9	61.1	44.9	35.8	28.8
Georgia	63	58	11 878	12 960	13 727	14 286	136.5			5.5		
Kazakhstan	110	75	6 672	7 084	7 340	7 157	38.5	37.7	39.5	33.4	29.3	30.5
Kyrgyzstan	21	46	4 596	4 356	4 069	3 914	61.4	63.7	63.3	53.4	49.0	49.0
Russian Federation	4 507	4 313	30 185	30 318	30 838	31 471	98.1	96.2	98.4	1.8	1.7	1.7
Tajikistan	16	66	2 896	2 692	2 529	2 407	87.9	69.4	69.6	75.2	74.3	74.8
Turkmenistan	25	1	6 363	5 703	5 339	5 045	49.2	80.5	90.7	100.1	96.1	99.6
Uzbekistan	50	16	2 344	2 128	1 981	1 868	95.4	109.0	108.8	124.0	115.2	115.7
Pacific	**1 693**	**1 703**	**64 148**	**59 646**	**55 592**	**52 893**			**152.9**			**1.6**
American Samoa												
Australia	492	492	26 334	26 592	25 097	23 964			179.6			4.9
Cook Islands												
Fiji	29	29	38 653	36 455	35 132	34 260			12.3			0.2
French Polynesia		10										
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	327	327	93 070	87 209	82 824	78 993			258.4			0.6
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea	801	801	184 122	161 183	141 535	129 158			7.1			0.0
Samoa												
Solomon Islands	45	45	134 620	116 799	102 068	92 351						
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**21 135**	**17 552**	**6 252**	**5 819**	**5 470**	**5 224**			**47.5**			**11.3**
LLDC	1 002	794	9 659	8 761	8 194	7 655			52.6			18.7
LDC	3 481	1 690	16 555	14 771	13 470	12 511			15.0			4.5
ASEAN	7 063	5 674	15 445	14 214	13 208	12 504			40.1			4.5
ECO	897	679	2 867	2 591	2 380	2 226			51.9			52.5
SAARC	3 763	1 819	3 169	2 852	2 601	2 429			40.8			25.1
Central Asia	327	279	4 808	4 666	4 528	4 356			82.2			56.9
Pacific island dev. econ.	874	884	161 271	142 497	126 552	116 535			7.7			0.0
Low income	4 396	2 112	13 328	12 004	11 043	10 343			36.7			7.1
Middle income	15 411	14 107	5 379	5 013	4 714	4 504			43.0			12.6
High income	1 328	1 333	6 916	6 720	6 572	6 517			144.0			10.0
Africa	**5 562**	**3 936**	**8 197**	**7 215**	**6 404**	**5 857**			**25.1**			**3.6**
Europe	**3 285**	**2 291**	**5 653**	**5 615**	**5 584**	**5 549**			**85.4**			**11.5**
Latin America and Carib.	**18 525**	**13 570**	**40 373**	**37 181**	**34 601**	**32 901**			**95.0**			**1.4**
North America	**6 556**	**6 253**	**22 625**	**21 375**	**20 251**	**19 441**			**216.7**			**8.8**
Other countries/areas	**107**	**56**	**1 239**	**1 065**	**938**	**853**			**97.6**			**85.6**
World	**55 171**	**43 658**	**10 079**	**9 372**	**8 779**	**8 349**			**61.4**			**7.0**

28.2 Water use by sector

	Total water withdrawal			Domestic use			Use for agriculture			Use for industry		
	Billion cubic metres per year						% of total water withdrawal					
	1992	1997	2002	1992	1997	2002	1992	1997	2002	1992	1997	2002
East and North-East Asia			**746.8**			**9.0**			**66.4**			**24.5**
China	500.0	525.5	630.3	7.0	4.8	6.6	83.0	77.6	67.7	10.0	17.6	25.7
DPR Korea			9.0			19.8			55.0			25.2
Hong Kong, China												
Japan	91.4		88.4	18.6		19.7	64.1		62.5	17.3		17.9
Macao, China												
Mongolia		0.4	0.4		19.9	20.5		53.0	52.3		27.1	27.3
Republic of Korea			18.6			35.6			48.0			16.4
South-East Asia			**319.1**			**6.6**			**85.6**			**7.8**
Brunei Darussalam	0.1	0.1										
Cambodia			4.1			1.5			98.0			0.5
Indonesia	74.3		82.8	6.4		8.0	93.1		91.3	0.5		0.7
Lao PDR			3.0			4.3			90.0			5.7
Malaysia	10.1		9.0	8.1		16.9	62.0		62.1	9.9		21.1
Myanmar			33.2			1.2			98.2			0.5
Philippines		27.7	28.5		15.4	16.6		76.3	74.0		8.3	9.4
Singapore												
Thailand			67.1			2.5			95.0			2.5
Timor-Leste												
Viet Nam	54.3		71.4	3.7		7.8	66.5		68.1	9.8		24.1
South and South-West Asia			**1 071.6**			**6.5**			**89.3**			**4.2**
Afghanistan			23.3			1.8			98.2			
Bangladesh			79.4			3.2			96.2			0.7
Bhutan			0.4			4.7			94.1			1.2
India	500.0		645.8	5.0		8.1	92.0		86.5	3.0		5.5
Iran (Islamic Rep. of)		83.0	88.5		7.2	5.1		91.6	93.8		1.2	1.1
Maldives												
Nepal			10.2			2.9			96.5			0.6
Pakistan	155.6		169.4	1.6		1.9	96.8		96.0	1.6		2.0
Sri Lanka	9.8		12.8	2.0		2.4	96.0		95.2	2.0		2.5
Turkey	31.6		42.0	16.5		15.2	72.5		75.0	11.1		9.8
North and Central Asia			**228.5**			**8.7**			**65.6**			**25.7**
Armenia	3.5	2.9	1.7	27.6	29.8	29.8	67.4	66.3	65.8	5.0	4.1	4.4
Azerbaijan	15.6	12.5	10.1	4.7	1.8	5.0	72.5	81.2	75.4	22.8	17.0	19.6
Georgia	3.5		1.6 [1]	21.0		22.1 [1]	58.9		65.1 [1]	20.1		12.8 [1]
Kazakhstan	36.6	33.7	35.0	1.7	1.7	1.7	80.3	81.4	81.8	18.0	16.9	16.5
Kyrgyzstan	11.0	10.1	10.1	2.5	3.0	3.2	91.9	94.2	93.8	5.6	2.9	3.1
Russian Federation	82.6	77.1	76.7	17.7	18.5	18.8	23.5	19.8	17.8	58.7	61.6	63.5
Tajikistan	12.0	11.9	12.0	4.0	3.5	3.7	91.0	92.3	91.6	4.9	4.2	4.7
Turkmenistan	24.7	23.8	24.7	0.8	1.5	1.7	98.7	97.9	97.5	0.5	0.6	0.8
Uzbekistan	62.5	58.1	58.3	3.3	4.4	4.7	94.7	93.7	93.2	2.0	1.9	2.1
Pacific			**26.2**			**17.5**			**72.4**			**10.1**
American Samoa												
Australia			23.9			14.7			75.3			10.0
Cook Islands												
Fiji			0.1			14.3			71.4			14.3
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand			2.1			48.3			42.2			9.5
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea			0.1			56.3			1.4			42.3
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific			**2 392.2**			**7.7**			**79.2**			**13.1**
LLDC			189.1			3.4			91.0			5.5
LDC			153.6			2.5			96.9			0.6
ASEAN			319.1			6.6			85.6			7.8
ECO			473.3			4.1			91.9			3.9
SAARC			941.1			6.3			89.5			4.2
Central Asia			151.8			3.7			89.7			6.6
Pacific island dev. econ			0.1			35.5			36.2			28.4
Low income			313.9			4.7			88.1			7.2
Middle income			1 945.2			7.2			78.9			13.9
High income			133.1			21.5			62.4			16.1
Africa			**213.3**			**10.0**			**85.5**			**4.2**
Europe			**324.4**			**14.7**			**33.9**			**51.4**
Latin America and Carib.			**265.3**			**19.0**			**70.6**			**10.3**
North America			**525.3**			**13.3**			**38.7**			**48.0**
Other countries/areas			**92.4**			**8.5**			**80.0**			**11.4**
World			**3 812.8**			**10.0**			**69.6**			**20.5**

1 Data refers to the period 2003-2007.

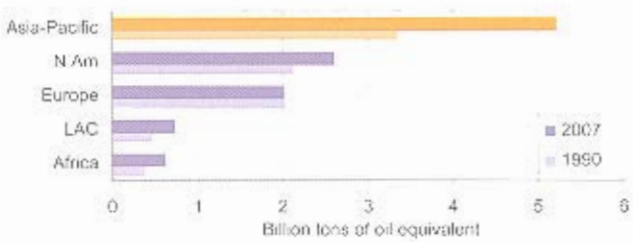
29 Energy supply and use

The Asia-Pacific region is consuming increasing amounts of energy. Since 1990, consumption has risen by two thirds – largely driven by middle-income economies such as China and India, where energy has been used to fuel rapid economic growth.

In 2007, the total primary energy supply (TPES) in Asian and Pacific countries was a little over 5.4 billion tons of oil equivalent (TOE). Although the *Yearbook* sources do not provide comparable cross-country data for the more recent period when the oil price was climbing it is clear that even then in most economies total energy consumption continued to rise. Even the transportation sector, which might be expected to be sensitive to the price of oil, continued to expand its oil consumption in low- and middle-income countries, and it only dropped slightly in high-income countries.

Figure 29.1

Total primary energy supply, world regions, 1990 and 2007

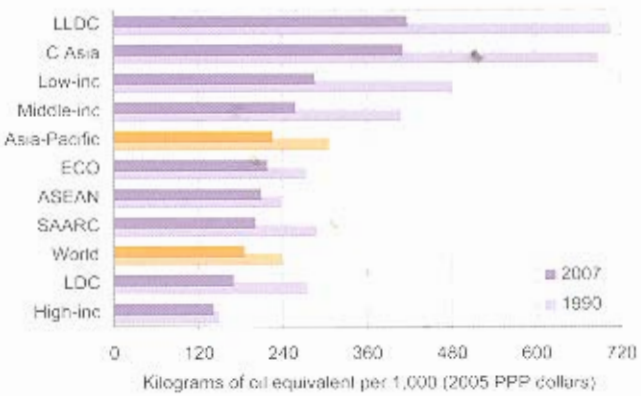


The most recent IEA estimates indicate that the 2008-2009 financial and economic crises reduced global energy consumption by 3% in 2009, in contrast with the usual 3% positive growth – something that the 2008 oil price peak had failed to achieve.

When averaged over the entire region, energy was used mostly by industry, followed by the residential sector, though in least developed countries, where industry is not well established and

Figure 29.2

Apparent energy consumption (supply) per unit of GDP, global regions, 1990 and 2007



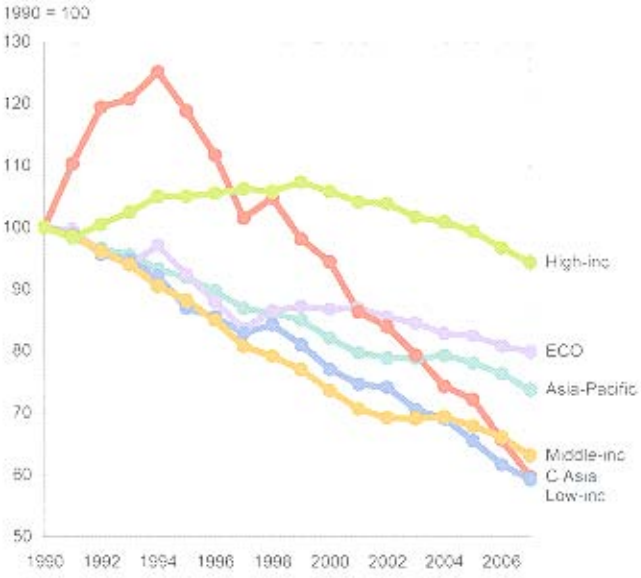
there is less personal transportation, residential energy consumption dominates, with 71% of total energy use. In high-income economies, energy use is dominated by consumption in other sectors such as the commercial and public sector, agriculture, forestry and fisheries. Consumption in this sector is also high in Central Asian countries, where old and inefficient infrastructure means that much more energy is required for the infrastructure to provide the services it was designed for.

Despite rising energy consumption over the past two-and-a-half decades, for many countries energy intensity has been steadily improving, with a reduction in energy consumed per unit of GDP. Nevertheless, some countries need to make greater efforts to reduce consumption of energy and the production of greenhouse gases. Other countries that are developing rapidly now have the opportunity to do so in a manner that reduces their long-term dependence on imported fossil fuels. If they follow a sustainable energy path and consume energy wisely, they will save millions of dollars that can be used for other development purposes.

In Asia and the Pacific, energy consumption per capita is still dominated by the high-income economies. In 2007, the people of the region's high-income economies consumed per capita more

Figure 29.3

Index of apparent energy consumption (supply) per unit of GDP, Asia and the Pacific, 1990-2007



than twice the world average, and seven times as much as people in low-income economies. Nevertheless, their consumption per capita grew much slower over the past several years and fluctuated between slightly positive and negative. That compares to an annual per capita growth rate between 2 and 4% in the 1990s. High-income economies have thus managed to become substantially more efficient in their energy consumption.

Figure 29.4

Energy consumption per capita, Asia-Pacific, 1990-2007

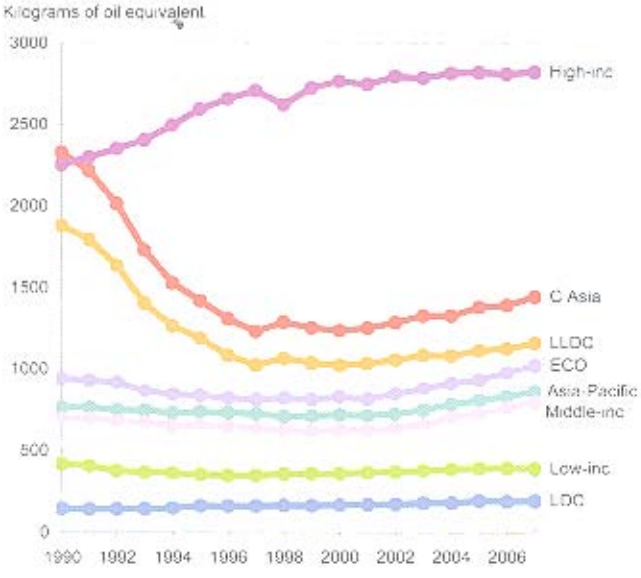
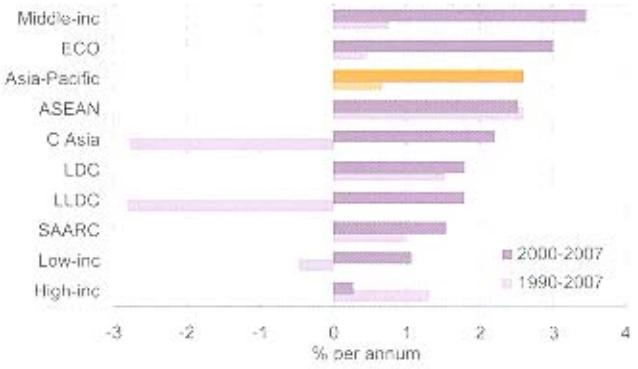


Figure 29.5

Average annual growth in per capita energy consumption, Asia-Pacific, 1990-2007 and 2000-2007



The reverse seems to be true for the middle-income economies, where the per capita consumption growth rate has been quite high since 2003. Low-income economies have also generally made progress on energy consumption per person, although their figures took a dip in 2007.

The high per capita energy consumption in high-income economies can be an indication of generally wasteful lifestyles. Most of these countries have shifted their economic base to less energy-intensive industries but they have still increased overall consumption, as a result of urban sprawl and generally inefficient usage. This has also increased emissions of greenhouse gases – an issue discussed further in chapter 27.

This is exacerbated by the region's reliance on fossil fuels. According to the BP Statistical Review of World Energy, the Asia-Pacific region had in 2008 over half of the world proven reserves of coal and natural gas, and almost a quarter of the world's oil reserves. The self-sufficiency rate for the region in 2007 was just over one, indicating that it produces as much energy as it consumes. The energy reserves are not, however, evenly distributed, offering considerable scope within the region for trade to support energy security initiatives.

Much of household energy is consumed as electricity. In the whole Asia-Pacific region, between 1990 and 2007, per capita household electricity consumption grew on average by around 4.3% per year. In least developed countries, it grew twice as fast – 8.8% per year – whereas total residential energy consumption in high-income economies during the same period increased only by 2.7% per year. This higher increase in

low-income economies can reflect efforts to extend electricity to more households.

Without access to electricity, households tend to use traditional fuels, such as wood and dung, to meet their basic energy needs. Based on the IEA World Energy Outlook 2006, an estimated 930 million people in the Asia-Pacific region lack access to basic energy services, and 1.8 billion people depend on traditional fuels to meet their basic energy needs.

Energy consumption per capita (kilograms of oil equivalent; average annual growth rate in percentage per annum)
The kilogram of oil equivalent of energy use per capita. Energy use refers to use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** International Energy Agency; and World Population Prospects: The 2008 Revision Population Database. Online database, accessed on 10 September 2009.

Energy supply, apparent consumption per unit of GDP (kilograms of oil equivalent per 1,000 (2005 PPP dollars); average annual growth rate in percentage per annum)
Energy use per GDP (constant 2005 PPP dollars) is the kilogram of oil equivalent of energy use per gross domestic product converted to 2005 constant international dollars using purchasing power parity rates. Energy use refers to use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport. **Aggregates:** Calculated by ESCAP using GDP, (2005 PPP dollars) as weight. **Source:** International Energy Agency; and World Bank, World Development. Online database, accessed on 10 September 2009.

Energy final consumption (thousand tons of oil equivalent)
The sum of the consumption in the end-use sectors. Energy used for transformation and for own use of the energy producing industries is excluded. Final consumption reflects for the most part deliveries to consumers. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** International Energy Agency. Online database accessed on 10 September 2009.

Energy consumption industry sector (% of total energy final consumption)
Consumption of the industry sector is specified in the following subsectors (energy used for transport by industry is not included here but is reported under transport): iron and steel (ISIC group 271 and class 2731); chemical and petrochemical (ISIC division 24); non-ferrous industry (ISIC group 272 and class 2732); non-metallic minerals (ISIC Division 26); transport equipment (ISIC divisions 34 and 35); machinery (ISIC division 28, 29, 30, 31, and 32); mining and quarrying (ISIC divisions 13 and 14); food and tobacco (ISIC divisions 15 and 16); paper, pulp and print (ISIC divisions 21 and 22); wood and wood products (ISIC); construction (ISIC division 45); textile and leather (ISIC divisions 17, 18 and 19); any manufacturing industry not included above (ISIC divisions 25, 33, 36 and 37). **Aggregates:** Calculated by ESCAP using total final consumption as weight. **Source:** International Energy Agency. Online database accessed on 10 September 2009.

Energy consumption in the transport sector, total (% of total energy final consumption)
Energy consumption in the transport sector covers all transport activity (in mobile engines) regardless of the economic sector to which it is contributing [ISIC Divisions 60, 61 and 62]. It is divided into subsectors: International aviation, domestic aviation, roads, rails, pipeline transport, world marine bunkers, and domestic navigation. **Aggregates:** Calculated by ESCAP using total final consumption as weight. **Source:** International Energy Agency. Online database accessed on 10 September 2009.

Energy consumption others, residential use (% of total energy final consumption)
Includes consumption by households, excluding fuels used for transport. Includes households with employed persons [ISIC Division 95] which is a small part of total residential consumption. **Aggregates:** Calculated by ESCAP using total final consumption as weight. **Source:** International Energy Agency. Online database accessed on 10 September 2009.

Energy balance: primary production (million tons of oil equivalent)
The production of primary energy, i.e. hard coal, lignite/brown coal, peat, crude oil, NGLs, natural gas, combustible renewables and waste, nuclear, hydro, geothermal, solar and the heat from heat pumps that is extracted from the ambient environment. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** International Energy Agency. Online database accessed on 10 September 2009.

Energy balance: imports (million tons of oil equivalent)
Comprises amounts of primary energy having crossed the national territorial boundaries of the country whether or not customs clearance has taken place. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** International Energy Agency. Online database accessed on 10 September 2009.

Energy balance: exports (million tons of oil equivalent)
Comprises amounts of primary energy having crossed the national territorial boundaries of the country whether or not customs clearance has taken place. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** International Energy Agency. Online database accessed on 10 September 2009.

Energy total primary supply (million tons of oil equivalent)
Total primary energy supply (TPES) is made up of production + imports - exports - international marine bunkers ± stock changes. **Aggregates:** Calculated by ESCAP as the sum of individual country values **Source:** International Energy Agency. Online database accessed on 10 September 2009.

Gross electricity production (million kilowatt-hours; average annual growth rate in percentage per annum)
Gross electricity production is measured at the terminals of all alternator sets in a station; it therefore includes the energy taken by station auxiliaries and losses in transformers that are considered integral parts of the station. Included also is total electric energy produced by pumping installations without deduction of electric energy absorbed by pumping. Where reported, includes production from solar, tide, wave, wind, waste, wood and fuel cells. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** International Energy Agency. Online database accessed on 24 September 2009.

Household electricity consumption per capita (kilowatt-hours; average annual growth rate in percentage per annum)
The annual electricity consumption by households divided by total population. **Aggregates:** Calculated by ESCAP using total population as weight. **Source:** International Energy Agency. Online database accessed on 24 September 2009.

29.1 Energy use

	Energy consumption per capita				Growth rate		Energy supply, apparent consumption per unit of GDP				Growth rate	
	Kilograms of oil equivalent				% per annum		Kilograms of oil equivalent per 1,000 (2005 PPP dollars)				% per annum	
	1990	2000	2005	2007	90-07	00-07	1990	2000	2005	2007	90-07	00-07
East and North-East Asia	**796**	**862**	**1 053**	**1 146**	**2.2**	**4.2**	**279**	**226**	**233**	**223**	**-1.3**	**-0.2**
China	580	605	827	939	2.9	6.5	692	325	318	292	-4.9	-1.5
DPR Korea	1 357	748	788	669	-4.1	-1.6						
Hong Kong, China	926	1 376	1 096	1 151	1.3	-2.5	65	66	54	50	-1.6	-4.0
Japan	2 438	2 719	2 716	2 682	0.6	-0.2	137	143	134	127	-0.4	-1.7
Macao, China												
Mongolia	1 341	631	726	845	-2.7	4.3	695	486	389	387	-3.4	-3.2
Republic of Korea	1 510	2 791	2 968	3 061	4.2	1.3	204	230	205	196	-0.2	-2.2
South-East Asia	**416**	**542**	**614**	**645**	**2.6**	**2.5**	**237**	**232**	**224**	**210**	**-0.7**	**-1.4**
Brunei Darussalam	1 504	1 932	2 028	1 989	1.7	0.4	139	155	145	150	0.5	-0.4
Cambodia		287	313	321	0.9	1.6		309	237	209	-3.3	-5.4
Indonesia	444	575	606	646	2.2	1.7	277	270	248	241	-0.8	-1.6
Lao PDR												
Malaysia	767	1 258	1 480	1 634	4.6	3.8	188	208	217	214	0.8	0.4
Myanmar	230	239	293	284	1.3	2.5	769	468	390		-3.9	-2.6
Philippines	288	308	270	256	-0.6	-2.5	185	204	159	141	-1.6	-5.1
Singapore	1 653	1 858	2 940	2 954	3.5	6.8	158	129	150	124	-1.4	-0.5
Thailand	510	790	994	1 040	4.3	4.0	187	208	218	212	0.7	0.3
Timor-Leste												
Viet Nam	340	425	534	564	3.0	4.1	407	299	286	267	-2.5	-1.6
South and South-West Asia	**324**	**365**	**392**	**427**	**1.6**	**2.3**	**240**	**225**	**200**	**193**	**-1.3**	**-2.1**
Afghanistan												
Bangladesh	95	108	127	126	1.7	2.2	162	148	146	139	-0.9	-0.9
Bhutan												
India	291	305	314	337	0.9	1.5	310	262	218	203	-2.5	-3.6
Iran (Islamic Rep. of)	940	1 380	1 743	1 996	4.5	5.4	201	240	246	252	1.3	0.7
Maldives												
Nepal	302	329	333	335	0.6	0.2	426	367	351	343	-1.3	-1.0
Pakistan	313	345	377	398	1.4	2.1	237	237	222	217	-0.5	-1.2
Sri Lanka	307	395	415	418	1.8	0.8	160	145	129	116	-1.9	-3.2
Turkey	714	870	919	1 048	2.3	2.7	120	122	108	114	-0.3	-0.9
North and Central Asia	**3 634**	**2 335**	**2 385**	**2 478**	**-2.2**	**0.9**	**492**	**504**	**400**	**351**	**-2.0**	**-5.0**
Armenia	1 823	356	557	653	-5.9	9.0	740	284	199	176	-8.1	-6.6
Azerbaijan	2 887	835	963	784	-7.4	-0.9	759	571	354	188	-7.9	-14.7
Georgia	1 600	484	534	555	-6.0	2.0	411	259	200	173	-5.0	-5.6
Kazakhstan	3 607	1 800	2 578	2 897	-1.3	7.0	628	501	426	418	-2.4	-2.5
Kyrgyzstan	1 591	372	428	429	-7.4	2.0	684	331	314	294	-4.8	-1.7
Russian Federation	4 222	2 867	2 905	3 028	-1.9	0.8	465	484	384	341	-1.8	-4.9
Tajikistan	933	405	475	524	-3.3	3.7	343	460	362	349	0.1	-3.9
Turkmenistan	3 441	2 073	2 068	2 155	-2.7	0.6			731		0.0	0.0
Uzbekistan	1 704	1 516	1 346	1 358	-1.3	-1.6	1 129	1 252	898	791	-2.1	-6.3
Pacific	**3 202**	**3 565**	**3 553**	**3 528**	**0.6**	**-0.2**	**215**	**197**	**183**	**177**	**-1.1**	**-1.5**
American Samoa												
Australia	3 309	3 629	3 676	3 641	0.6	0.0	215	197	187	180	-1.0	-1.2
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	2 667	3 252	2 940	2 965	0.6	-1.3	209	198	160	157	-1.7	-3.3
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**768**	**720**	**807**	**862**	**0.7**	**2.6**	**306**	**252**	**239**	**226**	**-1.8**	**-1.5**
LLDC	1 881	1 024	1 114	1 159	-2.8	1.8	708	637	498	418	-3.0	-5.8
LDC	149	170	194	192	1.5	1.8	275	230	214	170	-2.8	-4.3
ASEAN	416	542	614	645	2.6	2.5	237	232	224	210	-0.7	-1.4
ECO	942	829	933	1 021	0.5	3.0	274	237	226	219	-1.3	-1.2
SAARC	274	291	304	324	1.0	1.5	289	251	214	201	-2.1	-3.1
Central Asia	2 329	1 239	1 379	1 444	-2.8	2.2	689	651	498	411	-3.0	-6.4
Pacific island dev. econ.												
Low income	420	361	389	388	-0.5	1.1	483	372	316	286	-3.0	-3.7
Middle income	700	627	728	795	0.8	3.5	409	302	278	259	-2.7	-2.2
High income	2 256	2 768	2 820	2 822	1.3	0.3	150	159	149	142	-0.3	-1.6
Africa	**481**	**472**	**496**	**503**	**0.3**	**0.9**	**283**	**279**	**265**	**250**	**-0.7**	**-1.6**
Europe	**2 412**	**2 277**	**2 416**	**2 373**	**-0.1**	**0.6**	**188**	**151**	**144**	**133**	**-2.0**	**-1.7**
Latin America and Carib.	**786**	**870**	**895**	**949**	**1.1**	**1.2**	**147**	**142**	**140**	**136**	**-0.4**	**-0.6**
North America	**5 136**	**5 446**	**5 305**	**5 248**	**0.1**	**-0.5**	**243**	**211**	**192**	**184**	**-1.6**	**-1.9**
Other countries/areas	**1 346**	**1 530**	**1 643**	**1 751**	**1.6**	**1.9**	**193**	**231**	**236**	**231**	**1.0**	**0.0**
World	**1 174**	**1 126**	**1 183**	**1 214**	**0.2**	**1.1**	**238**	**204**	**196**	**186**	**-1.4**	**-1.3**

29.2 Energy use by sector

	Total final consumption			Industry			Transport			Residential use		
	Thousand tons of oil equivalent			% of total energy final consumption								
	1990	2000	2007	1990	2000	2007	1990	2000	2007	1990	2000	2007
East and North-East Asia	**1 063 675**	**1 268 381**	**1 762 812**	**36.2**	**35.0**	**41.2**	**11.9**	**15.4**	**14.4**	**32.5**	**27.2**	**21.8**
China	662 891	766 537	1 248 225	36.3	38.2	46.9	5.6	9.5	11.1	44.2	36.5	25.3
DPR Korea	27 330	17 095	15 879	71.3	66.9	67.3	5.7	3.3	2.5	0.7	0.2	0.2
Hong Kong, China	5 283	9 174	8 000	29.5	19.6	25.8	27.9	40.6	18.1	14.0	12.5	15.7
Japan	300 294	344 487	341 696	34.3	28.8	29.0	23.9	25.5	24.1	12.7	14.1	14.4
Macao, China												
Mongolia	2 971	1 507	2 207	38.8	31.3	34.3	17.6	21.7	24.1	20.5	27.3	26.1
Republic of Korea	64 907	129 581	146 804	29.7	29.2	28.1	22.5	22.7	20.6	19.9	11.6	12.6
South-East Asia	**176 842**	**276 895**	**362 119**	**21.2**	**25.4**	**29.9**	**18.4**	**22.4**	**21.3**	**49.2**	**39.0**	**33.1**
Brunei Darussalam	367	644	766	24.9	21.7	14.0	48.6	42.5	49.4	11.7	10.5	9.7
Cambodia		3 665	4 592		0.8	1.7		7.8	8.5		91.1	86.5
Indonesia	78 839	118 113	145 109	21.2	25.8	32.6	13.6	18.0	16.8	52.7	44.0	39.0
Lao PDR												
Malaysia	13 878	29 271	43 400	38.2	38.0	44.3	34.9	35.9	31.2	14.2	10.5	9.3
Myanmar	9 377	11 135	13 953	4.2	7.9	10.0	4.5	10.0	9.3	90.1	80.5	71.5
Philippines	17 971	23 938	22 870	22.0	21.3	23.6	25.5	34.4	37.9	44.1	33.8	27.7
Singapore	4 987	7 466	13 247	12.4	13.9	9.8	27.2	26.7	18.5	5.6	7.1	5.1
Thailand	28 889	49 235	69 645	29.9	34.3	33.3	31.3	29.7	26.1	27.4	17.0	15.2
Timor-Leste												
Viet Nam	22 515	33 428	48 538	7.6	13.9	21.3	6.3	11.0	16.2	83.4	70.3	56.6
South and South-West Asia	**402 872**	**549 871**	**720 702**	**26.3**	**26.0**	**27.3**	**13.6**	**14.3**	**14.9**	**46.3**	**43.4**	**39.8**
Afghanistan												
Bangladesh	10 972	15 237	19 899	8.8	12.4	15.0	5.0	6.6	8.2	70.2	61.0	58.1
Bhutan												
India	251 159	317 977	392 905	28.0	27.4	29.0	10.6	9.8	10.4	49.0	45.5	41.4
Iran (Islamic Rep. of)	53 341	92 322	144 705	27.6	22.5	23.7	24.4	26.2	24.4	23.4	32.3	32.7
Maldives												
Nepal	5 761	8 041	9 470	1.8	4.7	4.6	1.9	3.4	3.1	94.9	89.5	89.6
Pakistan	36 264	51 038	68 924	22.0	22.0	27.5	12.4	16.1	16.1	55.3	52.4	47.3
Sri Lanka	5 303	7 412	8 317	14.8	22.7	25.4	15.4	22.7	25.7	53.3	44.8	41.5
Turkey	40 072	57 846	76 482	27.2	34.1	30.9	23.0	20.3	20.9	36.3	30.4	27.1
North and Central Asia	**780 276**	**508 889**	**538 728**	**31.9**	**30.4**	**29.0**	**16.6**	**16.6**	**19.5**	**11.2**	**31.7**	**25.1**
Armenia	6 463	1 095	2 005	28.2	36.3	42.9	16.2	18.9	9.4	27.7	14.6	8.6
Azerbaijan	20 821	6 782	6 770	4.8	29.3	22.2	5.6	10.9	19.3	0.0	35.1	47.3
Georgia	8 736	2 298	2 421	42.5	16.3	11.2	15.3	15.6	29.2	24.8	52.7	36.0
Kazakhstan	59 620	26 928	44 635	45.1	44.4	37.6	9.1	12.7	9.9	0.0	7.4	6.1
Kyrgyzstan	6 993	1 845	2 294	36.0	25.0	28.7	16.3	11.7	18.2	1.2	11.0	10.5
Russian Federation	625 119	420 555	429 833	33.6	31.2	29.7	18.5	17.7	21.5	13.3	33.2	26.1
Tajikistan	4 947	2 502	3 523	20.0	16.5	16.3	11.3	28.4	42.9	2.3	11.2	7.8
Turkmenistan	12 622	9 333	10 726	2.7	1.9	2.5	7.4	7.4	8.5	0.7	1.1	1.5
Uzbekistan	34 955	37 551	36 521	5.4	21.2	21.8	5.9	10.4	9.0	0.9	39.8	41.2
Pacific	**65 576**	**82 143**	**88 361**	**33.8**	**32.6**	**34.0**	**36.7**	**36.3**	**36.3**	**13.1**	**12.7**	**13.3**
American Samoa												
Australia	56 548	69 565	75 928	34.0	34.2	34.9	37.3	36.9	35.7	13.2	13.0	13.5
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	9 028	12 578	12 433	32.4	23.9	28.5	32.8	33.3	39.9	12.4	11.0	12.0
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**2 489 242**	**2 686 180**	**3 472 722**	**32.1**	**31.2**	**35.1**	**14.8**	**16.8**	**16.6**	**26.7**	**32.1**	**27.0**
LLDC	155 153	95 585	118 153	23.6	25.4	25.2	6.4	11.0	10.9	5.5	28.9	26.1
LDC	26 111	38 078	47 915	5.6	8.3	10.2	4.1	7.0	7.6	82.8	75.6	71.0
ASEAN	176 842	276 895	362 119	21.2	25.4	29.9	18.4	22.4	21.3	49.2	39.0	33.1
ECO	269 635	286 147	394 580	24.9	26.1	26.5	14.1	18.8	18.8	17.7	32.9	31.0
SAARC	309 459	399 703	499 516	25.9	25.6	27.6	10.5	10.6	11.2	51.6	47.8	43.8
Central Asia	155 157	88 334	108 896	25.2	26.9	26.5	8.8	11.6	11.7	2.9	24.1	20.8
Pacific island dev. econ.												
Low income	122 851	130 499	154 670	22.8	21.6	22.7	6.4	9.0	11.1	33.4	51.9	49.8
Middle income	1 924 958	1 982 186	2 719 178	32.4	32.4	37.1	12.8	14.4	15.1	31.9	36.3	28.7
High income	441 433	573 495	598 874	33.2	29.1	29.0	25.7	26.7	24.9	13.7	13.2	13.6
Africa	**288 779**	**368 898**	**462 207**	**21.0**	**18.2**	**18.3**	**12.7**	**14.1**	**14.7**	**53.6**	**54.6**	**54.2**
Europe	**1 379 540**	**1 318 129**	**1 394 800**	**32.7**	**27.2**	**26.0**	**21.4**	**25.0**	**26.3**	**23.7**	**25.5**	**23.5**
Latin America and Carib.	**345 726**	**451 289**	**538 414**	**33.4**	**33.1**	**33.1**	**30.0**	**31.6**	**33.4**	**20.1**	**18.0**	**16.8**
North America	**1 451 352**	**1 734 653**	**1 792 813**	**22.7**	**22.3**	**19.5**	**36.6**	**36.9**	**38.7**	**16.4**	**17.0**	**16.7**
Other countries/areas	**134 662**	**209 126**	**286 479**	**31.9**	**33.1**	**28.0**	**33.0**	**29.1**	**28.4**	**10.5**	**11.7**	**11.7**
World	**6 292 865**	**7 037 187**	**8 286 068**	**28.6**	**26.6**	**27.5**	**25.1**	**27.6**	**27.7**	**24.2**	**25.6**	**23.4**

29.3 Energy balances

	Primary production			Imports			Exports			Energy supply		
	Million tons of oil equivalent											
	1990	2000	2007	1990	2000	2007	1990	2000	2007	1990	2000	2007
East and North-East Asia	**1 015.8**	**1 220.1**	**1 970.2**	**482.7**	**759.8**	**947.3**	**54.1**	**118.3**	**130.6**	**1 439.7**	**1 833.9**	**2 726.7**
China	886.3	1 061.0	1 814.0	7.7	96.9	237.3	42.7	69.0	70.6	863.1	1 092.2	1 955.8
DPR Korea	28.9	18.8	19.7	4.6	1.3	1.1	0.3	0.2	2.4	33.2	19.8	18.4
Hong Kong, China				14.1	21.2	28.3	2.1	1.9	1.5	8.8	13.1	13.7
Japan	75.1	105.8	90.5	381.5	434.0	450.2	5.0	6.2	15.5	438.1	517.7	513.5
Macao, China												
Mongolia	2.7	1.9	3.6	0.9	0.5	0.8	0.2	0.0	1.2	3.4	2.4	3.1
Republic of Korea	22.8	32.6	42.5	73.9	206.0	229.6	3.8	40.9	39.3	93.1	188.9	222.2
South-East Asia	**313.6**	**466.2**	**628.9**	**115.6**	**196.2**	**286.7**	**168.0**	**243.6**	**369.4**	**242.9**	**389.1**	**513.3**
Brunei Darussalam	15.6	19.7	20.2				13.8	17.3	17.4	1.8	2.5	2.8
Cambodia		3.2	3.6		0.8	1.5					4.0	5.1
Indonesia	170.0	235.5	331.1	9.7	24.0	37.5	76.3	108.0	177.1	102.5	150.9	190.6
Lao PDR												
Malaysia	50.3	80.4	94.4	9.5	16.2	31.8	36.4	44.9	51.6	22.7	49.7	72.6
Myanmar	10.7	15.4	23.9	0.0	1.4	1.0	0.0	4.4	9.1	10.7	12.5	15.6
Philippines	15.7	20.1	22.4	13.2	23.4	20.8	0.7	1.8	2.2	27.5	41.0	40.0
Singapore				61.4	82.6	122.0	36.9	41.7	68.0	11.5	19.3	26.8
Thailand	26.5	43.9	59.4	18.8	36.9	57.3	0.8	6.9	9.4	42.0	72.2	104.0
Timor-Leste												
Viet Nam	24.7	48.1	73.9	3.0	8.9	14.6	3.1	18.6	34.6	24.3	37.1	55.8
South and South-West Asia	**551.4**	**705.2**	**899.8**	**86.0**	**183.9**	**324.7**	**123.3**	**137.5**	**206.3**	**506.2**	**749.8**	**1 007.7**
Afghanistan												
Bangladesh	10.8	15.2	21.3	2.3	3.5	4.8	0.1	0.1	0.1	12.7	18.6	25.8
Bhutan												
India	291.1	364.3	450.9	34.5	100.3	191.7	2.8	8.8	41.6	318.2	457.4	594.9
Iran (Islamic Rep. of)	179.8	240.9	323.1	7.4	4.8	18.9	117.9	126.3	156.7	68.3	117.9	184.9
Maldives												
Nepal	5.5	7.1	8.5	0.3	1.0	1.1	0.0	0.0	0.0	5.8	8.1	9.6
Pakistan	34.2	47.0	63.6	9.6	18.1	21.6	0.3	0.8	1.4	42.9	63.2	83.3
Sri Lanka	4.2	4.7	5.1	1.9	4.0	4.4	0.2	0.1	0.0	5.5	8.3	9.3
Turkey	25.8	25.9	27.3	30.0	52.2	82.1	2.0	1.3	6.3	52.8	76.3	100.0
North and Central Asia	**1 512.1**	**1 171.0**	**1 549.8**	**214.0**	**49.1**	**49.4**	**655.6**	**474.1**	**754.3**	**1 067.5**	**736.9**	**830.3**
Armenia	0.1	0.6	0.8	7.8	1.5	2.1	0.1	0.1	0.0	7.7	2.0	2.8
Azerbaijan	21.3	19.0	52.1	17.1	0.4	0.1	12.4	7.8	39.7	25.8	11.4	11.9
Georgia	1.8	1.3	1.1	11.8	1.7	2.4	1.3	0.1	0.1	12.1	2.9	3.3
Kazakhstan	90.5	80.0	136.0	32.2	8.2	16.0	49.0	48.1	85.7	72.7	40.3	66.5
Kyrgyzstan	2.5	1.4	1.4	6.6	1.2	1.8	1.5	0.3	0.3	7.6	2.4	2.9
Russian Federation	1 280.3	966.5	1 230.6	118.8	31.5	22.2	527.7	378.7	566.6	870.0	610.1	672.1
Tajikistan	2.0	1.3	1.6	4.3	1.9	2.7	0.7	0.4	0.4	5.6	2.9	3.9
Turkmenistan	74.9	46.0	66.1	3.0	0.1	0.1	58.2	31.5	48.1	19.6	14.5	18.1
Uzbekistan	38.6	54.9	60.1	12.5	2.5	1.9	4.7	7.1	13.2	46.4	50.4	48.7
Pacific	**169.5**	**248.7**	**303.2**	**18.2**	**32.3**	**43.9**	**80.6**	**156.1**	**195.9**	**99.5**	**125.7**	**140.8**
American Samoa												
Australia	157.5	234.4	289.2	14.4	26.4	36.4	78.9	153.5	192.6	86.2	108.9	124.1
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	12.0	14.3	14.0	3.8	5.9	7.6	1.7	2.6	3.2	13.3	16.8	16.8
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**3 562.3**	**3 811.2**	**5 351.9**	**916.6**	**1 221.3**	**1 651.9**	**1 081.7**	**1 129.4**	**1 656.4**	**3 355.8**	**3 835.5**	**5 218.8**
LLDC	238.2	212.2	330.1	64.6	17.4	26.7	126.8	95.3	188.8	194.6	134.4	167.4
LDC	26.9	40.9	57.3	2.6	6.8	8.5	0.2	4.4	9.3	29.2	43.2	56.1
ASEAN	313.6	466.2	628.9	115.6	196.2	286.7	168.0	243.6	369.4	242.9	389.1	513.3
ECO	469.7	516.3	731.2	122.6	89.5	145.3	246.7	223.6	352.0	341.7	379.3	520.2
SAARC	345.6	438.4	549.4	48.6	126.9	223.6	3.5	9.8	43.2	385.1	555.6	722.6
Central Asia	231.8	204.5	319.1	95.2	17.5	27.1	128.0	95.4	187.6	197.5	126.8	158.1
Pacific island dev. econ.												
Low income	123.7	165.4	214.0	33.6	22.6	30.6	10.6	31.0	60.2	146.2	155.7	185.8
Middle income	3 155.6	3 238.9	4 681.4	333.9	422.5	747.3	928.6	834.3	1 268.6	2 556.8	2 812.7	4 113.2
High income	283.0	406.8	456.4	549.2	776.1	874.0	142.2	264.1	337.6	652.7	867.2	919.8
Africa	**684.1**	**883.7**	**1 128.7**	**46.9**	**80.5**	**106.0**	**338.5**	**455.9**	**594.5**	**387.7**	**499.6**	**629.0**
Europe	**1 240.9**	**1 287.1**	**1 197.0**	**1 371.2**	**1 394.9**	**1 616.5**	**520.8**	**667.7**	**703.6**	**2 026.9**	**1 927.9**	**2 018.7**
Latin America and Carib.	**620.7**	**846.6**	**956.3**	**109.7**	**176.0**	**215.3**	**248.5**	**401.4**	**413.2**	**464.3**	**603.9**	**734.6**
North America	**1 923.2**	**2 047.9**	**2 078.4**	**498.9**	**773.7**	**922.7**	**215.2**	**293.7**	**358.5**	**2 121.8**	**2 534.4**	**2 609.3**
Other countries/areas	**757.8**	**1 084.9**	**1 217.1**	**80.8**	**133.1**	**209.4**	**616.8**	**846.8**	**912.4**	**201.1**	**347.7**	**479.0**
World	**8 796.7**	**9 968.9**	**11 939.5**	**3 027.5**	**3 783.2**	**4 728.6**	**3 026.3**	**3 798.8**	**4 645.5**	**8 761.7**	**10 018.7**	**12 029.3**

29.4 Electricity production and household consumption

	Gross electricity production				Growth rate		Household electricity consumption per capita				Growth rate	
	Million kilowatt-hours				% per annum		Kilowatt-hours				% per annum	
	1990	2000	2005	2007	90-07	00-07	1990	2000	2005	2007	90-07	00-07
East and North-East Asia	**1 628 728**	**2 758 300**	**4 052 128**	**4 904 569**	**6.7**	**8.6**	**194**	**325**	**419**	**475**	**5.4**	**5.5**
China	621 204	1 356 240	2 499 564	3 279 233	10.3	13.4	42	132	215	273	11.6	10.9
DPR Korea	27 700	19 400	22 913	21 523	-1.5	1.5						
Hong Kong, China	28 938	31 331	38 451	38 952	1.8	3.2	927	1 343	1 445	1 456	2.7	1.2
Japan	842 044	1 058 203	1 098 298	1 133 711	1.8	1.0	1 495	2 035	2 221	2 284	2.5	1.7
Macao, China												
Mongolia	3 471	3 000	3 512	3 833	0.6	3.6	213	216	275	316	2.4	5.6
Republic of Korea	105 371	290 126	389 390	427 317	8.6	5.7	413	799	1 070	1 130	6.1	5.1
South-East Asia	**156 022**	**369 502**	**502 809**	**568 416**	**7.9**	**6.3**	**69**	**182**	**233**	**255**	**8.0**	**4.9**
Brunei Darussalam	1 172	2 543	3 264	3 395	6.5	4.2	1 300	1 568	1 065	878	-2.3	-7.9
Cambodia		451	880	1 349	11.9	16.9		17	28	43	12.1	14.4
Indonesia	33 336	92 640	127 389	142 236	8.9	6.3	48	149	188	211	9.0	5.1
Lao PDR												
Malaysia	23 016	69 257	84 841	101 325	9.1	5.6		467	633	700	2.4	5.3
Myanmar	2 478	5 118	6 015	6 501	5.8	3.5	15	28	30	35	4.9	3.3
Philippines	27 448	45 290	56 568	59 611	4.7	4.0	90	166	188	185	4.3	1.5
Singapore	15 714	31 665	38 213	41 134	5.8	3.8	793	1 425	1 582	1 521	3.9	0.9
Thailand	44 177	95 977	132 197	143 378	7.2	5.9	143	312	388	419	6.5	4.3
Timor-Leste												
Viet Nam	8 681	26 561	53 462	69 487	13.0	14.7	35	142	232	273	12.9	9.8
South and South-West Asia	**455 516**	**901 070**	**1 169 893**	**1 331 729**	**6.5**	**5.7**	**56**	**107**	**133**	**151**	**6.0**	**5.1**
Afghanistan												
Bangladesh	7 732	15 771	22 643	24 378	7.0	6.4	11	39	56	60	10.7	6.2
Bhutan												
India	289 438	562 196	699 126	803 409	6.2	5.2	37	73	89	104	6.2	5.3
Iran (Islamic Rep. of)	59 102	121 393	180 390	203 986	7.6	7.7	306	467	625	705	5.0	6.0
Maldives												
Nepal	878	1 659	2 622	2 606	7.1	7.8	14	22	30	30	4.7	4.7
Pakistan	37 673	68 125	93 832	95 691	5.6	5.0	81	154	185	195	5.3	3.4
Sri Lanka	3 150	7 004	9 324	9 901	7.0	5.1	38	110	147	160	8.8	5.6
Turkey	57 543	124 922	161 956	191 558	7.3	6.3	162	359	435	500	6.9	4.8
North and Central Asia	**1 321 630**	**1 048 086**	**1 149 835**	**1 227 928**	**-0.4**	**2.3**	**622**	**803**	**672**	**694**	**0.7**	**-2.1**
Armenia	10 362	5 958	6 317	5 898	-3.3	-0.1	577	507	662	575	0.0	1.6
Azerbaijan	23 200	18 699	21 218	24 211	0.3	3.8		1 389	1 331	966	9.0	-5.1
Georgia	13 724	7 424	7 267	8 329	-2.9	1.7	532	561	663	641	1.1	1.9
Kazakhstan	87 379	51 324	67 916	76 596	-0.8	5.9		319	410	452	-0.4	5.1
Kyrgyzstan	15 732	15 983	16 415	16 237	0.2	0.2	224	474	565	526	5.1	1.5
Russian Federation	1 082 152	877 766	953 086	1 015 333	-0.4	2.1	722	959	761	817	0.7	-2.3
Tajikistan	18 146	14 247	17 090	17 494	-0.2	3.0	245	527	484	477	4.0	-1.4
Turkmenistan	14 610	9 845	12 820	14 880	0.1	6.1	278	272	323	365	1.6	4.3
Uzbekistan	56 325	46 840	47 706	48 950	-0.8	0.6	173	291	271	272	2.7	-1.0
Pacific	**187 349**	**246 980**	**288 631**	**298 810**	**2.8**	**2.8**	**2 383**	**2 609**	**2 991**	**3 068**	**1.5**	**2.3**
American Samoa												
Australia	155 077	207 757	245 495	254 965	3.0	3.0	2 255	2 544	2 987	3 070	1.8	2.7
Cook Islands												
Fiji												
French Polynesia												
Guam												
Kiribati												
Marshall Islands												
Micronesia (F.S.)												
Nauru												
New Caledonia												
New Zealand	32 272	39 223	43 136	43 845	1.8	1.6	3 032	2 930	3 006	3 057	0.0	0.6
Niue												
Northern Mariana Islands												
Palau												
Papua New Guinea												
Samoa												
Solomon Islands												
Tonga												
Tuvalu												
Vanuatu												
Asia and the Pacific	**3 749 245**	**5 323 938**	**7 163 296**	**8 331 452**	**4.8**	**6.6**	**164**	**259**	**304**	**336**	**4.3**	**3.8**
LLDC	230 103	167 555	195 616	210 905	-0.5	3.3		350	358	333		-0.7
LDC	11 088	22 999	32 160	35 034	7.0	6.2	12	34	46	50	8.8	6.0
ASEAN	156 022	369 502	502 809	568 416	7.9	6.3	69	182	233	255	8.0	4.9
ECO	369 710	471 378	619 343	689 603	3.7	5.6	162	313	369	392	5.3	3.3
SAARC	338 871	654 755	827 547	936 185	6.2	5.2	38	77	96	109	6.3	5.0
Central Asia	239 478	170 320	196 749	212 595	-0.7	3.2		481	499	464		-0.5
Pacific island dev. econ.												
Low income	137 672	146 030	189 746	208 725	2.5	5.2	38	93	120	132	7.7	5.1
Middle income	2 430 985	3 517 060	5 117 303	6 179 408	5.6	8.4	93	177	216	250	6.0	5.1
High income	1 180 588	1 660 848	1 856 247	1 943 319	3.0	2.3	1 322	1 787	2 011	2 070	2.7	2.1
Africa	**317 829**	**444 161**	**565 887**	**618 066**	**4.0**	**4.8**	**117**	**140**	**178**	**189**	**2.9**	**4.3**
Europe	**3 195 248**	**3 505 211**	**3 806 739**	**3 876 482**	**1.1**	**1.4**	**1 210**	**1 436**	**1 553**	**1 562**	**1.5**	**1.2**
Latin America and Carib.	**616 378**	**981 364**	**1 153 421**	**1 264 333**	**4.3**	**3.7**	**293**	**404**	**434**	**474**	**2.9**	**2.3**
North America	**3 700 773**	**4 658 194**	**4 919 994**	**4 988 697**	**1.8**	**1.0**	**3 730**	**4 178**	**4 507**	**4 528**	**1.1**	**1.2**
Other countries/areas	**281 441**	**542 994**	**701 928**	**775 841**	**6.1**	**5.2**	**1 116**	**1 507**	**1 794**	**1 989**	**3.5**	**4.1**
World	**11 860 914**	**15 455 862**	**18 311 265**	**19 854 871**	**3.1**	**3.6**	**499**	**604**	**665**	**693**	**1.9**	**2.0**

30 Natural disasters

Disasters inflict enormous economic and social costs – siphoning off resources that could otherwise be used to promote social progress and reduce poverty. In Asia and the Pacific, they have hit with a particular force and increased frequency.

Many countries Asia and the Pacific are prone to many types of disasters and these appear to be becoming more lethal. Disasters threaten aspirations and hamper the achievement of the Millennium Development Goals.

In Asia and the Pacific the greatest damage is caused by storms and earthquakes – and 2009 was another disastrous year. From January to September 2009, there were 42 disasters, of which 16 were floods, following tropical storms which killed more than 980 people. By November 2009, these disasters had affected more than 6,866,181 people, left 155,850 homeless, and caused more than $227 million in economic damage. The death toll is, however, much smaller than last year, when two major disasters, the Sichuan earthquake and Cyclone Nargis, struck the region killing 232,255 people.

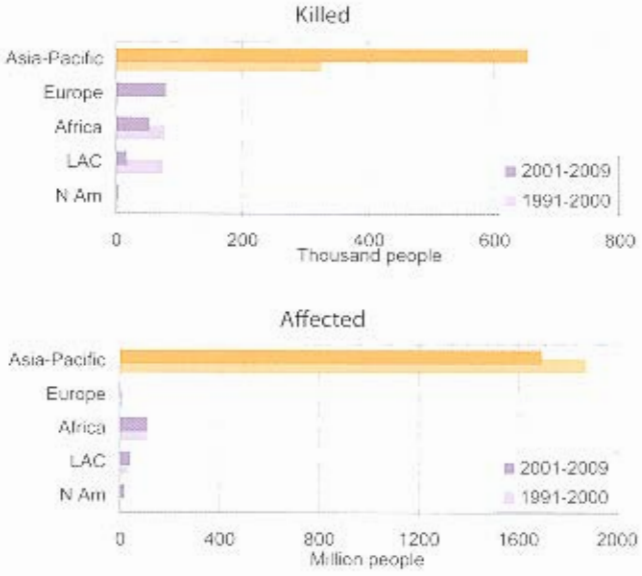
During the third Quarter of 2009, a number of disasters devastated many countries in a very short time. From 29 September, Typhoon Ketsana caused at least 295 deaths in the Philippines, 163 deaths in Viet Nam, 17 deaths in The Lao People's Democratic Republic, and 14 deaths in Cambodia, along with significant damage to property. A few days later, Typhoon Parma caused 304 deaths in the Philippines after landslides and floods in Central and Northern Luzon Island. Damages to crops and infrastructure were estimated at $110 million. In Vietnam, Typhoon Parma sank 64 boats and unroofed 80 houses.

While people in the Philippines were suffering from Typhoon Ketsana, on the same day, 29 September, a tsunami killed at least 132 people in Samoa and left 10,000 people homeless. The next day, a massive earthquake rocked the Indonesian island of Sumatra, resulting in at least 706 deaths, leaving 295 people missing, and causing severe damage to 100,000 houses and 900 schools.

India too has been hit by disasters. According to the International Federation of the Red Cross, severe flooding in 2009 killed almost 1,000 people, damaged tens of thousands of houses, and devastated large swathes of farmland. The annual monsoon rains forced reservoirs to release massive volumes of water into already burgeoning rivers, bursting banks and submerging villages and crops in low-lying areas in the east of the country.

Figure 30.1

People affected by natural disasters, global regions, 1991-2000 and 2001-2009



Prevention Web, an information service provided by the United Nations International Strategy for Disaster Reduction (UN/ISDR), has estimated that in Asia, from 1980 to 2008, 3,341 disasters killed 1,144,006 people with an annual average of 39,448 deaths. During the same period, disasters affected 4.75 billion people and caused around $674-billion worth of damage. Earthquakes were the biggest killer, causing 466,000

deaths, followed by tropical storms, which caused 277,000 deaths. Earthquakes also caused the great economic loss, $194 billion, followed by flooding, $58 billion. Flooding did not kill as many people but it did affect the highest number of people – 1.2 billion.

The non-governmental organization, WWF (World Wildlife Fund), says that climate change is threatening 163 rare species in the Greater Mekong Region – which spans Cambodia, The Lao People's Democratic Republic, Myanmar, Thailand, Viet Nam and China's Yunnan Province. Frequent droughts and floods induced by climate change, plus sea-level rise, would spell danger for species in what WWF called "one of the world's last biological frontiers."

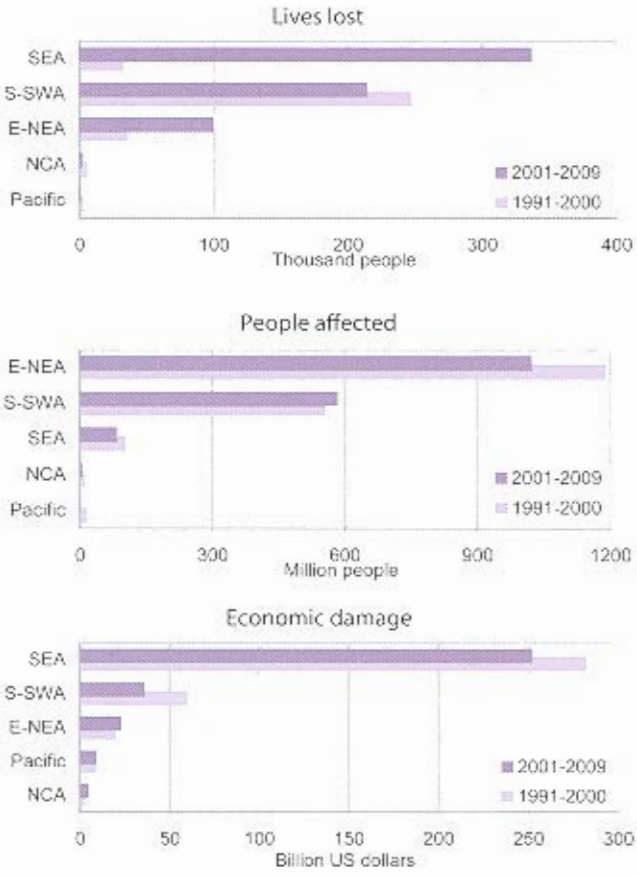
Australia too has recently been affected by a series of disasters. In February 2009, many parts of the country were declared disaster zones, following widespread floods. Parts of New South Wales state were also declared natural disaster zones after storms triggered floods that cut off towns and caused $3.9 million in damages. Meanwhile, in the south, more than 400 wildfires swept through the state of Victoria, killing more than 200 people, destroying 1,800 houses, and burning 3,885 square-kilometres of farmlands, forests and towns.

The Asia-Pacific Region can do much more to reduce disaster risks. The Hyogo Framework for Action, 2005-2015 emphasizes the importance of proactive action. Although the region has the necessary advanced scientific and technical knowledge this is not widely recognized or used due to limited access and resources. The ESCAP Committee on Disaster Risk Reduction in its first session in March 2009 agreed therefore to take action to remedy these deficiencies.

One such action, in cooperation with key partners, will be to develop the "Asia-Pacific gateway on disaster risk reduction and development". This is a web-based platform to provide useful information on disaster risk reduction to policy makers. Another one is to develop the biennial Asia-Pacific Disaster Report, jointly with UN/ISDR and partners in the region. This will be the first attempt to produce a comprehensive regional report that should help countries implement measures for disaster risk reduction.

Figure 30.2

Cumulative impact of natural disasters by subregion, 1991-2000 and 2001-2009



Deaths caused by natural disasters (cumulative number over the period; per 100,000 population)
The number of deaths recorded due to natural disasters, (expressed as a cumulative number over five-years periods); and divided by total population during the same period, (expressed as per 100,000 population). **Aggregates:** Calculated by ESCAP as the sum of individual country values and divided by total population. **Source:** EM-DAT: Emergency Events Database. Online database accessed on 1 September 2009.

People affected by natural disasters (cumulative number over the period in thousands; per 100,000 population)
The total number of people affected by natural disasters over a five-year period. Affected people are people requiring immediate assistance during a period of emergency, such as food, water, shelter, sanitation and immediate medical assistance. The definition includes cases of an infectious disease introduced in a region or a population that is usually free from that disease. **Aggregates:** Calculated by ESCAP as the sum of individual country values (expressed as a cumulative number over five-years periods); and divided by total population during the same period, (expressed as per 100,000 population). **Source:** EM-DAT: Emergency Events Database. Online database accessed on 1 September 2009.

Economic damage (million US dollars)
Estimated Damage: The economic impact of a disaster usually consists of direct (e.g. damage to infrastructure, crops, housing) and indirect (e.g. loss of revenues, unemployment, market destabilization) consequences on the local economy. For each disaster, the registered figure corresponds to the damage value at the moment of the event, i.e. the figures are shown true to the year of the event. **Aggregates:** Calculated by ESCAP as the sum of individual country values. **Source:** EM-DAT: Emergency Events Database. Online database accessed on 1 September 2009.

30.1 Natural disasters, mortality

	Deaths caused by natural disasters					Natural disasters mortality ratio				
	Cumulative number over the period					Per 100,000 population				
	91-95	96-00	01-05	2007	2008	91-95	96-00	01-05	2007	2008
East and North-East Asia	**20 353**	**15 559**	**7 433**	**1 881**	**88 543**	**0.3**	**0.2**	**0.1**	**0.1**	**5.7**
China	14 045	14 151	5 690	1 161	88 450	0.2	0.2	0.1	0.1	6.6
DPR Korea	74	254	344	610	0	0.1	0.2	0.3	2.6	0.0
Hong Kong, China	38	83	303	0	2	0.1	0.3	0.9	0.0	0.0
Japan	5 903	223	573	87	29	0.9	0.0	0.1	0.1	0.0
Macao, China	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Mongolia	18	97	34	0	52	0.2	0.8	0.3	0.0	2.0
Republic of Korea	275	751	489	23	10	0.1	0.3	0.2	0.0	0.0
South-East Asia	**18 048**	**14 901**	**183 575**	**1 838**	**139 925**	**0.8**	**0.6**	**6.8**	**0.3**	**24.3**
Brunei Darussalam	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Cambodia	656	987	108	184	0	1.2	1.6	0.2	1.3	0.0
Indonesia	4 138	3 757	169 340	979	144	0.4	0.4	15.9	0.4	0.1
Lao PDR	743	89	2	2	6	3.3	0.3	0.0	0.0	0.1
Malaysia	385	552	143	102	0	0.4	0.5	0.1	0.4	0.0
Myanmar	96	90	396	35	138 366	0.0	0.0	0.2	0.1	279.2
Philippines	9 857	2 114	3 381	129	959	2.9	0.6	0.8	0.1	1.1
Singapore	0	3	33	0	0	0.0	0.0	0.2	0.0	0.0
Thailand	494	523	6 905	53	39	0.2	0.2	2.8	0.1	0.1
Timor-Leste	0	0	25	1	0	0.0	0.0	0.5	0.1	0.0
Viet Nam	1 679	6 786	1 242	353	411	0.5	1.8	0.3	0.4	0.5
South and South-West Asia	**179 650**	**67 881**	**198 485**	**9 454**	**3 674**	**2.7**	**0.9**	**2.5**	**0.6**	**0.2**
Afghanistan	2 807	8 352	5 305	296	1 334	3.6	8.5	4.7	1.1	4.9
Bangladesh	145 422	3 719	3 076	5 721	68	23.6	0.5	0.4	3.6	0.0
Bhutan	39	200	0	0	0	1.5	7.5	0.0	0.0	0.0
India	20 761	29 486	49 021	2 236	1 808	0.5	0.6	0.9	0.2	0.2
Iran (Islamic Rep. of)	1 031	3 242	28 393	24	56	0.3	1.0	8.2	0.0	0.1
Maldives	0	0	102	0	0	0.0	0.0	7.2	0.0	0.0
Nepal	3 609	2 340	1 257	214	115	3.5	2.0	1.0	0.8	0.4
Pakistan	4 510	2 237	75 231	911	249	0.7	0.3	9.5	0.5	0.1
Sri Lanka	118	68	35 646	33	42	0.1	0.1	37.1	0.2	0.2
Turkey	1 353	18 237	452	19	2	0.5	5.7	0.1	0.0	0.0
North and Central Asia	**5 339**	**1 129**	**1 707**	**51**	**88**	**0.5**	**0.1**	**0.2**	**0.0**	**0.0**
Armenia	0	4	1	0	0	0.0	0.0	0.0	0.0	0.0
Azerbaijan	5	55	0	0	0	0.0	0.1	0.0	0.0	0.0
Georgia	10	7	7	0	0	0.0	0.0	0.0	0.0	0.0
Kazakhstan	122	7	54	0	1	0.2	0.0	0.1	0.0	0.0
Kyrgyzstan	220	34	90	0	74	1.0	0.1	0.4	0.0	1.4
Russian Federation	3 366	647	1 488	2	13	0.5	0.1	0.2	0.0	0.0
Tajikistan	1 606	300	67	49	0	5.7	1.0	0.2	0.7	0.0
Turkmenistan	0	11	0	0	0	0.0	0.1	0.0	0.0	0.0
Uzbekistan	10	64	0	0	0	0.0	0.1	0.0	0.0	0.0
Pacific	**384**	**2 751**	**354**	**242**	**25**	**0.3**	**1.8**	**0.2**	**0.7**	**0.1**
American Samoa	0	0	6	0	0	0.0	0.0	2.0	0.0	0.0
Australia	65	71	40	11	8	0.1	0.1	0.0	0.1	0.0
Cook Islands	0	19	0	0	0	0.0	21.2	0.0	0.0	0.0
Fiji	22	41	34	7	7	0.6	1.0	0.8	0.8	0.8
French Polynesia	0	13	0	0	0	0.0	1.1	0.0	0.0	0.0
Guam	1	0	5	0	0	0.1	0.0	0.6	0.0	0.0
Kiribati	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Marshall Islands	0	6	0	0	0	0.0	2.3	0.0	0.0	0.0
Micronesia (F.S.)	0	19	48	0	0	0.0	3.5	8.9	0.0	0.0
Nauru										
New Caledonia	0	0	2	0	0	0.0	0.0	0.2	0.0	0.0
New Zealand	0	4	6	0	0	0.0	0.0	0.0	0.0	0.0
Niue	0	1	1	0	0	0.0	10.1	11.5	0.0	0.0
Northern Mariana Islands	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Palau										
Papua New Guinea	273	2 433	198	172	10	1.2	9.5	0.7	2.7	0.2
Samoa	13	0	10	0	0	1.6	0.0	1.1	0.0	0.0
Solomon Islands	4	0	0	52	0	0.2	0.0	0.0	10.4	0.0
Tonga	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Tuvalu	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Vanuatu	6	144	4	0	0	0.7	15.8	0.4	0.0	0.0
Asia and the Pacific	**223 774**	**102 221**	**391 554**	**13 466**	**232 255**	**1.3**	**0.6**	**2.0**	**0.3**	**5.6**
LLDC	9 179	11 553	6 810	561	1 582	1.7	2.0	1.1	0.4	1.2
LDC	153 395	15 921	10 285	6 505	139 889	14.0	1.3	0.8	2.3	48.3
ASEAN	18 048	14 901	183 550	1 837	139 925	0.8	0.6	6.8	0.3	24.4
ECO	11 664	32 539	109 592	1 299	1 716	0.7	1.8	5.7	0.3	0.4
SAARC	177 266	46 402	169 640	9 411	3 618	2.9	0.7	2.3	0.6	0.2
Central Asia	1 973	482	219	49	75	0.6	0.1	0.1	0.1	0.1
Pacific island dev. econ.	319	2 676	308	231	17	0.9	6.9	0.7	2.5	0.2
Low income	156 922	23 015	11 887	7 464	140 374	9.2	1.2	0.6	1.7	32.1
Middle income	60 570	78 038	378 215	5 881	91 832	0.4	0.5	2.3	0.2	2.6
High income	6 282	1 148	1 451	121	49	0.6	0.1	0.1	0.1	0.0
Africa	**25 898**	**52 070**	**29 602**	**5 789**	**7 297**	**0.7**	**1.3**	**0.7**	**0.6**	**0.7**
Europe	**1 040**	**2 200**	**73 924**	**817**	**234**	**0.0**	**0.1**	**2.5**	**0.1**	**0.0**
Latin America and Carib.	**18 122**	**56 520**	**13 291**	**1 702**	**1 630**	**0.8**	**2.2**	**0.5**	**0.3**	**0.3**
North America	**1 961**	**1 689**	**3 070**	**339**	**303**	**0.1**	**0.1**	**0.2**	**0.1**	**0.1**
Other countries/areas	**209**	**3 237**	**865**	**222**	**159**	**0.0**	**0.6**	**0.1**	**0.2**	**0.1**
World	**271 004**	**217 947**	**512 314**	**22 335**	**241 878**	**1.0**	**0.7**	**1.6**	**0.3**	**3.6**

30.2 Natural disasters, affected population

	People affected by natural disasters					People affected by natural disasters, ratio				
	Cumulative number over the period in thousands					Per 100,000 population				
	91-95	96-00	01-05	2007	2008	91-95	96-00	01-05	2007	2008
East and North-East Asia	**619 788**	**570 086**	**680 531**	**121 107**	**132 546**	**8 961**	**7 868**	**9 061**	**7 873**	**8 569**
China	613 487	563 896	678 155	120 042	132 493	10 354	9 055	10 476	9 032	9 907
DPR Korea	5 703	3 799	204	1 000	0	5 406	3 386	175	4 214	0
Hong Kong, China	7	0	5	0	0	22	1	15	0	0
Japan	465	766	831	64	50	75	121	131	50	39
Macao, China	1	0	0	0	0	60	0	0	0	0
Mongolia	100	1 526	846	0	3	886	13 075	6 806	0	119
Republic of Korea	25	99	490	1	0	12	43	208	2	0
South-East Asia	**38 427**	**63 932**	**34 986**	**5 352**	**23 849**	**1 657**	**2 545**	**1 297**	**941**	**4 143**
Brunei Darussalam	0	0	0	0	0	0	0	0	0	0
Cambodia	6 059	5 399	4 689	36	0	11 311	8 824	6 983	251	0
Indonesia	4 481	2 885	1 802	1 211	484	482	289	169	539	213
Lao PDR	1 429	900	603	0	204	6 258	3 479	2 119	0	3 291
Malaysia	24	50	140	138	8	24	45	113	518	30
Myanmar	449	104	63	162	2 400	211	45	26	330	4 842
Philippines	14 470	20 227	11 081	2 023	8 404	4 323	5 423	2 691	2 280	9 302
Singapore	0	2	0	0	0	0	11	1	0	0
Thailand	10 163	15 031	10 294	183	11 572	3 454	4 893	3 192	273	17 173
Timor-Leste	0	0	4	0	0	0	0	86	0	0
Viet Nam	1 352	19 336	6 310	1 600	776	385	5 059	1 540	1 858	891
South and South-West Asia	**254 739**	**300 735**	**495 358**	**64 193**	**14 067**	**3 806**	**4 077**	**6 153**	**3 740**	**807**
Afghanistan	241	2 814	548	27	453	305	2 861	481	102	1 663
Bangladesh	53 242	28 216	41 014	23 160	600	8 650	4 159	5 533	14 681	375
Bhutan	66	0	0	0	0	2 514	0	0	0	0
India	185 791	222 676	436 885	38 143	11 589	4 054	4 423	7 975	3 275	981
Iran (Islamic Rep. of)	844	37 236	1 890	160	22	280	11 443	546	221	30
Maldives	0	0	12	2	0	0	0	844	548	0
Nepal	660	230	1 102	641	250	642	198	890	2 265	868
Pakistan	12 420	4 862	10 274	1 653	366	1 994	690	1 295	954	207
Sri Lanka	785	1 077	3 056	406	788	878	1 161	3 183	2 042	3 928
Turkey	690	3 624	518	3	0	233	1 126	150	4	0
North and Central Asia	**2 920**	**7 569**	**2 360**	**39**	**2 821**	**269**	**694**	**217**	**18**	**1 297**
Armenia	0	319	0	0	0	0	2 047	0	0	0
Azerbaijan	1 503	778	30	0	0	3 973	1 946	72	0	0
Georgia	2	696	21	0	0	9	2 662	94	0	0
Kazakhstan	30	611	65	0	13	37	799	86	0	84
Kyrgyzstan	149	2	1	1	3	651	8	2	16	55
Russian Federation	1 102	1 305	1 823	14	5	148	177	252	10	4
Tajikistan	84	3 257	419	24	2 800	298	10 822	1 313	359	40 059
Turkmenistan	0	0	0	0	0	2	0	0	0	0
Uzbekistan	50	600	2	0	0	45	499	1	0	0
Pacific	**15 546**	**1 591**	**247**	**172**	**105**	**11 030**	**1 050**	**152**	**498**	**302**
American Samoa	0	0	20	0	0	0	0	6 588	0	0
Australia	14 969	664	22	6	20	16 894	709	22	27	97
Cook Islands	0	1	1	0	0	0	919	1 463	0	0
Fiji	152	267	36	1	0	4 060	6 765	871	116	0
French Polynesia	0	1	0	0	0	0	44	0	0	0
Guam	0	1	11	0	0	0	185	1 293	0	0
Kiribati	0	84	0	0	0	0	20 699	0	0	0
Marshall Islands	0	0	0	0	1	0	84	0	0	989
Micronesia (F.S.)	0	32	7	0	0	0	5 993	1 348	0	0
Nauru										
New Caledonia	0	0	0	0	0	0	0	38	0	0
New Zealand	0	3	6	0	0	3	15	29	7	0
Niue	0	0	0	0	0	0	2 994	2 299	0	0
Northern Mariana	0	0	0	0	0	0	0	0	0	0
Palau										
Papua New Guinea	245	519	59	162	75	1 096	2 031	202	2 525	1 145
Samoa	85	0	0	0	0	10 285	0	0	0	0
Solomon Islands	89	0	0	2	0	5 175	19	12	477	0
Tonga	0	4	17	0	0	0	726	3 264	0	0
Tuvalu	0	0	0	0	0	0	0	0	0	0
Vanuatu	6	14	68	0	9	754	1 577	6 629	0	3 848
Asia and the Pacific	**931 421**	**943 913**	**1 213 482**	**190 863**	**173 390**	**5 429**	**5 136**	**6 220**	**4 684**	**4 211**
LLDC	4 312	11 038	3 674	692	3 726	806	1 892	563	513	2 712
LDC	62 327	37 761	48 163	24 029	3 916	5 672	3 094	3 612	8 434	1 353
ASEAN	38 427	63 932	34 982	5 352	23 849	1 660	2 549	1 299	943	4 151
ECO	16 011	53 784	13 745	1 867	3 656	1 002	3 051	713	452	870
SAARC	253 206	259 874	492 950	64 030	14 045	4 153	3 862	6 699	4 076	880
Central Asia	1 818	6 264	537	25	2 816	531	1 775	147	33	3 699
Pacific island dev. econ.	577	924	219	165	85	1 670	2 364	506	1 756	883
Low income	69 419	64 656	55 014	26 650	7 486	4 072	3 444	2 707	6 188	1 714
Middle income	846 534	877 720	1 157 100	164 142	165 833	5 859	5 674	7 046	4 784	4 784
High income	15 468	1 536	1 366	71	71	1 544	149	130	33	33
Africa	**48 962**	**60 964**	**82 315**	**9 007**	**16 179**	**1 417**	**1 560**	**1 872**	**934**	**1 639**
Europe	**3 416**	**7 401**	**2 378**	**1 584**	**250**	**118**	**255**	**82**	**269**	**42**
Latin America and Carib.	**8 862**	**24 032**	**24 992**	**8 025**	**6 620**	**360**	**950**	**921**	**1 409**	**1 149**
North America	**750**	**3 851**	**6 518**	**667**	**13 393**	**51**	**247**	**397**	**195**	**3 882**
Other countries/areas	**129**	**1 457**	**703**	**28**	**1 026**	**29**	**286**	**120**	**22**	**765**
World	**993 542**	**1 041 618**	**1 330 388**	**210 176**	**210 856**	**3 583**	**3 498**	**4 188**	**3 151**	**3 124**

30.3 Natural disasters, economic damage

Economic damage from natural disasters

Million US dollars

	91-95	96-00	01-05	2006	2007	2008
East and North-East Asia	**179 189**	**103 022**	**103 240**	**14 964**	**22 185**	**111 276**
China	48 756	72 736	43 125	12 464	8 005	110 999
DPR Korea	15 110	8 202	30	0	300	0
Hong Kong, China	519	10	0	0	0	0
Japan	113 675	18 183	49 671	2 500	13 810	277
Macao, China	0	0	0	0	0	0
Mongolia	10	1 793	0	0	0	0
Republic of Korea	1 118	2 099	10 414	0	70	0
South-East Asia	**6 344**	**14 060**	**9 223**	**4 817**	**3 639**	**5 184**
Brunei Darussalam	0	2	0	0	0	0
Cambodia	250	162	53	0	1	0
Indonesia	418	10 404	4 965	3 314	1 671	2
Lao PDR	329	1	0	0	0	0
Malaysia	0	356	510	22	968	0
Myanmar	145	0	501	0	0	4 000
Philippines	2 090	457	321	347	17	481
Singapore	0	0	0	0	0	0
Thailand	2 553	317	1 928	35	2	28
Timor-Leste	0	0	0	0	0	0
Viet Nam	559	2 361	945	1 099	981	674
South and South-West Asia	**20 398**	**39 755**	**26 920**	**3 768**	**4 762**	**258**
Afghanistan	64	20	5	0	0	0
Bangladesh	3 233	5 039	2 700	0	2 414	0
Bhutan	0	4	0	0	0	0
India	9 014	7 996	15 599	3 390	376	145
Iran (Islamic Rep. of)	5 383	3 779	1 070	58	22	0
Maldives	30	0	470	0	0	0
Nepal	207	35	0	0	2	0
Pakistan	1 102	258	5 477	0	1 947	113
Sri Lanka	283	3	1 346	3	0	0
Turkey	1 080	22 621	255	317	0	0
North and Central Asia	**1 368**	**1 774**	**1 962**	**1 209**	**446**	**970**
Armenia	0	141	0	0	0	0
Azerbaijan	16	140	55	0	0	0
Georgia	2	230	352	0	0	0
Kazakhstan	40	2	8	0	0	130
Kyrgyzstan	197	4	4	0	0	0
Russian Federation	540	1 078	1 416	1 187	446	0
Tajikistan	473	129	127	22	0	840
Turkmenistan	100	0	0	0	0	0
Uzbekistan	0	50	0	0	0	0
Pacific	**4 149**	**4 408**	**4 120**	**1 286**	**1 438**	**2 515**
American Samoa	0	0	200	0	0	0
Australia	2 813	4 058	3 091	1 282	1 400	2 515
Cook Islands	0	0	0	0	0	0
Fiji	361	31	34	1	38	0
French Polynesia	0	0	0	0	0	0
Guam	420	200	131	0	0	0
Kiribati	0	0	0	0	0	0
Marshall Islands	0	0	0	0	0	0
Micronesia (F.S.)	0	0	1	0	0	0
Nauru						
New Caleconia	0	0	40	0	0	0
New Zealand	152	76	531	3	0	0
Niue	0	0	40	0	0	0
Northern Mariana Islands	0	0	0	0	0	0
Palau						
Papua New Guinea	119	43	0	0	0	0
Samoa	278	0	2	0	0	0
Solomon Islands	0	0	0	0	0	0
Tonga	0	0	51	0	0	0
Tuvalu	0	0	0	0	0	0
Vanuatu	6	0	0	0	0	0
Asia and the Pacific	**211 448**	**163 018**	**145 466**	**26 045**	**32 469**	**120 204**
LLDC	1 436	2 319	199	22	3	970
LDC	4 542	5 261	3 730	0	2 417	4 000
ASEAN	6 344	14 060	9 223	4 817	3 639	5 184
ECO	8 456	27 003	7 000	397	1 969	1 083
SAARC	13 934	13 355	25 596	3 393	4 740	258
Central Asia	828	696	546	22	0	970
Pacific island dev. econ.	1 184	274	498	1	38	0
Low income	20 567	16 004	4 365	1 121	3 699	5 514
Middle income	75 929	122 387	77 183	21 138	13 491	111 898
High income	118 697	24 627	63 678	3 785	15 280	2 792
Africa	**2 889**	**2 305**	**7 171**	**229**	**755**	**866**
Europe	**25 527**	**63 157**	**59 919**	**924**	**20 252**	**4 661**
Latin America and Carib.	**14 011**	**26 207**	**30 431**	**368**	**8 254**	**6 279**
North America	**111 981**	**53 857**	**254 494**	**6 422**	**9 663**	**57 762**
Other countries/areas	**1 648**	**17 271**	**1 842**	**117**	**3 960**	**542**
World	**371 249**	**325 814**	**499 322**	**34 105**	**75 354**	**190 314**

Statistical methods

Country groups and aggregation

The tables in this *Yearbook* contain country group composites for all indicators for which aggregates can be calculated. To facilitate comparison between Asia-Pacific region and the rest of the world, aggregates are also included for Africa, Latin America and the Caribbean, North America, Europe and the World. In addition, aggregates appear for countries within Asia and the Pacific included in several classifications. These classifications comprise countries with special needs, i.e. the least developed countries (LDC), landlocked developing countries (LLDC) and Pacific island developing economies (PIDE); regional associations: Association of Southeast Asian Nations (ASEAN), Economic Cooperation Organization (ECO), South Asian Association for Regional Cooperation (SAARC), and the Central Asian subregion; and the three levels (low, middle and high) of the World Bank income classification of countries.

For a large number of indicators, some values are missing from country time series. Aggregates should therefore be treated as approximations of actual, unknown totals or averages. In the calculation of aggregates, missing values have been dealt with in the following ways.

First, aggregates are not reported for a given year if the population (for social and environmental indicators) or the GDP (for economic indicators) of countries with available values for that year covers less than two-thirds of the total population or GDP of the country group under consideration.

Second, missing country values have been imputed by applying the following methodology. If values are available for both an earlier and a later year than the year for which the aggregate is calculated, the missing value has been imputed using linear interpolation. A missing country value for a year preceding the earliest year for which a value is available has been imputed using the value from the earliest year. Similarly, a missing country value for a year following the latest year for which a value is available has been imputed by using the value of the latest year. For countries with only one data point for the whole period, this value has been used for all missing years. No information is used from other countries for imputing the missing values. If imputation has been used to derive aggregates, information is given as part of the metadata at the end of each chapter.

Some aggregates have been calculated by agencies responsible for the compilation and production of indicator under their area of expertise. These include some education indicators (aggregates calculated by UIS/UNESCO) and employment indicators (aggregates calculated by ILO). In these cases, the methodology for the imputation of missing data might differ from the methods described above. Interested readers might refer to the respective agencies for more detailed information on aggregation methodology. When aggregates have been calculated by an external agency, this is indicated in footnotes.

There are two types of aggregates. The first type is a straight sum of actual country values and, in some cases, imputed country values where actual values are missing for that particular year. The second type uses weighted averages of actual country values and again, in some cases, imputed country values. The weights are chosen for each indicator separately and are mentioned in the metadata description for each indicator. For ratios, for example, denominators are used as weights. In the case of growth rates, either the weighted average of country growth rates or the growth rate from the time series of group totals is calculated.

Growth rates

Growth rates are presented as percentages. Rates of change from one period to the next are calculated as proportional changes from the earlier period. Rates of change over several periods are calculated as annual averages using the geometric growth model. The geometric growth rate uses

discrete compounding. Although continuous growth, as modelled by the exponential growth rate, may be more realistic, many economic phenomena are measured only on an annual basis, in which case the annual compound model is appropriate. If the underlying data are measured as indicator levels, the formula for the average annual percentage change in indicator P over n periods is

$$r = \left[\left(P_n / P_1\right)^{1/n} - 1\right] \cdot 100.$$

Note that this does not take into account the intermediate values of the series. However, if the underlying data are measured as annual changes, the formula becomes

$$r = \left\{\left[(1+g_0)(1+g_1)...(1+g_n)\right]^{1/n} - 1\right\} \cdot 100,$$

where g_0, g_1, ..., g_n denote the annual changes from the year 1 to n.

List of countries and groupings

Asia and the Pacific in this *Yearbook* refers to the 58 regional members and associate members of the Economic and Social Commission for Asia and the Pacific. Time series data are presented according to geographical classification, with the exception of developed economies, which are grouped separately. Throughout the *Yearbook*, countries and territories are referred to by a shortened version of their official name or, for some of the graphs presented, their ISO code.

By geographic subregion the countries and areas of Asia and the Pacific are:

East and North-East Asia (E-NEA): China; Democratic People's Republic of Korea (DPR Korea); Hong Kong, China; Japan; Macao, China; Mongolia; Republic of Korea.

South-East Asia (SEA): Brunei Darussalam; Cambodia; Indonesia; Lao People's Democratic Republic (Lao PDR); Malaysia; Myanmar; the Philippines; Singapore; Thailand; Timor-Leste; Viet Nam.

South and South-West Asia (S-SWA): Afghanistan; Bangladesh; Bhutan; India; Islamic Republic of Iran (Iran (Islamic Rep.)); Maldives; Nepal; Pakistan; Sri Lanka; Turkey.

North and Central Asia (NCA): Armenia; Azerbaijan; Georgia; Kazakhstan; Kyrgyzstan; The Russian Federation; Tajikistan; Turkmenistan; Uzbekistan.

Pacific: American Samoa; Australia; Cook Islands; Fiji; French Polynesia; Guam; Kiribati; Marshal Islands; Micronesia (Federated States of) (Micronesia (F.S.)); Nauru; New Caledonia; New Zealand; Niue; Northern Mariana Islands (Northern Mariana Is); Palau; Papua New Guinea; Samoa; Solomon Islands; Tonga; Tuvalu; Vanuatu.

Within Asia and the Pacific, also the following groupings are used:

Landlocked developing countries: (LLDC) Afghanistan; Armenia; Azerbaijan; Bhutan; Kazakhstan; Kyrgyzstan; Lao People's Democratic Republic; Mongolia; Nepal; Tajikistan; Turkmenistan; Uzbekistan.

Least developed countries (LDC): Afghanistan; Bangladesh; Bhutan; Cambodia; Kiribati; Lao People's Democratic Republic; Maldives; Myanmar; Nepal; Samoa; Solomon Islands; Timor-Leste; Tuvalu; Vanuatu.

Pacific island developing economies (PIDE): American Samoa; Cook Islands; Fiji; French Polynesia; Guam; Kiribati; Marshall Islands; Micronesia (Federated States of); Nauru; New Caledonia; Niue; Northern Mariana Is.; Palau; Papua New Guinea; Samoa; Solomon Islands; Tonga; Tuvalu; Vanuatu.

Association of Southeast Asian Nations (ASEAN): Brunei Darussalam; Cambodia; Indonesia; Lao People's Democratic Republic; Malaysia; Myanmar; Philippines; Singapore; Thailand; Viet Nam.

Economic Cooperation Organization (ECO): Afghanistan, Azerbaijan, the Islamic Republic of Iran Kazakhstan; Kyrgyzstan; Pakistan; Tajikistan; Turkey; Turkmenistan; Uzbekistan.

South Asian Association for Regional Cooperation (SAARC): Afghanistan; Bangladesh; Bhutan; India; Maldives; Nepal; Pakistan; Sri Lanka.

Central Asia (C Asia): Armenia; Azerbaijan; Georgia; Kazakhstan; Kyrgyzstan; Tajikistan; Turkmenistan; Uzbekistan.

The classification by income group follows the definition of the World Bank: Economies are divided according to 2008 GNI per capita, calculated using the World Bank Atlas method. The groups are: low income: $975 or less; middle income: $976 - $11,905; and high income, $11,906 or more. Aggregates are calculated for ESCAP countries for the three income groups. As economies grow, the threshold incomes and group

are changing every year. This time, many of the averages for the low- and middle-income economies look significantly different from the previous issue. That is mainly due to the "graduation" of India from the low to the middle-income group.

Low-income economies (Low-inc): Afghanistan; Bangladesh; Cambodia; Democratic People's Republic of Korea; Kyrgyzstan; Lao People's Democratic Republic; Myanmar; Nepal; Tajikistan; Uzbekistan; Viet Nam.

Middle-income economies (Middle-inc): American Samoa; Armenia; Azerbaijan; Bhutan; China; Fiji; Georgia; India; Indonesia; the Islamic Republic of Iran; Kazakhstan; Kiribati; Malaysia; Maldives; Marshall Islands; Micronesia (Federated States of); Mongolia; Pakistan; Papua New Guinea; Palau; the Philippines; The Russian Federation; Samoa; Solomon Islands; Sri Lanka; Thailand; Timor-Leste; Tonga; Turkey; Turkmenistan; Vanuatu.

High-income economies (High-inc): Australia; Brunei Darussalam; French Polynesia; Guam; Hong Kong, China; Japan; Macao, China; New Caledonia; New Zealand; Northern Mariana Islands; Republic of Korea; Singapore.

For comparative purposes, aggregates are also presented for the world major regions as follows:

Africa: Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde; Central African; Republic; Chad; Comoros; Congo; Côte d'Ivoire; Democratic Republic of the Congo; Djibouti; Egypt; Equatorial Guinea; Eritrea; Ethiopia; Former Ethiopia; Gabon, Gambia; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia: Libyan Arab Jamahiriya; Madagascar; Malawi; Mali; Mauritania; Mauritius; Mayotte (France); Morocco; Mozambique; Namibia; Niger; Nigeria; Réunion (France); Rwanda; Saint Helena; São Tomé and Príncipe; Senegal; Seychelles; Sierra Leone; Somalia; South Africa; Sudan; Swaziland; Tanzania (United Republic of); Togo; Tunisia; Uganda; Western Sahara; Zambia; Zimbabwe.

Latin America and Caribbean (LAC): Anguilla; Antigua and Barbuda; Argentina; Aruba; Bahamas; Barbados; Belize; Bolivia; Brazil; British Virgin Islands; Cayman Islands; Chile; Colombia; Costa Rica; Cuba; Dominica; Dominican Republic; Ecuador; El Salvador; Falkland Islands (Malvinas); French Guiana; Grenada; Guadeloupe; Guatemala; Guyana; Haiti; Honduras; Jamaica; Martinique; Mexico; Montserrat; Netherlands Antilles; Nicaragua; Panama; Paraguay; Peru; Puerto Rico; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Suriname; Trinidad and Tobago; Turks and Caicos Islands; United States Virgin Islands; Uruguay; Venezuela (Bolivarian Republic of).

North America (N Am): Bermuda; Canada; Greenland; Saint Pierre and Miquelon; United States.

Europe: Albania; Andorra; Austria; Belarus; Belgium; Bosnia and Herzegovina; Bulgaria; Channel Islands; Croatia; Czech Republic; Denmark; Estonia; Faeroe Islands; Finland; France; Germany; Gibraltar; Greece; Guernsey; Holy See; Hungary; Iceland; Ireland; Isle of Man; Italy; Jersey; Kosovo; Latvia; Liechtenstein; Lithuania; Luxembourg; Malta; Monaco; Montenegro; Netherlands; Norway; Poland; Portugal; Republic of Moldova; Romania; San Marino; Serbia; Slovakia; Slovenia; Spain; Svalbard and Jan Mayen Islands; Sweden; Switzerland; The former Yugoslav Republic of Macedonia; Ukraine; United Kingdom of Great Britain and Northern Ireland.

Other countries/areas: Bahrain; Cyprus; Iraq; Israel; Jordan; Kuwait; Lebanon; Norfolk Island; Occupied Palestinian Territories; Oman; Pitcairn; Qatar; Saudi Arabia; Syrian Arab Republic; Taiwan Province of China; Tokelau; United Arab Emirates; Wallis and Futuna Islands; Yemen.

List of online data sources

Asian Development Bank, Key Indicators	http://www.adb.org/
Energy Statistics Yearbook	http://unstats.un.org/
EM-DAT: Emergency Events Database	http://www.emdat.be/
Food and Agriculture Organization, FAO Information system on Water and Agriculture and Global Forest Resources Assessment	http://faostat.fao.org/
International Labour Organization, Key Indicators of the Labour Market Fifth Edition	http://www.ilo.org/
International Energy Agency Database	http://www.iea.org/
International Monetary Fund, Balance of Payments Statistics	http://www.imf.org
International Monetary Fund, International Financial Statistics	http://www.imf.org
International Monetary Fund, World Economic Outlook Database	http://www.imf.org
International Telecommunication Union, ICT Statistics Database	http://www.itu.int
Inter-Parliamentary Union	http://www.ipu.org/
International Union for Conservation of Nature	http://www.iucn.org/nature
Joint United Nations Programme on HIV/AIDS, 2006 Report on the global AIDS epidemic	http://www.who.int/
National Accounts Main Aggregates Database	http://unstats.un.org/unsd
Organization for Economic Co-operation and Development, Development Database on Aid from DAC Members	http://www.oecd.org
United Nations Conference on Trade and Development, Foreign Direct Investment	http://www.unctad.org/
United Nations Conference on Trade and Development, Handbook of Statistics	http://www.unctad.org/
United Nations Conference on Trade and Development, World Investment Report	http://www.unctad.org/
United Nations Comtrade	http://comtrade.un.org
United Nations Environment Programme, Emission Database for Global Atmospheric Research (EDGAR version 4.0)	http://geodata.grid.unep.ch
United Nations service trade	http://unstats.un.org/unsd
UNdata	http://data.un.org/
UNESCAP, Transport Division	http://www.unescap.org/ttdw/
UNESCO Institute for Statistics, Data Centre	http://www.uis.unesco.org
United Nations Millennium Development Goals Indicators	http://mdgs.un.org/
World Bank, Railway Database	http://www.worldbank.org/
World Bank, World Development Indicators	http://www.worldbank.org/
World Bank, PovcalNet	http://www.worldbank.org/
World Health Organization, Causes of Death database	http://www.who.int/
World Health Organization, Suicide statistics	http://www.who.int/

World Health Organization, WHO Global Health Atlas	http://www.who.int/
World Health Organization, Global status report on road safety	http://www.who.int/
World Health Organization, WHO Statistical Information System	http://www.who.int/
World Health Organization, World Malaria Report 2005	http://www.who.int/
World Population Prospects, The 2008 Revision Population Database	http://esa.un.org/unpp
World Migrant Stock, The 2008 Revision Population Database	http://esa.un.org/migration/
World Urbanization Prospects, The 2007 Revision Population Database	http://esa.un.org/unup/

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