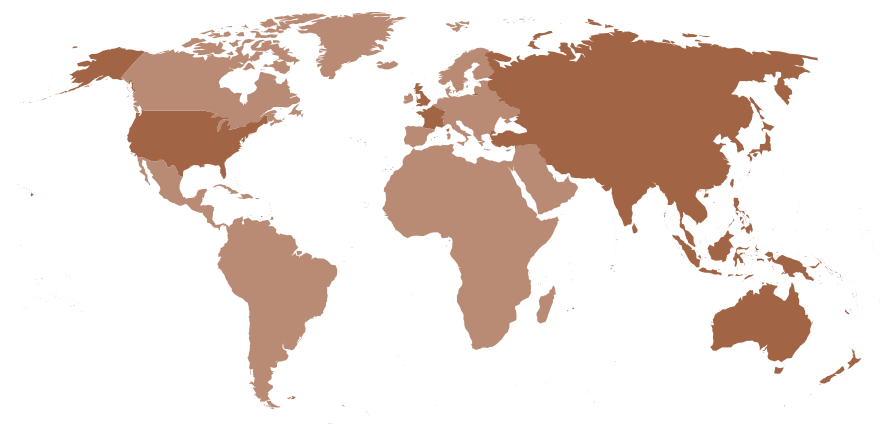




FINANCING AN INCLUSIVE AND GREEN FUTURE

**A Supportive Financial System and
Green Growth for Achieving the
Millennium Development Goals in
Asia and the Pacific**

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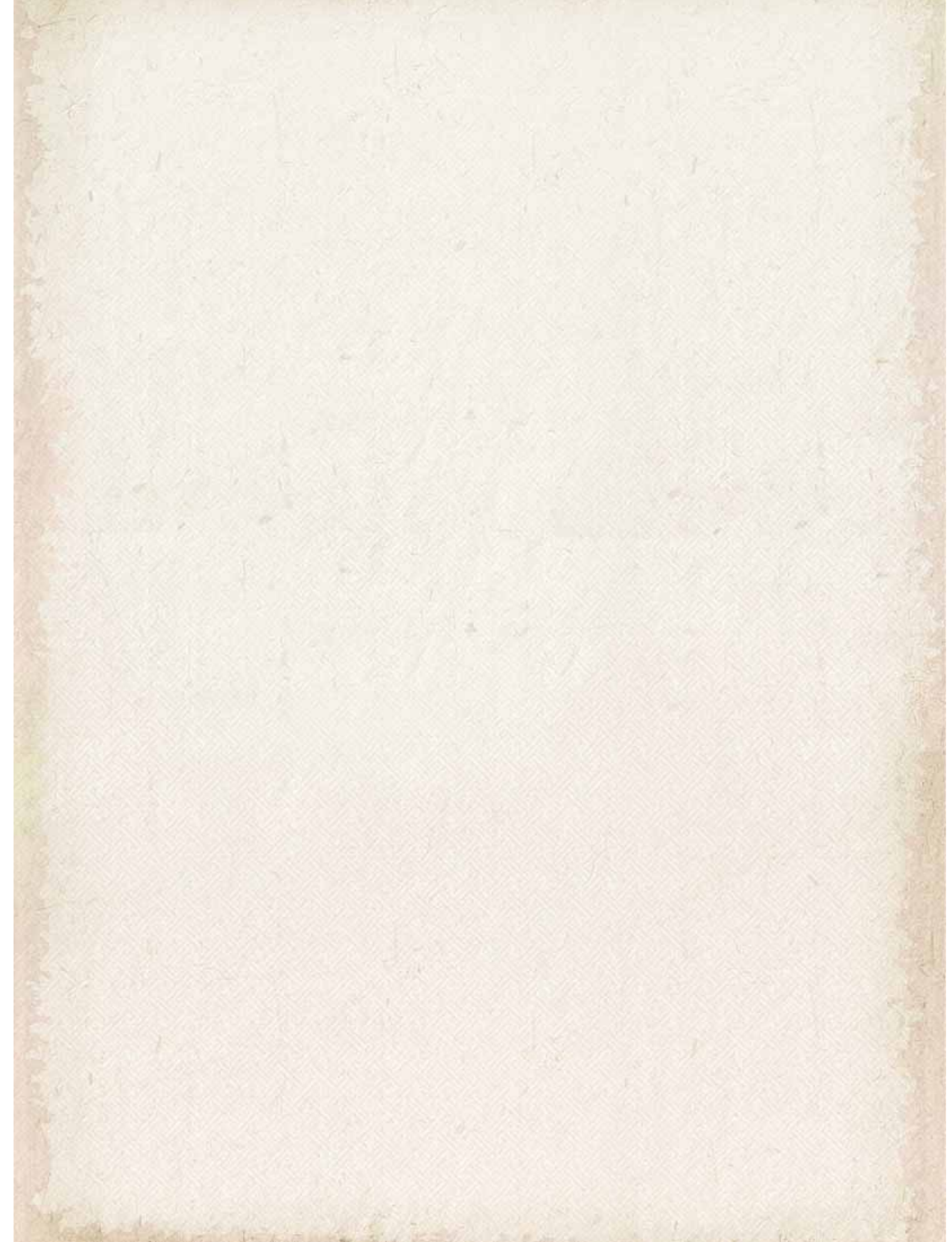
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FOREWORD

Two years ago, failures in the Western banking system triggered an economic crisis that soon spread to Asia and the Pacific – sapping the demand for the region's exports, cutting jobs and incomes, reversing capital flows, and putting at risk the achievement of the Millennium Development Goals. It was a sharp reminder that global financial markets left to their own devices can veer out of control creating the new poor by destroying the livelihoods of millions of innocent people.

For the Asia-Pacific region, however, this crisis also marked a turning point, an economic coming of age. Having accumulated substantial savings and financial reserves, and delivered decisive fiscal stimulus packages, many countries were able to weather the crisis better than expected – an indication that several of Asia's larger economies are now shifting to the centre of the global economic stage.

The crisis has also demonstrated that the Asia-Pacific region must rebalance itself and in future be more self-sustaining. Unable to depend on rapidly expanding exports to the rest of the world, it will have to rely instead on meeting more of the needs of its own citizens. Indeed, this represents a major opportunity to invest in itself. If many more people can emerge from poverty, they will have greater consumer power to buy essential goods and services – creating vibrant new markets that will help drive national and regional economic growth.

Financing an Inclusive and Green Future aims to capture some of these developments, highlighting the opportunities, and signalling some of the most productive directions. The report focuses first on the Millennium Development Goals, warning that the region is off track on many crucial indicators, including child and maternal mortality. But it also shows that the Goals are still within reach, given sufficient determination and financial resources. Just as important, it identifies potential sources for those funds – at the national, regional and international levels including changing spending priorities. It also looks further ahead, showing how Asia and the Pacific can take the lead in developing a new financial architecture that will best support the Millennium Development Goals.

It also argues that developments in the financial system need to be inclusive. No country can fulfil its potential if it ignores the energy and talents of its poor people. For this purpose, governments and financial institutions must work together to devise new financial models that will reach out to the millions of “unbanked” – providing them with the opportunities and security of a well functioning financial system.

A more inclusive financial system should lead to more vigorous economic growth. However, if such growth also depletes the region's natural resources, destroys the environment, and contributes to climate

change it will be unsustainable. Asia and the Pacific can no longer hope to “grow first and clean-up later”. Instead it should be pursuing “green growth”, which enhances the efficiency of natural resource use, is less energy and carbon intensive, and uses clean technology that will not just change the nature of growth but will also accelerate it providing green jobs that are also decent jobs. It means – building a legacy for future generations based on a development path that is low in carbon and high in poverty reduction and well-being.

This report was prepared for the sixty-sixth session of the United Nations Economic and Social Commission for Asia and the Pacific. But we trust that it will also have a wider resonance – helping policy makers across the region explore a whole spectrum of public policy and steer financial systems for new and productive directions to lay solid foundations for an inclusive and greener future because people and our planet matter.



Noeleen Heyzer

United Nations Under-Secretary-General
and Executive Secretary

United Nations Economic and Social Commission for Asia and the Pacific

May 2010

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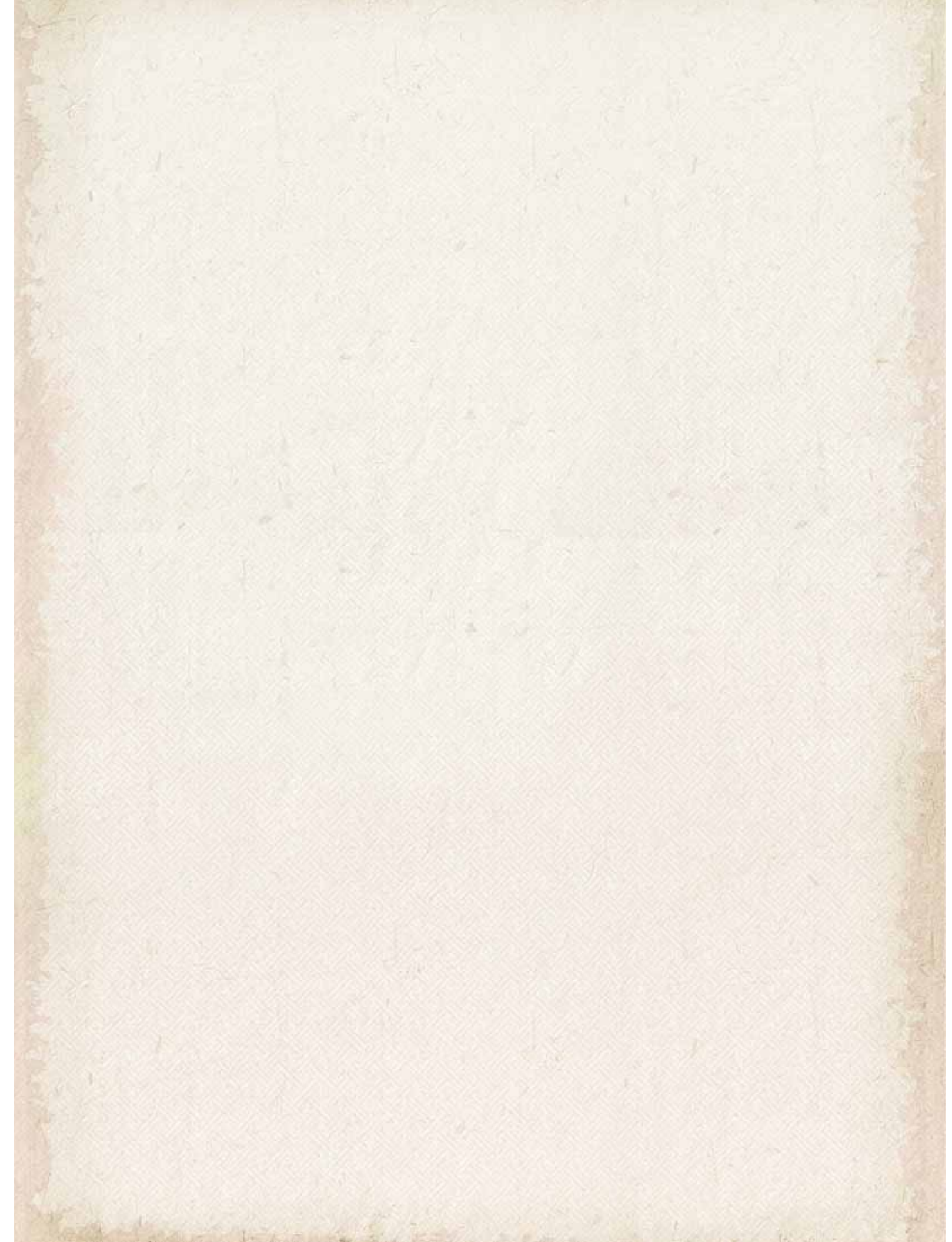
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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ADBI	Asian Development Bank Institute
ACB	ASEAN Centre for Biodiversity
ADF	Asian Development Fund
AfDB	African Development Bank
AIDS	Acquired Immune Deficiency Syndrome
AITD	Asian Institute of Transport Development
AMC-PV	Advance Market Commitment for pneumococcal vaccines
APCTT	Asia and Pacific Centre for Transfer of Technology
APP	Asia-Pacific Partnership on Clean Development and Climate Change
ARBCP	Asia Regional Biodiversity Conservation Program
ASEAN	Association of Southeast Asian Nations
ATM	automated teller machine
AusAID	Australian Agency for International Development
BRAC	Bangladesh Rural Advancement Committee
CBO	community-based organization
CDM	clean development mechanism
CER	Certified Emission Reduction credit
CGAP	Consultative Group to Assist the Poor
CMI	Chiang Mai Initiative
CO ₂	Carbon dioxide
CSR	corporate social responsibility
DAC	Development Assistance Committee
DFI	development financial institutions
DFID	Department for International Development (United Kingdom)
EC	European Commission
ENERGIA	International Network on Gender and Sustainable Energy
ESCAP	Economic and Social Commission for Asia and the Pacific
EUDN	European Development Research Network
FAO	Food and Agriculture Organization of the United Nations
FDI	foreign direct investment
GAVI	Global Alliance for Vaccines and Immunization
GDP	gross domestic product
GEF	Global Environment Facility
GHG	greenhouse gas
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HIV	Human Immunodeficiency Virus
IBRD	International Bank for Reconstruction and Development
ICFAI	Institute of Chartered Financial Analysts of India
IDA	International Development Association
IDS	Institute of Development Studies
IEA	International Energy Agency

IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFFIm	International Finance Facility for Immunization
IFSL	International Financial Services London
ILO	International Labour Organization
IMF	International Monetary Fund
IOE	International Organization of Employers
IPCC	Intergovernmental Panel on Climate Change
ITUC	International Trade Union Confederation
LDCs	least developed countries
LLDCs	landlocked developing countries
MDG	Millennium Development Goal
MFI	microfinance institution
MinBuza	Ministry of Foreign Affairs, the Netherlands
NABARD	National Bank for Agricultural and Rural Development
NDRC	National Development and Reform Commission of China
NGO	non-governmental organization
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
PES	payment for ecosystem services
PFM	public financing mechanism
POS	point-of-sales
PPPs	Public-Private Partnerships
R&D	research and development
SDR	special drawing right
SHG	Self Help Group
SIDBI	Small Industries Development Bank of India
SIDS	small island developing states
SME	small and medium enterprise
TE	triennium ending
TEEB	The Economics of Ecosystems and Biodiversity
TRIPS	Trade Related Aspects of Intellectual Property Rights
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
USAID	United States Agency for International Development
WEF	World Economic Forum
WHO	World Health Organization
WTO	World Trade Organization
WRI	World Resources Institute
WWF	World Wide Fund For Nature (formerly World Wildlife Fund)

EXPLANATORY NOTES

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of firm names and commercial products does not imply the endorsement of the United Nations.

Values are in United States dollars unless specified otherwise.

The term “billion” signifies a thousand million. The term “trillion” signifies a million million.

In the tables, two dots (..) indicate that data are not available or are not separately reported, a dash (–) indicates that the amount is nil or negligible, and a blank indicates that the item is not applicable.

In dates, a hyphen (-) is used to signify the full period involved, including the beginning and end years, and a stroke (/) indicates a crop year, fiscal year or plan year.

Bibliographical and other references have, wherever possible, been verified.

OVERVIEW

Financing an inclusive and green future

This report considers the supportive financial systems that countries in Asia and the Pacific will need to promote growth that is both inclusive and sustainable – “green growth” that will help them achieve the Millennium Development Goals while also stewarding the region’s natural resources for future generations.

The Asia-Pacific region has made significant progress towards the Millennium Development Goals (MDGs). Many countries have achieved rapid economic growth which has helped lift millions of people out of poverty. And governments have made substantial investments in education and health services and in protecting their most vulnerable people.

Nevertheless, most countries are still off track on many MDG indicators. The region has already almost halved the proportion of the population living below the poverty line of \$1.25 a day. But it has had less success in attacking hunger: between 1990 and 2007, it only managed to reduce the proportion of under-five children that are underweight from 36% to 28%. The region has made good progress in primary education – reaching 92% net enrolment, but has had less success in keeping those children at school. For child mortality the prospects remain gloomy: the under-five mortality rate in 2007 was 54 deaths per 1,000 live births. And the situation was similar for maternal mortality, with the number of deaths per 100,000 live births as high as 490 in South Asia.

In many countries, economic achievements, and to some extent MDG progress, have also had environmental costs. And the situation could deteriorate further as countries put greater pressure on their natural resource base, which could undermine many existing achievements, make the region more vulnerable economically, and undermine energy security. In particular, if water management does not improve, the region may face chronic food shortages with consequent social unrest, and in the longer term many countries could suffer catastrophic damage from climate change.

Investment required to meet the MDGs

What would it take for all countries in the region to meet their MDG targets? In many cases they can achieve a great deal simply by pursuing existing policies



more effectively. But they may also need extra financial investment. This report estimates what countries that are currently off track will need to do to fulfil their commitments to the Millennium Development Goals.

Closing the income-poverty gap

One of the principal tasks is to get on track for the poverty goal. Failing to meet the MDG poverty target would mean an additional 88 million people living in poverty. “Additional” means on top of the 420 million people who would still be extremely poor even if the target were reached. Based on their past performance, 11 Asia-Pacific countries with poverty headcounts above 5% are likely to miss the income-poverty target: Bangladesh, Cambodia, Georgia, India, Kyrgyzstan, Lao People’s Democratic Republic, Mongolia, Nepal, Philippines, Sri Lanka and Uzbekistan.

For addressing poverty the main strategy should be to increase economic growth while making sure its benefits are distributed equitably. Faster economic growth is more effective in reducing poverty if income distribution either does not deteriorate or, preferably, improves. Whether growth or distribution offers the greatest potential for reducing poverty depends on the level of development. Generally, the poorer countries will benefit more from promoting economic growth that leads to an increase in average household consumption. Among the economies that would benefit most are Bangladesh and rural India, where every percentage point increase in mean consumption per capita would reduce poverty by 0.7 percentage points. The Lao People’s Democratic Republic, Uzbekistan and urban India would also benefit significantly from such a strategy, with a reduction of more than half a percentage point.

As countries become richer, the benefits from increasing household consumption become relatively less significant and it becomes more important to focus on equity. In Sri Lanka, for example, a 1% increase in household consumption per capita would reduce poverty by only about half as much as it would in Bangladesh; on the other hand, a 1% decrease in inequality would reduce poverty by 0.58 percentage points compared with 0.47 percentage points in Bangladesh.

In practice, economic growth in the region has typically been accompanied by a rise in inequality. If this happened in these 11 countries, then, in order to hit their poverty targets, they would need to boost economic growth considerably – in some cases more than doubling it. But if they could hold inequality constant, their prospects would brighten significantly. Kyrgyzstan, for example, would achieve the target by 2015, and other countries would not be far behind: India would reach it by 2016; the Philippines and Sri Lanka by 2017; and the Lao People’s Democratic Republic by 2018. Indeed, with only moderately faster growth all three could hit the target: India, for example, would need to increase its annual average gross domestic product (GDP) growth rate from 7.9% to 8.9%. Furthermore, a 1 percentage point increase in the annual growth rate of average household consumption per capita, while holding inequality and GDP growth constant, would further advance the achievement of the poverty target for the Lao People’s Democratic Republic to 2012 and for India and Mongolia to 2013.

Closing the other MDG gaps

Millions of people will also suffer if the region misses the other MDG targets. This would result, for example, in the deaths in 2015 of an extra 1 million children under five years of age. In addition, 31 million more children would suffer from hunger and 7 million more would be out of school. Many mothers would also be affected – 14 million more would have to give birth without the assistance of skilled professionals, and 8 million more would be without any kind of antenatal care.

How much investment would it take for the countries of the region to close these other MDG gaps? Based on a needs assessment carried out by the United Nations Millennium Project, this report

estimates the corresponding costs in Asia and the Pacific. This suggests that some of the MDG gaps can be closed with relatively low investment. The underweight children target, for example, can be reached if countries that are off track invest in total an additional \$23 billion. The gap in the provision of clean water and basic sanitation in rural areas can be closed by investing \$3 billion and \$8 billion, respectively. Overall, it should also be noted that the cost of reaching the targets in rural areas is much less than in urban areas – between one tenth and one fourth – and around twice as many people would benefit.

To close the gaps across the region on all the indicators would mean an additional total cost until 2015 of \$636 billion – \$96 billion in 2010, rising to \$117 billion in 2015. While funding an additional \$100 billion per year does not seem daunting for the Asia-Pacific region as a whole, those costs can be steep in terms of proportion of GDP, for some countries especially the least developed countries. Moreover, these financing gaps represent a significant share of the total costs of meeting the MDGs: most countries will need to more than double the financial resources required to reach the targets.

Climate change mitigation and adaptation

Countries in the Asia-Pacific region, especially the poorest, stand to be among the most affected by climate change, which threatens to roll back decades of development. A number of studies have concluded that the cost of taking action is far less than the ultimate cost of inaction. Investments in the next 20 to 30 years will be critical. The overall costs of climate change have been estimated by the Stern Review at between 5% and 20% of global GDP each year, now and forever – while the costs of taking action to counter the impact would be much lower: only around 2% of global GDP each year. The Asian Development Bank (ADB) has similarly estimated that in South-East Asia the cost of inaction could be equivalent to a loss of 6.7% of the subregion's GDP by 2100, while the cost of mitigation would be around 1% of the subregion's GDP. The World Bank estimates that the cost for developing countries to adapt to climate change would range between \$75 billion and \$100 billion per year for the period 2010-2050. The highest costs – between \$19.6 billion and \$25.0 billion – would be borne by the East Asia and the Pacific subregions.

Financing the MDGs and green growth

How much are governments currently spending on MDG priorities? This report analyses government budgets in the Asia-Pacific region for 23 economies and estimates their outlays on “MDG sectors” which include health, education, housing and community amenities, and environmental protection. In addition, it includes the amounts spent on social protection, which in the developing countries includes safety nets such as school feeding programmes.

This reveals a very diverse pattern. As a proportion of GDP, the Maldives spends more than 20% on MDG priorities, while China and Pakistan spend less than 1%. In terms of trends, however, it is worrying that since the Millennium Summit expenditure on MDG priorities, as a percentage of GDP, has increased in only six of these countries: Georgia, the Islamic Republic of Iran, Maldives, Nepal, the Russian Federation and Sri Lanka. Elsewhere it has remained stable or decreased, suggesting that governments have generally not been aiming to make greater progress towards the MDGs through changes in fiscal policy.

One reason why government expenditure on the MDGs might fall short is a concern about fiscal deficits. Indeed, the trend is one of increasing fiscal conservatism: most countries have moved in the direction of larger surpluses or smaller deficits. Under the prevailing economic orthodoxy, the general rule of thumb has been that the fiscal deficit should be limited to around 3% of GDP – for all countries, regardless of their economic conditions, their rate of economic expansion, their needs for public expenditure or their

coverage of social protection. More realistically, the optimal level of budget deficit should vary according to national circumstances, and many developing countries have greater fiscal space than they realize. If countries in Asia and the Pacific are to target deficits at all they could raise the limit to, say, 5% of the GDP, as long as the extra outlays are invested in MDG priorities. Such additional public investment could not only immediately improve nutrition, health and education but also result in productivity gains that would help contain the inflationary pressures arising out of a larger deficit, if any.

Reorienting public expenditure

Spending more on MDG priorities would also probably mean diverting resources from other government expenditure. In some countries, half of this is for the administrative function, which includes defence, public order and safety, some of which could be diverted into more direct MDG spending. Some countries are also spending significant sums servicing public debt; while no Asia-Pacific country has a debt crisis, some nevertheless still have sizable servicing commitments. Certain domestic debt liabilities might be extinguished by using the proceeds from privatizing government assets, while foreign debt liabilities can be reduced by seeking concessional international aid that carries a lower interest burden. In the spirit of MDG-8, the poorest countries should also be able to rely on debt waivers. A number of countries also devote considerable funds to subsidizing fossil fuels. Such subsidies have a number of disadvantages beyond their large costs. One is that the benefits are frequently skewed towards the rich; another is that they encourage the use of fuels which add to pollution.

Augmenting government revenue and making fiscal incentives MDG-friendly

As well as changing spending priorities, governments will also want to boost domestic revenue that they could dedicate to the MDGs. A number of countries in the region have the fiscal space to raise revenue domestically, especially through better tax administration. The developing countries gain most of their revenue from indirect taxes – which may be easier to administer but are regressive as everyone pays the same rates, meaning that the poor pay a higher proportion of their income in tax than do the rich. Direct taxes, while generally more progressive, require comprehensive systems for keeping track of incomes. Nevertheless, governments can widen their tax bases by ensuring that the wealthy do at least file tax returns, and by simplifying their tax systems to reduce the range of exemptions and loopholes.

As governments consider ways of raising more revenue, they can also use fiscal policy to adjust the pattern of development and promote employment. For example, corporate tax laws usually provide an allowance for depreciation which gives companies an incentive to invest in new equipment. Instead, governments could offer incentives for generating new employment.

Governments may also use fiscal policy to create win-win scenarios for the environment and employment through ecological tax reforms or similar approaches. The idea behind these is to apply taxes on pollution or inefficient use of energy and resources and use the proceeds to lower the cost of labour to employers, so as to generate incentives to reduce pollution, economize on resources, and use more labour. This tax shift requires balancing taxation levels so as to maintain revenue-neutrality and progressiveness, along with measures to protect the most vulnerable.

Strengthening the global partnership

In addition to raising more of their own resources for investing in the MDGs, developing countries, the least developed countries (LDCs) in particular, should also be able to rely on substantial support from other countries, both within the region and beyond.

Official development assistance – Since the adoption of the MDGs, donors have generally been providing more official development assistance (ODA), even though most of them, the large ones

in particular, have yet to reach the target of 0.7% of gross national income. Asia and the Pacific will probably continue to get a steadily declining proportion of global ODA. Any consequent reduction in aid flows will be of particular concern to countries such as Cambodia and Vanuatu, where ODA plays a significant role in the economy.

Although there is some uncertainty about whether donors will sustain the flow of ODA, there does seem to be solid political will and public support for ODA within donor countries – partly because of the recognition that the developing countries are victims of a crisis which originated in the developed world. This is reflected in some of the decisions of the G-20 summits to increase the flow of finances through multilateral agencies such as the International Monetary Fund (IMF), the World Bank and the Asian Development Bank (ADB).

South-South economic assistance – More aid now takes the form of transfers from one developing country to another, which within Asia and the Pacific primarily means the better-off developing countries helping their neighbours. China, for example, is Cambodia's biggest aid donor as is India for Nepal and Bhutan. Similarly, Thailand is the largest donor to the Lao People's Democratic Republic and the second largest to Myanmar. Much of this South-South aid thus goes to the least developed countries (LDCs) where it is likely to be used in support of the MDGs.

Workers' remittances – In 2008, countries in the region that were the sources of labour migrants received a total of \$169 billion in remittances. These have provided a stable source of foreign exchange at times when trade and other flows have been more volatile – so have helped stabilize currencies. At the micro level, families have been able to use remittances to boost human development – frequently using the funds to invest in their children's education.

Private capital inflows – Private capital inflows, particularly foreign direct investment, should help create employment and thus contribute to the MDGs. Following the economic crisis, even though global foreign direct investment (FDI) inflows have declined, the FDI inflows to Asia-Pacific developing countries continued to expand, from \$333 billion in 2007 to \$389 billion in 2008. In addition the region itself is now a significant source of FDI – notably from China, Hong Kong, China, India, Malaysia and the Russian Federation. The region is also receiving growing amounts of foreign portfolio investment. These, however, are fraught with uncertainty and risk. Unlike FDI, these flows are essentially short term and highly volatile. At present they appear to be increasing because in the aftermath of the financial crisis many western countries have pursued easy money policies. This has resulted in an increase in liquidity which is beginning to find its way to the Asia-Pacific region, seeking quick returns in stock markets, real estate, commodities futures and currency speculation. The region's governments may therefore consider taking steps to moderate these inflows through capital controls.

Innovative sources of finance – Recognizing that ODA is volatile and unpredictable, many people are now considering innovative sources of finance for development – involving governments, charitable foundations, NGOs, and prominent individuals. Three such initiatives are already functioning. These are: (i) UNITAID and the solidarity levies on airline tickets; (ii) The International Finance Facility for Immunization (IFFIm) / Global Alliance for Vaccines and Immunization (GAVI); and (iii) Advance Market Commitment for pneumococcal vaccines (AMC-PV).

There are also examples from the region of governments trying to find their own innovative sources of finance for funding MDGs. India, for example, levies an "education cess" of 2% on the total income tax payable by individuals and uses this to finance education – primary, secondary and higher secondary – for all children. And recently the Maldives has proposed levying a "green tourist tax" of \$3 per tourist per day.

There is also a considerable debate on taxing international financial transactions. Such a tax could help moderate the volatility of the short-term and speculative capital flows, while also yielding substantial revenue that could be used to fund global public goods such as MDG achievement. Even a small tax of 0.1% on global foreign exchange transactions, which are around \$3.2 trillion per day, could yield revenues of about \$640 billion annually, assuming that the volume of financial transactions fell by one third as a result of the tax. On this basis, the revenue would be more than 3.5 times total ODA in 2008. While the ideal would be a tax that operated globally, this may take a long time to achieve. As a stepping stone towards a global tax, the countries of Asia and the Pacific could cooperate on a regional version.

A development-friendly reform of the international financial system – The Asia-Pacific region will need to formulate its position on reform of the international monetary and financial architecture. The aim should be to ensure greater stability and minimize the risk of financial crises while ensuring adequate flows of development finance. Since the onset of the global economic crisis, the G-20 has emerged as the premier forum on global economic policy coordination, superseding the G-8. This expanded group reflects the systemic importance of major emerging countries in Asia and the Pacific, such as China, India, Turkey, Indonesia, the Republic of Korea and Australia – in addition to Japan and the Russian Federation, which were already included in the G-8.

The G-20 has taken initiatives for reforming the financial architecture. These include creating a broad-based Financial Stability Board, a peer review mechanism, an increase in the quota share for emerging countries, and new regulations for curbing excessive risk taking by financial institutions. However, a number of important issues are yet to be addressed, including the reform of IMF conditionalities, the design of a new special drawing right (SDR) system based on a global reserve currency system to replace the United States dollar – as proposed by China and the Russian Federation. Some of these issues were raised by the Commission of Experts of the President of the United Nations General Assembly on the Reform of International Monetary and Financial System, and then at the United Nations Conference on the World Financial and Economic Crisis and Its Impact on Development, held in New York in June 2009.

Regional architecture for financial cooperation

Lacking a well developed regional financial architecture the region's central banks have had no way of channelling the region's excess savings and growing foreign exchange reserves to meet the region's substantial unmet investment needs. They thus had no option but to invest their reserves in United States Treasury bills. A regional financial architecture could not only help prevent crises and connect savings and investments but also help coordinate exchange rates. At the same time, it would enable the countries of Asia and the Pacific to develop a regional perspective and establish a coordinated voice for reform of the international financial architecture.

So far the only significant regional cooperative financial arrangement is the Chiang Mai Initiative (CMI) that has been expanded in early 2010 to have a pool of \$120 billion and has been multi-lateralized. However, it is only a facility for short-term liquidity support rather than for development financing. With combined foreign exchange reserves of nearly \$5 trillion, the region could now develop an ambitious architecture for mutually beneficial deployment of foreign exchange reserves. One of the clearest alternative uses for some portion of these assets lies in the region's massive infrastructure funding needs. Recent estimates suggest that Asia and the Pacific needs annual investment of more than \$800 billion in transport, energy, water and telecommunications.

This architecture could include an infrastructure development fund. If it mobilized just 5% of the region's reserves of \$5 trillion, it would have a start-up capital of \$250 billion. The fund could also

borrow from the region's central banks. By co-financing viable projects with other sources, such as an architecture could expedite investment in infrastructure development, especially cross-border connectivity projects linking poorer parts of the Asia-Pacific region with the region's growth centres. The Economic and Social Commission for Asia and the Pacific (ESCAP), as a truly regional and inclusive forum, could assist the region in developing such an architecture by creating a task force to come up with a solid design for a stable and development-friendly regional financial architecture.

Making financial services work for the poor

A more supportive international financial regime can support the MDGs and green growth. But the poor will benefit more from these and other resources if they have better access to finance for their own activities and enterprises – to savings, credit and insurance products. This should allow poor families to borrow and invest not just in physical capital but also in productive human capital – for example, by sending children to school. And if they have some financial services on which they can rely they will also have a buffer against sudden emergencies, such as deaths in the family, business risks, or climatic shocks that can push poor households into destitution. Evidence from many countries shows that access to financial services also empowers women.

At present, however, across most developing countries of Asia and the Pacific, financial services are used by only a small proportion of the population. People can find themselves excluded for a number of reasons. Some may simply be unaware of what is available – particularly if financial institutions make little effort to market their services to them. Others may find the services on offer inappropriate or too expensive. Every country has a range of financial institutions, each with its own strengths and weaknesses – but each of which can contribute to more inclusive finance.

Commercial banks – Commercial banks are central to a country's financial system, but generally they have not reached out to poor households, whom they do not consider bankable. Nevertheless, banks in some countries have recently ventured into microfinance and specialized lending to targeted low-income groups, either under regulatory pressure or in response to increasing competition.

Microfinance institutions (MFIs) – The great strength of microfinance institutions is their capacity to reach the poor, not just with funds but with a range of support services such as health advice, training and extension services – either on their own or through partnerships with other governmental or non-governmental organizations.

State-owned development finance institutions – These typically offer refinance facilities to commercial banks and MFIs to extend credit to agriculture and small and medium enterprises (SMEs). Some even lend to start-up firms who may be unable to borrow from the market. They also focus on pro-poor sectors such as agriculture and small industry. When they operate on sound principles without political interference, these institutions can be powerful instruments for promoting development.

Capital markets – Stock and bond markets are unlikely to play a major role in financial inclusion, as they are prohibitively expensive for small and micro enterprises. Nevertheless, in a few developing countries start-up firms have, to a limited extent, obtained equity funding from venture capitalists. Recently, some MFIs too have managed to raise funds from professional investors through capital markets.

Post offices and other networks – Other public networks that are not usually considered as part of the financial system can also play an important role in achieving financial inclusion. These will include post offices which in developing countries are usually government run, and mobile phone networks that far

exceed the reach and spread of banking networks, both geographically and across income classes. Both have considerable potential to extend their outreach.

How governments can promote inclusive financial services

If governments wish to promote inclusive banking, they should ensure that the overall financial system is efficient, fair and secure. They should also try to link financial services with other services: poor communities tend to take greater advantage of banks if they also have access to better health and education systems.

- *Regulating for financial inclusion* – In the past when governments have intervened directly to regulate the activities of commercial banks, and control where they could open new branches, they have had mixed results. The nature of state intervention required to achieve financial inclusion is not a settled matter – it is likely to vary from country to country, and even within a country it could vary as the country moves from one stage of development to another. Left to itself the financial system is unlikely to champion financial inclusion. Regulatory pressure and continuous monitoring by the financial regulator would be critical at all times to ensure that the poor are not left out.
- *Encouraging new entrants* – Governments can encourage the entry into the market of a more diverse range of players. Those most likely to serve people currently unreached would include cooperatives, savings and credit institutions, non-governmental organizations (NGOs) and community-based organizations (CBOs). To foster greater diversity, policymakers can reduce the entry barriers for new institutions while also allowing existing sound institutions to develop banking services. At the same time, policy makers should be encouraging innovative strategic alliances among providers, such as between banks and mobile phone companies or between banks and post offices. This will often mean changes to the legal, regulatory and policy frameworks. Options include allowing a tiered structure of banking, with different regulations for institutions operating at different tiers, along with appropriate capital adequacy norms. The overall aim should be to establish and strengthen a wide range of retail institutions without jeopardizing the integrity of the overall banking system.
- *Improving the banking architecture* – This refers to the set of services that maintains the integrity of the banking system and allows banks to communicate efficiently with each other and to transfer funds and instruments safely. Governments could take a number of measures to improve the banking architecture and encourage banks to lend to poor individuals and SMEs. One such measure is to develop credit bureaus that would hold records of the credit status of individuals or small businesses. Another is to provide public loan guarantees for designated types of borrower: commercial banks could, for example, use such guarantees as a basis for lending to MFIs. Countries should also establish clear accounting and auditing standards – requiring MFIs, for example, to follow standard guidelines. In addition governments could require banks to report on the steps they have taken to open up their services to the poor.
- *Promoting banking literacy* – Through both formal and informal channels, governments along with NGOs will need to promote banking “literacy” to marginalized groups and individuals to ensure that the poor actually start using banking services.
- *Widening collateral* – Borrowers in rural areas will find it easier to get loans if they can use land as collateral. Governments can aim to ensure that as many people as possible have clear legal tenure, and also require landlords to provide documented tenancies that could help confirm the credit worthiness of landless farmers. Similarly, they could formalize some of the customary access rights of fishing communities to water bodies owned by the state.

How banks can develop inclusive financial services

Banks themselves may choose to reach out to a new type of customer – not least because as poor households become richer they can become loyal customers. Some options include:

- *Branches and satellite branches* – Banks can combine branches located conveniently along transportation routes with travelling banks – on vans, for example, or motor boats.
- *Partnerships for financial inclusion* – Banks can also forge partnerships with other service providers who already have a local presence, such as post offices and mobile telephone companies, or who work with the poor such as MFIs, NGOs and other local service providers or even individuals.
- *Provide a package of services* – People will make better use of financial opportunities if the bank can support these with other services, either on its own or in partnership with NGOs and CBOs.
- *Micro-venture capital* – Another option is equity finance: rather than offering a loan which the entrepreneur might be unable to service, the banks buys shares on the understanding that the entrepreneur can subsequently buy these back. Governments could encourage this kind of venture capital funding through tax breaks.
- *Appropriate products and services* – Banks also need to ensure that they offer products and services that meet the needs and circumstances of the poor. For this purpose they will need to improve their product mix, reduce total transaction costs, provide convenience, and clearly outline the eligibility criteria. Unreached customers have needs that can be encapsulated in a package of “five-micros”: micro-savings, micro-credit, micro-repayments, micro-remittances and micro-insurance.

Growing greener - technology and finance

More inclusive finance should help reduce poverty and boost economic growth. But this would also be a different kind of growth. In recent decades, many countries in the Asia-Pacific region have achieved high economic growth while paying little heed to the environmental consequences. Over recent years, however, more and more governments in the region have expressed their strong support for “green growth” as the basis for improving environmental sustainability and attaining the MDGs – aiming to decouple economic development from environmental pressures by enhancing the efficiency of natural resource use, reducing energy intensity and waste disposal, while also recasting environmental protection as an engine of growth. Many countries in Asia and the Pacific are already successfully integrating environmental sustainability into their socio-economic development strategies. Some have also incorporated green growth elements into their stimulus packages in response to the global economic crisis.

Green growth towards the MDGs

World leaders underlined the importance of environmental sustainability when they established it as the seventh Millennium Development Goal. But they also realized that environmental sustainability is not an isolated objective; it also underpins progress in the other MDGs – providing the basis for livelihoods, health and security, for all human beings.

Given the linkages between environmental sustainability and the other MDGs, investing in the sustainable use of resources and in providing clean energy, safe water, and adequate sanitation can realize double dividends - in terms of economic growth, poverty reduction, and environmental sustainability – as well as climate change mitigation and adaptation.

Among the sectors that offer the greatest potential in Asia and the Pacific are infrastructure and rural development. The region has to develop its infrastructure to sustain economic growth and respond to rapid urbanization. Expanding infrastructure will also be crucial for achieving the MDGs. Choices made in infrastructure development today will lock countries into patterns of production and consumption for decades to come. At the same time, strains on land and water resources pose threats to food security, and require immediate and large investments in agriculture. Moreover, renewable energies can help extend energy services to the rural poor and foster rural development.

Technology and innovation

Achieving environmental sustainability will also require a suite of clean technologies. Environmentally sound technologies are those that protect the environment, are less polluting, use natural resources in an efficient manner, minimize and recycle waste, and handle residual waste in a responsible manner. This refers not just to individual technologies and equipment, but to total systems which include know-how and goods and services, along with organizational and managerial procedures.

These technologies will not just change the character of economic growth, they will also help drive growth. This has been happening in industrialized countries where research and development (R&D) investment in green technologies has contributed to innovation and economic competitiveness. Similar opportunities have opened up in high-income countries in Asia and the Pacific, such as Japan, the Republic of Korea and Singapore, as well as in middle-income countries with high technological capabilities, such as China, India, Malaysia, the Russian Federation and Thailand. China, for example, has rapidly become the world's leading manufacturer of solar photovoltaic cells, increasing its global market share in only eight years from 1% to 35%.

At present, however, R&D on technologies for sustainable development in Asia is still at relatively low levels. If the region is to make faster progress, the more developed countries will need to increase investment, but they can help maximize their returns through stronger regional cooperation. This potential was demonstrated, for example, in 2009 at a tripartite summit in which China, Japan and the Republic of Korea resolved to promote, among other things, a Joint Research Collaboration Programme.

Richer countries can invest in developing new systems. But for developing countries an important condition for ensuring environmental sustainability is their access to existing technologies. Ownership of environmentally sound technologies is dominated by corporations based in developed countries – which may affect the access of developing countries. The United Nations Framework Convention on Climate Change (UNFCCC) provides for the commitment of developed countries to support developing countries, through the transfer of technology according to the principle of common but differentiated responsibilities. The World Trade Organization's (WTO's) Agreement on the Trade Related aspects of Intellectual Property Rights (TRIPS) Agreement also provides for the transfer and dissemination of technology, but the provisions are quite vague. Developing countries can also exploit the flexibilities provided in the TRIPS Agreement in their IPR legislation, including provisions for compulsory licensing. A recent recognition of public health-related exception in the TRIPS Agreement showed some flexibility in interpreting what constitutes "exigent circumstances", thus, opening the door for the potential use of such exceptions on environmental sustainability grounds.

Beyond transfer, an immediate task in developing countries is to adopt and diffuse existing green technologies. Governments that aim to promote environmentally sustainable economic growth will need to remove the barriers to the transfer of clean technology from North to South and from South to South – especially to countries with special needs (LDCs, LLDCs and SIDS). Governments can

promote these technologies partly through publicly-funded research, as happened with the green revolution. Although many lack the systems needed to promote innovation, they could fill the gaps through a regional network – which would be particularly appropriate for the many small countries in the Pacific.

Opportunities through trade

The region can also promote technology transfer through trade – by eliminating import tariffs and non-tariff barriers to the trade of environmentally friendly goods and technologies. Regional and bilateral trade agreements might also include provisions to harmonize technical standards, and facilitate resource-efficient and low-carbon investments. In addition, agreements could include cooperation mechanisms to promote technology transfer, technical assistance, and capacity building.

The potential for green jobs

A crucial part of any sustainable development strategy, including green growth, must be to create sufficient employment. Asia and the Pacific accounts for around two thirds of global employment – with six of the ten largest labour markets. The recent financial crisis and the negotiations for a post-2012 climate regime have generated debate about employment prospects under a green, low-carbon economy. The United Nations Environment Programme (UNEP) and the International Labour Organization (ILO) identify four ways in which employment may be affected.

Job creation – As in the manufacture of pollution-control devices for existing production equipment.

Job substitution – As in shifting from fossil fuels to renewables, or from truck manufacturing to railcar manufacturing, or from landfill and waste incineration to recycling.

Job elimination – Some jobs may be lost without direct replacement – as when packaging materials are discouraged or banned and their production is discontinued.

Job transformation – Many existing jobs will steadily be redefined as day-to-day skill sets, work methods, and profiles are greened. This would be the case, for example, for plumbers, electricians, metal workers and construction workers.

The potential of green growth to generate jobs was acknowledged in the green components of several national stimulus packages prepared in response to the crisis. Key sectors identified by green recovery strategies include: construction and retrofitting of buildings; transport, especially mass transit and fuel-efficient vehicles; renewable energies, such as solar, wind and biomass; and environmental protection, such as waste management.

Green jobs should also be decent jobs – with adequate wages, and close attention to safe working conditions, job security, and workers' rights. Likewise, the greening of the economy should contribute to poverty reduction. But this will not happen automatically. The transition to a green and low-carbon economy will also mean building the necessary capacities within both the public and private sectors. For this purpose, governments can help by setting the agenda, mobilizing the resources and developing adequate capacity building programmes.

Financing green growth

Greening the economy ultimately requires greening business practices. In the long run, most of the investment funds needed to shift to environmentally sustainable and low-carbon growth will need to come from the private sector. But private capital is unlikely to appear fast enough or on a sufficient

scale unless it is encouraged and steered by public policy – by ensuring that green growth priorities that might previously have been seen as externalities are internalized into market mechanisms. Governments will want to consider policies that encourage efficient resource management which will in turn channel private-sector capital into these investments.

At the same time, it will be important to have public financing, especially in the short run. Much of this will be related to infrastructure: governments now have the opportunity to develop infrastructure that will result in more efficient and longer-term management of resources – which in turn will channel private-sector capital into these investments.

Government funds can also be used to leverage private funds. At present, for private investors the risks of many environmentally sustainable projects are not being justified by the estimated returns. Public financing mechanisms can tilt the balance in favour of profitability, for example, by offering soft loans or guaranteeing the loans from private-sector banks. Governments can also redirect part of public R&D spending to support the development of green technologies – as well as creating frameworks of subsidies, taxes and rebates to channel private-sector funding of R&D.

A global partnership for financial support for developing countries

The UNFCCC provides for the developed countries to support developing countries in their adaptation efforts. In this context, a number of initiatives have been taken by multilateral agencies such as the World Bank group and the Global Environment Facility as well as governments. Despite these efforts there is wide gap between the need and the available resources. The costs of adaptation have been estimated to be in the range of \$50-\$100 billion per year – of which around 50% would be needed in developing countries. However, the sum actually mobilized and available is only \$154 million. The United Nations Climate Change Conference in Copenhagen in 2009 recognized that developing countries would need scaled-up and predictable funding. The collective commitment by developed countries to provide new resources was approaching \$30 billion for the period 2010-2012. The developed countries also committed to a goal of jointly mobilizing \$100 billion a year by 2020 to address the needs of developing countries.

Multilateral and bilateral finance institutions can play an important role in influencing the financing decisions of the private sector, which values their ability to enhance the credit worthiness of projects, particularly for the construction of long-term infrastructure. They can, for example, provide export credit guarantees for capital equipment, loan guarantees, patient equity, anchor investments, seed capital, and technical and project development expertise.

Private investment for green growth

The more far-seeing private enterprises will appreciate the long-term benefits of greater environmental sustainability, and some are already moving in this direction. Often their decisions are influenced by consumer and employee pressure towards greater corporate social responsibility (CSR). These can produce win-win results for the companies – increasing both consumer approval and staff morale while quickly recuperating any investment costs.

Greener enterprises will also be more attractive to institutional investors. Such investors generally have a limited tolerance for risk – so will be interested in companies whose attitudes to environmental responsibility suggest that they have the potential for stable, long-term growth. Institutional and other investors now have the opportunity to invest in stock-market indices that are weighted towards companies with stronger environmental records.

On a smaller scale, private enterprises have also been helping develop voluntary carbon markets. Consumers wanting to purchase offsets for products and services have been financing a number of small-scale projects. In this regard, it will be important to build institutional capacity to harness opportunities from emerging carbon markets.

Payments for ecosystem services

In a similar vein, governments across the region are exploring the potential of supporting and rewarding communities that preserve ecosystems – for example, by sequestering carbon, maintaining the aesthetic beauty of the environment, or managing watersheds to the benefit of those living downstream. These payments for ecosystem services can be in cash, or in non-monetary forms such as greater market access, more secure land tenure, better local infrastructure or helping build local knowledge and capacity.

Financing an inclusive and green future

The fragility of international financial markets, and the potential impact of climate change, have underlined the importance of pursuing broad-based development that is equitable, inclusive and sustainable. The Asia-Pacific region can no longer hope to “grow first and clean-up later”.

This new direction will require clear and a consistent commitment across the whole spectrum of public policy. But this report emphasizes that much will depend on the ways in which governments can steer financial systems – local, national and international – in new and more productive directions. Some of the ways of doing so have already been demonstrated; others are still embryonic. The Asia-Pacific region has already established itself as a pioneer in economic development and poverty reduction. Now it can display similar leadership when it comes to financing an inclusive and green future.



Costing the MDG gaps

The Asia-Pacific region has made significant progress towards the MDGs. Many countries have achieved rapid economic growth which has helped lift millions of people out of poverty. And governments have made substantial investments in education and health services and in protecting their most vulnerable people. But some governments still have major tasks ahead – not just to achieve the MDGs but also to ensure sustainable, inclusive development.

Asia and the Pacific is the world's most populous region, so even though a significant proportion of its population has now achieved better levels of human development, many millions of people are still deprived. Despite commendable progress, in reducing poverty for example, Asia and the Pacific is still home to more than 60% of the world's poor. Similarly, the region still has millions of people lacking safe water and sanitation, and millions of children are undernourished. At the same time, countries across the region have to take urgent steps to address the environmental impact of growth – while also taking into account the disturbing implications of climate change. This chapter attempts to summarize progress to date and also to estimate future investment needs.

On and off track

To assess progress, this report uses the same system of classification as the series of joint regional MDG reports issued by ESCAP, UNDP and ADB. A more detailed analysis is available from the latest report (ESCAP/ADB/UNDP, 2010). For each indicator on which sufficient data are available, each country is placed in one of the following categories:

Early achiever – It has already reached the target.

On track – It is likely to reach the target by 2015.

Off track/slow – It has been making progress, but only slowly, so may not reach the target before 2015.

Off track/regressing/no progress – It has made no progress and may even have regressed, moving further away from the target.

This analysis is based on the most recent information, using a set of data comparable across the region. The need for cross-regional comparability means, however, that the country-by-country data used here only cover the period immediately prior to the current economic crisis. However, the analysis estimates the impact of the global financial crisis on MDG attainment (see also Box I.1).

As Table I.1 shows, Asia and the Pacific is currently on-track for all the indicators in only two Goals, MDG 3 and MDG 6. For the others, the prospects are mixed.

Table I.1 MDG achievement in Asia and the Pacific, selected indicators

Indicator	Population Affected (Millions)				Progress	
	1990	2006/08	1990	2006/08		
MDG 1 \$1.25/day poverty - % of population	49	25	1 527	979	On track	
	Malnutrition - % of under-five children underweight	36	28	140	98	Slow
MDG 2 Net primary enrolment ratio - %	89	92	52	35	On track	
	Reaching last grade - % of children	70	73	..	..	Slow
MDG 3 Gender primary – ratio females/males %	92	97	..	..	Early achiever	
	Gender secondary – ratio females/males %	88	94	..	..	On track
	Gender tertiary – ratio females/males %	77	97	..	..	Early achiever
MDG 4 Under-5 mortality – per thousand live births	87	54	7	3	Slow	
	Infant mortality per thousand live births	64	41	5	3	Slow
MDG 5 Antenatal care, at least once - %	58	79	35	16	Slow	
	Births by Skilled Professional - %	56	66	37	26	Slow
MDG 6 HIV prevalence - %, ages 15-45	0.29	0.26	5	5	Early achiever	
	TB incidence – per 100,000 people	157	145	5	6	Early achiever
	TB prevalence – per 100,000 people	409	232	12	9	Early achiever
MDG 7 Forest cover - %	31	31	..	..	Regressing/No progress	
	Protected area - %	6.9	9.0	..	..	Early achiever
	Access to safe water - %	73	88	858	466	Early achiever
	Access to basic sanitation - %	41	54	1 825	1 762	Slow

Source: ESCAP regional aggregates based on data from Millennium Development Goals Indicators Database and reference populations from *World Population Prospects: the 2008 Revision* (United Nations, 2007). Regional aggregates for primary enrolment are provided by UNESCO.

Notes: 1 - Regional aggregates refer to the 55 developing members and associate members of ESCAP. 2 – The initial year is 1990 for all indicators except Net primary enrolment (2000), Reaching last grade (1999), Gender primary and secondary (1999), Gender tertiary (2000), Antenatal care (1991), HIV prevalence (2001). 3- The latest years available for the indicators are the following: 2005 for Forest cover; 2006 for \$1.25/day poverty, Net primary enrolment, Clean water, Basic sanitation; 2007 for Underweight children, Reaching last grade, Gender primary/secondary/tertiary, Under-5 mortality, Infant mortality, Antenatal care, Births by Skilled Professional, HIV prevalence, Tuberculosis incidence and prevalence; and 2008 for Protected area. 4 - Prospects of progress are estimated using methodology described in ESCAP/ADB/UNDP (2010). 5 – For MDGs 1 and 6 “population affected” is obtained by multiplying the value of the indicator by the reference population over 100 or 100,000; for MDG 4 it is obtained by multiplying the value of the indicator by the reference population over 1000, and for MDGs 2, 5 and 7 it is obtained by multiplying 100 minus the indicator by the reference population and then dividing by 100.

Box I.1 Social impact of the economic crisis

The Asia-Pacific region felt the impact of the global financial and economic crises from the third quarter of 2008. Those most affected were the poor, especially those who lost their jobs in export-oriented industries, those who saw a fall in remittances from overseas workers, and those who wanted to borrow from microfinance institutions that were less able to offer funds. Some families coped by consuming less food or other essentials, others withdrew their children from school – and sent more family members, including the young and the elderly, out to work.

- *Employment* – The industries most affected were manufacturing, agriculture, mining, tourism and financial services. In many of these, the majority of employees are women. For example, women make up 60% to 90% of the labour force in the clothing sector and are a high proportion of workers in call centres and financial services. ILO estimates that in manufacturing alone, 22 million women lost their jobs.^a Many informal-sector jobs linked to these industries also disappeared.
- *Remittances* – Overseas migrants are often hired as temporary workers, so they get dismissed first during economic downturns. Many women working in labour-intensive industries have lost their livelihoods. The World Bank estimated that in 2009, remittances would decrease in nominal dollar terms by 4.2-7.5% in East Asia and the Pacific, and by 4.2-7.3% in South Asia.^b
- *Microfinance* – The global liquidity crunch could reduce funds available for microfinance institutions. This would hurt women who are the majority of their 93 million clients.^c
- *Food Prices* – Although prices have declined from their peaks in 2008, those of major food grains are still above average. Maize is 50% above its average 2003-2006 price, while rice prices are 100% higher.^d This hurts poor families who spend 60-80% of their incomes on food.
- *Education and Health* – Families who cannot afford fees may take their children out of school. They will also find it more difficult to pay for health services and, especially, for drugs.
- *Family* – During difficult times, families often rely on women to care for the sick, the elderly and the extended family – resulting in longer working hours and a heavier workload for women.
- *Violence* – Previous economic downturns led to some ethnic tensions as well as rising crime rates, including abuse and violence against women.^e

^a ILO (2009a). *Global Employment Trends for Women Report*, (Geneva, ILO).

^b Ratha, D. and S. Mohapatra, (2009). “Revised outlook for remittances flows 2009-2011”, *Migration and Development Brief 9*, (Washington, D.C., World Bank).

^c ESCAP (2009a). “Responses to the economic crisis: Women’s economic security and rights” prepared for High level intergovernmental meeting to review regional implementation of the Beijing Platform for Action and its Regional and global outcomes, ESCAP, Bangkok, Thailand, 16-18 November.

^d World Bank (2009). “Food crisis: What is the World Bank doing?” accessed from www.worldbank.org/foodcrisis/bankinitiatives.htm, on 17 February 2010.

^e Heyzer, N. and M. Khor (1999). “Globalization and the way forward”, Development Outreach “Speaker’s Corner” (Washington, D.C., World Bank) accessed from <http://devoutreach.com/summer99/GlobalizationandtheWayForward/tabid/819/Default.aspx> accessed in June 2009.

See also ESCAP (2010). *Economic and Social Survey of Asia and the Pacific 2010* (United Nations publication, Sales No. E.10.II.F.2).

MDG-1 – Poverty – The region has already almost halved the proportion of the population living below the poverty line of \$1.25 a day. But it has had less success in attacking hunger: between 1990 and 2007, it reduced the proportion of under-five children underweight, but only by eight percentage points, from 36% to 28%.

MDG-2 – Education – The Asia-Pacific region has made good progress in primary education: between 1999 and 2007 it increased net enrolment from 89% to 92%. This reflects increasing national spending on education. But the region has done less well in keeping those children in school: in 2007 only 73% of pupils in primary starting grade 1 were expected to reach the final grade. This is partly because of the quality of education on offer and because poor children can be forced out of school early due to the expense or the need to work (Patel, 2009).

MDG-4 – Child mortality – Here the prospects remain gloomy – the region has been slow to reduce the number of needless deaths of children. In 2007 the infant mortality rate was still high at 41 deaths per 1,000 live births, and the under-five mortality rate was 54 deaths per 1,000 live births. This reflects deficiencies in key child-survival interventions, including vitamin A supplementation, the use of insecticide-treated bed nets, exclusive breastfeeding and immunization against the commonest childhood diseases (United Nations, 2009a).

MDG-5 – Maternal health – Here the situation is also depressing. Although there are insufficient data to present an aggregate view of Asia and the Pacific as a whole, subregional pictures indicate the extent of the problem. Estimates for 2005 show that maternal mortality ratios per 100,000 live births varied from 50 in East and North-East Asia to over 490 in South Asia (WHO, 2007). Other, related indicators also showed unsatisfactory progress – with still relatively low coverage of antenatal care and too few births attended by skilled health professional and low contraceptive prevalence (United Nations, 2009a; ESCAP/ADB/UNDP, 2010).

MDG-7 – Environmental sustainability – Here different indicators point in various directions:

while the region is an early achiever in half of the indicators, it is off track in the other half. It is, for example, progressing only slowly in halving the proportion of people without access to basic sanitation, and for other key indicators it is regressing – moving backwards, for example, in the proportion of land area covered by forests.

Another major concern is that even in areas where the region has achieved good progress, millions of people remain deprived. Thus in the Asia-Pacific region in 2007, 979 million people – one in every four – were living below the poverty line. At the same time, 35 million children were out of school, 16 million mothers were not covered by antenatal care, 5 million people suffered from HIV and AIDS, and 9 million from tuberculosis – and 466 million lacked access to safe drinking water.

Moreover, regional averages invariably mask disparities between countries. Even on indicators for which the region is already an early achiever, many countries are lagging. For instance, although the region is an early achiever in the provision of clean drinkable water, 23 countries are expected to miss the target. This is illustrated in Figure I.1. This shows that all countries need to accelerate progress in at least one indicator. The green squares show where the country is on track or an early achiever; the red squares where it is off track or regressing. The gaps indicate a lack of internationally comparable data.

It should be noted that some countries in this chart are indicated as off-track even when, compared with other countries, they have already achieved high standards. For example, economies with net primary enrolment ratios above 90% can still be considered off track if they already had strong achievement in 1990 but subsequently did not make much further progress. This is the case for Hong Kong, China which has a primary enrolment ratio of 95% and Macao, China with an enrolment ratio of 93%. The situation is similar for the Republic of Korea for MDGs 3 and 4, and for the Russian Federation for targets related to MDGs 2 and 5.

Figure I.1 Asia-Pacific countries on and off track for reaching selected targets

	1	2	3	4	5	6	7
	\$1.25/day poverty Underweight children	Primary enrolment Reaching last grade Primary completion	Gender primary Gender secondary Gender tertiary	Under-5 mortality Infant mortality	Antenatal care, at least once Births by Skilled Professional	HIV prevalence TB incidence TB prevalence	Forest cover Protected area Water, total Sanitation, total
Asia Pacific	■	■	■	■	■	■	■
East and North-East Asia	■	■	■	■	■	■	■
China	■	■	■	■	■	■	■
Hong Kong, China		■	■			■	■
Macao, China		■	■			■	■
Korea, DPR	■	■	■	■	■	■	■
Korea, Republic of	■	■	■	■	■	■	■
Mongolia	■	■	■	■	■	■	■
South-East Asia	■	■	■	■	■	■	■
Brunei Darussalam	■	■	■	■	■	■	■
Cambodia	■	■	■	■	■	■	■
Indonesia	■	■	■	■	■	■	■
Lao, PDR	■	■	■	■	■	■	■
Malaysia	■	■	■	■	■	■	■
Myanmar	■	■	■	■	■	■	■
Philippines	■	■	■	■	■	■	■
Singapore		■	■	■	■	■	■
Thailand	■	■	■	■	■	■	■
Timor-Leste	■	■	■	■	■	■	■
Viet Nam	■	■	■	■	■	■	■
South and South-West Asia	■	■	■	■	■	■	■
Afghanistan	■	■	■	■	■	■	■
Bangladesh	■	■	■	■	■	■	■
Bhutan	■	■	■	■	■	■	■
India	■	■	■	■	■	■	■
Iran (Islamic Republic of)	■	■	■	■	■	■	■
Maldives	■	■	■	■	■	■	■
Nepal	■	■	■	■	■	■	■
Pakistan	■	■	■	■	■	■	■
Sri Lanka	■	■	■	■	■	■	■
Turkey	■	■	■	■	■	■	■
North-Central Asia	■	■	■	■	■	■	■
Armenia	■	■	■	■	■	■	■
Azerbaijan	■	■	■	■	■	■	■
Georgia	■	■	■	■	■	■	■
Kazakhstan	■	■	■	■	■	■	■
Kyrgyzstan	■	■	■	■	■	■	■
Russian Federation	■	■	■	■	■	■	■
Tajikistan	■	■	■	■	■	■	■
Turkmenistan	■	■	■	■	■	■	■
Uzbekistan	■	■	■	■	■	■	■
Pacific	■	■	■	■	■	■	■
American Samoa		■	■	■	■	■	■
Cook Islands		■	■	■	■	■	■
Fiji		■	■	■	■	■	■
French Polynesia		■	■	■	■	■	■
Guam		■	■	■	■	■	■
Kiribati		■	■	■	■	■	■
Marshall Islands		■	■	■	■	■	■
Micronesia, Fed. States of		■	■	■	■	■	■
Nauru		■	■	■	■	■	■
New Caledonia		■	■	■	■	■	■
Niue		■	■	■	■	■	■
Northern Mariana Islands		■	■	■	■	■	■
Palau		■	■	■	■	■	■
Papua New Guinea		■	■	■	■	■	■
Samoa		■	■	■	■	■	■
Solomon Islands		■	■	■	■	■	■
Tonga		■	■	■	■	■	■
Tuvalu		■	■	■	■	■	■
Vanuatu		■	■	■	■	■	■

■ On Track ■ Off Track

Source: ESCAP calculations based on data from United Nations Statistics Division, Millennium Development Goals Indicators database.

Notes: 1 - The indicators included in the table are based on internationally comparable data, which allow the calculation of trends in the progress towards the MDGs. 2 - On-track means that the MDG target was already reached based on the latest available data or that it is likely that the MDG target will be reached by 2015. Off-track means that progress has been made but at slow pace and the MDG target may not be reached before 2015 or that no progress has been made in achieving the MDG target. 3 - The methodology to classify countries according to on-track and off-track is described in ESCAP/ADB/UNDP (2010).

The environmental deficit

In many countries, economic achievements, and to some extent MDG progress, have had significant environmental costs. And the situation could deteriorate further as countries put greater pressure on their natural resource base. While Asia and the Pacific has one and a half times the world average population density, it has only 60% of the world average per capita productive area. It also has the lowest per capita availability of fresh water (ESCAP, 2006a).

These deficits can be assessed by considering the region's "biocapacity", which refers to the land area available to support human activity, vis-à-vis its "ecological footprint" which refers to the land actually required to support current levels. The Asia-Pacific region has only 0.8 hectares per capita, as compared to an ecological footprint of 1.6 hectares per capita— a deficit of 0.8 hectares per capita, compared with an average deficit of 0.6 hectares per capita for the rest of the world (WWF, 2008).

This has profound implications. Environmental destruction not only hampers future advances but also threatens many existing achievements. If the countries of the region pursue an environmentally unsustainable development model they will become more vulnerable economically – and experience threats to energy and food security. And in the longer term some countries could suffer catastrophic damage from climate change.

Energy security – By 2030, the region is expected to increase its energy demand by 50% – and it is likely to be meeting more than four-fifths of that demand with fossil fuels. The least developed countries, landlocked developing countries, and small island developing states in particular will be exposed to volatile energy prices that will compromise their efforts to sustain economic growth (ESCAP, 2007a).

Food security – The region may also face chronic food shortages. Asia's food demand is expected to double by 2050, and unless they can boost productivity, many countries will have to rely heavily on imports – at costs that could be huge, and politically untenable. The food crisis of 2008 may be only an initial signal of what lies

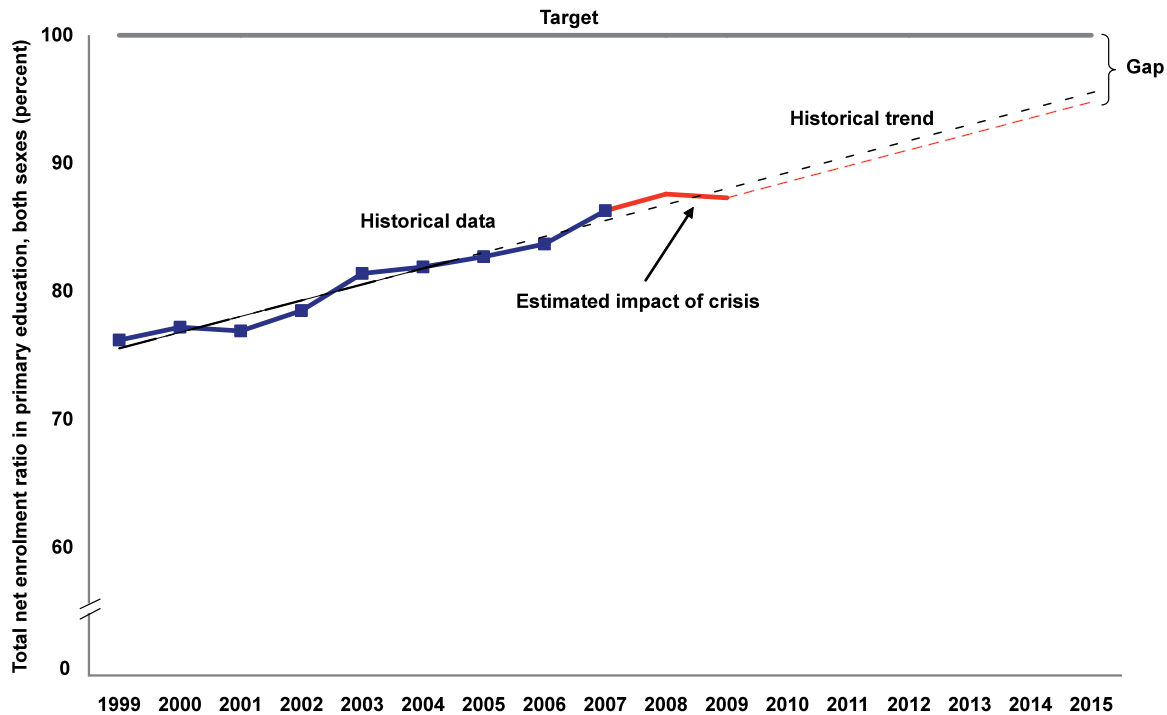
ahead. In order to meet food needs countries will need to increase arable land, improve irrigation infrastructure and use even more water. If they cannot increase productivity, by 2050 farmers in South Asia will need to divert up to 57% more water to agriculture and 70% in East Asia (FAO, 2009). Better water management will thus be an important element of a sustainable agriculture agenda for the region (ESCAP, 2009b).

Climate change – In many countries, climate change is likely to increase poverty, reduce access to drinking water, damage the health of the poor, and threaten food security (AfDB and others, 2003). The region will also be hard hit if climate change increases the frequency or severity of natural disasters: over the past eight years 80% of the global casualties related to extreme weather events occurred in Asia and the Pacific (ESCAP, 2009b). For many Pacific Island States it is a question of their survival or extinction (Heyzer, 2009).

Investment required to meet the MDGs

What would it take for all countries in the region to meet their MDG targets? In many cases they can achieve a great deal simply by pursuing existing policies more effectively. But some of these policies would also require greater financial investment. The scale of this investment can be estimated by starting from the number of people who will be deprived if the targets are missed. In the case of tuberculosis, for example, as indicated in Figure I.1, five countries may not reach that target by 2015: Cook Islands, Kazakhstan, Republic of Korea, Tajikistan, and Uzbekistan. The number of people who would be deprived by this failure can be considered in two parts. The first part is the "pre-crisis" estimate up to 2007 – which is based on historical trends for which there are internationally comparable data and was the basis for the on- or off-track projections in Figure I.1. The second part is the additional number of people deprived as a consequence of the economic crisis. Since there are as yet no data on each indicator on actual performance, the post-crisis estimate has to be derived instead from modelling – based on historical correlations between GDP and the levels of each MDG indicator. The relationship between the pre- and post-crisis estimates is illustrated in Figure I.2 for one of the primary education indicators. In this case the pre-

Figure I.2 Illustration of an indicator gap for primary education



Source: ESCAP calculations based on data from United Nations Statistics Division, Millennium Development Goals Indicators database.

Note: This figure, based on actual data, illustrates how gaps in the achievement of MDG indicators are estimated for this report.

crisis gap in the indicator was 4.5 percentage points, but as a result of the crisis it has been re-estimated at 5.2 percentage points. The computation of the number of people deprived if MDG targets are missed has been performed country-by-country for 11 indicators for which detailed data are available for most countries.

Table I.2 shows the results of this computation for off-track countries. In the case of poverty, for example, the estimated target was to reduce the number living on less than \$1.25 per day in these off-track countries to 420 million. Before the crisis it was estimated that the number would only have been reduced to 498 million by 2015. As a result of the crisis, this estimate for 2015 was increased by 10 million. Thus, failing to meet the MDG target would mean an additional 88 million people living in poverty. “Additional” means on top of the 420 million people who would still be living in poverty even if the target were reached.

Table I.2 also shows that missing the MDG targets would result in an extra 1 million deaths

of children under five years of age in 2015. In addition, 31 million more children would be suffering from hunger and 7 million more would be out of school. Many more mothers would also be affected – 14 million more would have to give birth without the assistance of skilled professionals and 8 million more would be without any kind of antenatal care. Around 82 million more people would lack access to clean water and 387 million more people would be without access to basic sanitation. And two million more people would be living with HIV and AIDS.

It should also be noted that these numbers refers only to deprivation in 2015. To take into account the full implications of a failure to meet the MDG targets would also mean considering the human cost in the intervening years – for example, the number of additional children who will die each year until 2015.

Meeting the MDGs in many countries would require urgent changes in policy, and in most cases additional investment. This report estimates

Table I.2 Number of people deprived as a result of failure to meet the MDG targets in off-track countries (millions)

Goal	Indicator	Latest	Target 2015	Pre-crisis projection for 2015	Additional number due to crisis 2015	Number of people deprived due to missing the target. (5)=(3)+(4)-(2)
		(1)	(2)	(3)	(4)	(5)
MDG1	\$1.25/day poverty	608	420	498	10	88
	Underweight children	82	47	74	4	31
MDG2	Primary enrolment	13	3	9	1	7
MDG4	Under-5 mortality	4	2	3	0	1
MDG5	Births by Skilled Professional	25	7	20	1	14
	Antenatal care, at least once	15	3	10	1	8
MDG6	HIV prevalence	2	2	4	0	2
MDG7	Water, urban	43	27	59	2	34
	Water, rural	113	68	108	8	48
	Sanitation, urban	411	310	448	7	145
	Sanitation, rural	1 208	743	979	6	242

Source: ESCAP calculations based on data from United Nations Statistics Division, Millennium Development Goals Indicators database and reference populations from World Population Prospects: the 2008 Revision (United Nations, 2007). For target “\$1.25/day poverty” columns (1) and (2) are based on data available at World Bank’s PovCalnet website.

Notes: 1 – Estimates calculated for groups of countries that are off-track in reaching each of the targets. 2 - For the indicator “\$1.25/day poverty”, estimates exclude Kazakhstan and Turkey, whose headcount poverty rates are below 5%. 3 - See Annex 1 for technical details.

the likely requirement in three parts. The first addresses income poverty, and considers the level and character of economic growth that would be needed to meet the target. The second considers the public investment needed to reach the other MDG targets. The third addresses the cost of climate change mitigation and adaptation.

There will inevitably be considerable overlap between these estimates. Equitable economic and green growth that reduces poverty would also

facilitate the achievement of many of the other MDGs. At the same time, government expenditure that leads to better education and health would also help reduce poverty and stimulate economic growth. Similarly, investment in reducing environmental gaps and protecting development gains against the risks posed by climate change will also contribute to the achievement of other MDGs. These estimates are therefore only indicative, but they can provide complementary insights on what it will take to close the gaps.

The economic growth needed to close the income-poverty gap

Based on their past performance, 11 Asia-Pacific countries with poverty headcounts above 5% are likely to miss the income-poverty target: Bangladesh, Cambodia, Georgia, India, Kyrgyzstan, the Lao People's Democratic Republic, Mongolia, Nepal, the Philippines, Sri Lanka and Uzbekistan. These countries are either progressing too slowly towards their target or they are regressing.

In the case of poverty, the aim is to halve the 1990 poverty rate. For these 11 countries Table I.3 shows the most recent poverty rates based on the \$1.25-a-day poverty line, along with their targets and the gaps between the two. What economic growth would be required between now and 2015 to eliminate those gaps?

Poverty rates are obtained from household surveys on the basis of per capita consumption or income. Those households whose per capita consumption or income are below the \$1.25-a-day poverty line, adjusted by PPP and measured in international 2005 dollars, are classified as poor. Therefore,

for poverty reduction there are two principal considerations. The first is the average growth in per capita household consumption. The second is how that growth is distributed, for which a commonly used measure is the Gini coefficient – which varies between 0 for absolute equality to 1, which would correspond to one person owning everything. Poverty is likely to fall more rapidly if the average increase in household consumption is accompanied by a fall in inequality (Bourguignon, 2003; Kraay, 2003; Klasen and Misselhorn, 2008). The ways in which change in average per capita household consumption and inequality affect poverty can be illustrated by the experience of rural China between 1990 and 2005 – as a result of policy changes favouring rural development (Box I.2). Figure I.3 shows the outcome so far, along with two projections. Since the starting point in 1990 was a poverty rate of 74%, the target for 2015 is 37%. Following the story along the brown line from 1990 indicates how, from 1990 to 1993 average per capita consumption increased, but since this was accompanied by a rise in the Gini coefficient, poverty fell only slightly, from 74% to 70%.

Table I.3 Poverty rates in 11 countries off track for poverty reduction (percentage)

	Latest available circa 2005 (1)	Target 2015 (2)	Gap (1)-(2)
Bangladesh	50.5	33.4	17.1
Cambodia	40.2	24.3	15.9
Georgia	13.4	2.2	11.2
India	41.6	24.5	17.1
Kyrgyzstan	21.8	9.3	12.5
Lao People's Democratic Republic	44.0	27.9	16.1
Mongolia	22.4	9.4	13.0
Nepal	55.1	34.2	20.9
Philippines	22.6	15.4	7.2
Sri Lanka	14.0	7.5	6.5
Uzbekistan	46.3	16.1	30.2

Source: ESCAP calculations based on data available at World Bank's PovCalnet website.

Note: Latest poverty headcount for the Lao People's Democratic Republic and Sri Lanka – 2002; Nepal and Uzbekistan – 2003; Cambodia and Kyrgyzstan – 2004; Bangladesh, Georgia, India, Mongolia – 2005; and the Philippines – 2006.

Box I.2 Promoting agriculture and rural development in China

Since the 1990s the government has focused on providing economic resources to the rural areas.^a In 1993, it introduced the “three-farm policies” to improve productivity in farming, promote economic development in rural areas and increase the incomes of farmers – which included increasing capital investment and helping farmers use better technologies. Further measures announced by the State Council included measures to improve the quality of land, diversify the output mix and establish market mechanisms for the distribution of grain. The government also aimed to improve rural water supplies, roads and electricity and develop industrial and service industries in rural areas.

In 2005 the government abolished all taxes for farmers. Agriculture and rural areas were also to receive a higher proportion of national fiscal spending, and of investment on fixed assets and credits. The overall policy document reiterated the importance of agriculture and marketing, and announced measures to facilitate the migration of rural labour and increase the funding of rural education and the training of farmers – along with more financial support for the new rural cooperative health care system.

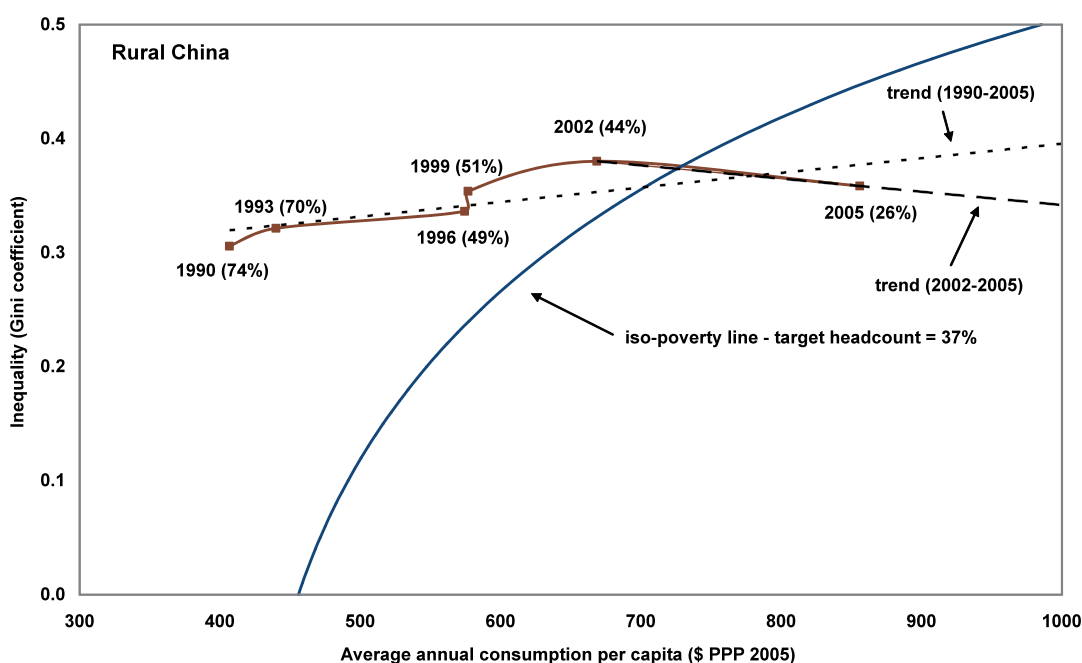
In 2006, the “three farm” policies were incorporated in the 11th Five-Year Plan under the heading of “building a new socialist countryside”. Between 2004 and 2006 the budget for agriculture, rural areas and farmers increased by more than 10% per year.

Agricultural reform in China has produced dramatic results. Between 1978 and 2008 the production of grain increased from 305 million tonnes to 529 million tonnes and of meat from 9 to 73 million tonnes. And while farmers’ incomes increased substantially many people also found off-farm employment. Between 1978 and 2006, the proportion of workers employed in secondary and tertiary industries increased from 30% to 57%.^b

^a Chow, G.C. (2006). “Rural poverty in China: Problem and policy”, Center for Economic Policy Studies Working Paper, No. 134, September.

^b Zhang, H. (2009). “China’s rural reform: review and outlook” in FAO, Agricultural Reforms and Trade Liberalization in China and Selected Asian Countries: Lessons of Three Decades, Policy Assistance Series 6, (Bangkok, FAO).

Figure I.3 How rural China reduced poverty



Source: ESCAP calculations based on data obtained from the World Bank’s PovCalnet website.

Note: The iso-poverty line represents combinations of average household consumption per capita and the Gini coefficient for which the headcount poverty rate is constant, in this case 37%. See Annex 1 for details.

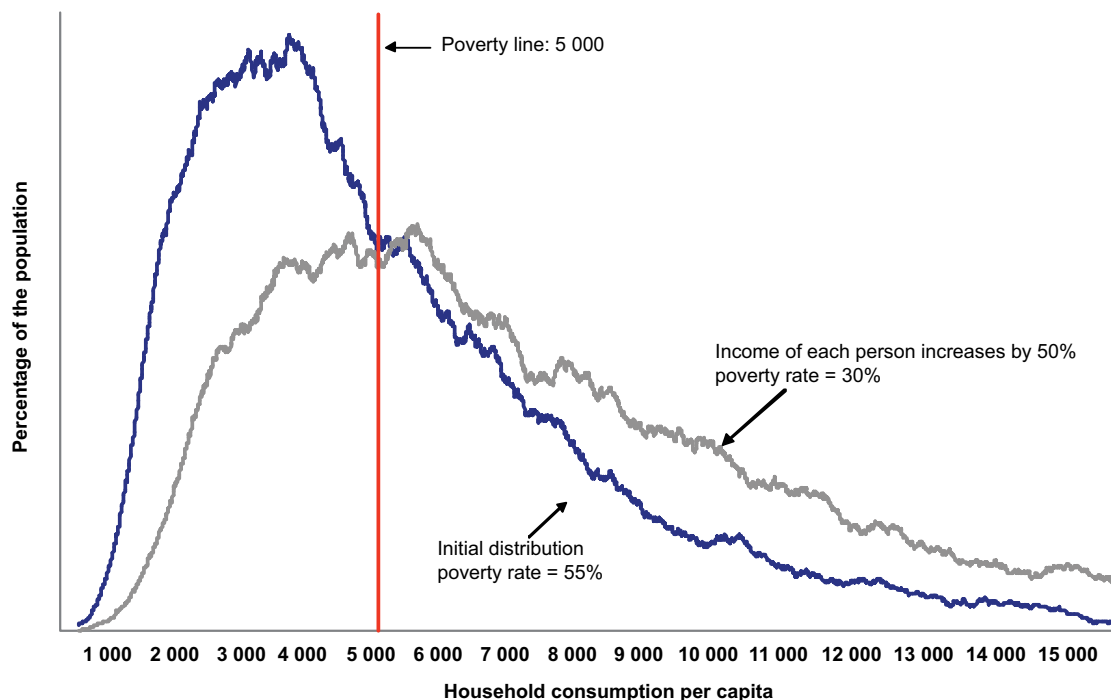
In the period from 1993 to 1996, however, average consumption per capita grew more rapidly while inequality grew more slowly. This generated a far more substantial drop in poverty, from 70% to 49%. From 1996 to 1999, per capita household incomes stagnated while inequality increased, so the poverty rate increased to 51%. Inequality continued to rise between 1999 and 2002, but because average consumption per capita grew at a faster pace, the net effect was that the poverty headcount fell by 7 percentage points – to 44%. Then from 2002 the trend became even more positive – as consumption rose to \$850 per capita and inequality dropped back to its 1999 level. As a result the poverty headcount dropped to 26% – already below the MDG target, illustrated by the iso-poverty line (see note to Figure I.3). How much faster will rural poverty be reduced in China would depend, however, on which trend continues – that of 1990-2005, or that of 2002-2005.

This example demonstrates that the relationship between economic growth and poverty is far from straightforward. In general, the highest poverty

reduction is obtained when increases in average per capita consumption are accompanied by decreases in inequality. However, fast economic growth often contributes to decreasing poverty even if it is associated with increases in inequality. This is illustrated by the two hypothetical income distributions in Figure I.4. The first distribution, in blue, has a poverty rate of 55%, measured as the area under the curve to the left of the poverty line (shown in red). The second distribution, in grey, assumes that per capita consumption increases 50% in all the households. In this case the poverty rate goes down to 30%. Nevertheless, although everybody would get proportionally the same increase in income, the distribution becomes more unequal. This is to be expected because after the 50% increase, someone making 10,000 will get a 5,000 increase, while someone making 1,000 will only get a 500 increase.

To be sure, the example above is a stylized one. In real growing economies not everyone's income increases at the same rate. Some people who are stuck in poverty, employed in subsistence activities,

Figure I.4 Poverty, growth and income distribution – a hypothetical example



Source: ESCAP calculations

Note: The picture shows two empirical density functions. The total area under each of them equals one, and the area under each of them to the left of the poverty line indicates the share of the population living in poverty. The blue density function was obtained from a random sample of 10,000 observations drawn from a log-normal distribution with a mean of 10,000 and a standard deviation of 7,000. The grey density function, which has a mean of 15,000 and a standard deviation of 10,000, was obtained by multiplying each observation from the blue density function by 1.5.

or earning the bare minimum to survive may be completely bypassed by economic growth. Others may be able to lift themselves out of poverty by migrating or by finding employment or self-employment opportunities, in which case their income could increase significantly faster than the average. Overall, what matters the most for poverty reduction is what happens at the bottom end of the income distribution. An economy will be most successful in reducing poverty if it can generate earnings opportunities for those at the bottom of the income distribution. Fast economic growth is a necessary but not sufficient condition for this to happen.

In fact, however, in most countries it would be an achievement even to hold inequality constant. An analysis of 15 Asia-Pacific countries during the period 1990-2005 reveals that inequality increased

in most cases. On average it is estimated that a 1% increase in mean consumption per capita has been associated with a 0.15% increase in the Gini coefficient. Moreover, had these countries been able to hold inequality at their 1990s levels until the mid 2000s then the total number of people living in poverty would by then have dropped by an additional 54 million (ESCAP, 2010, Table 3.3).

A similar analysis can be performed with data from the 11 Asia-Pacific countries that are off track for the poverty target. What difference would variations in the rate of growth of consumption and in inequality make to the pace of poverty reduction? Table I.4 shows the percentage point reduction in the poverty rate that would be achieved either by a 1% increase in per capita consumption or a 1% decrease in the Gini coefficient.

Table I.4 Impact on poverty of variations in average incomes and inequality, selected countries

Country	Average household consumption per capita (\$PPP 2005)	Gini Coefficient	Reduction in poverty headcount (percentage points)	
			“Growth effect” – of a 1% increase in mean consumption per capita	“Distribution effect” – of a 1% decrease in inequality
	(1)	(2)	(3)	(4)
Bangladesh (2005)	570	0.31	0.70	0.47
India – rural (2005)	599	0.30	0.70	0.54
Lao People’s Democratic Republic (2002)	613	0.33	0.66	0.52
Uzbekistan (2003)	617	0.37	0.59	0.46
Nepal (2003)	674	0.47	0.45	0.39
India – urban (2005)	749	0.38	0.54	0.57
Cambodia (2004)	773	0.42	0.49	0.52
Mongolia (2005)	875	0.33	0.49	0.67
Kyrgyzstan (2004)	877	0.33	0.49	0.68
Philippines (2006)	1 188	0.44	0.36	0.58
Sri Lanka (2002)	1 201	0.41	0.35	0.58
Georgia (2005)	1 398	0.41	0.34	0.53

Source: ESCAP calculations based on data available at World Bank’s PovCalnet website.

Notes: 1 - Estimates of growth and distribution effects – columns (3) and (4) are based on Klasen and Misselhorn (2008). See Annex 1 for details. 2 - Latest household consumption and Gini coefficient data year are in parentheses.

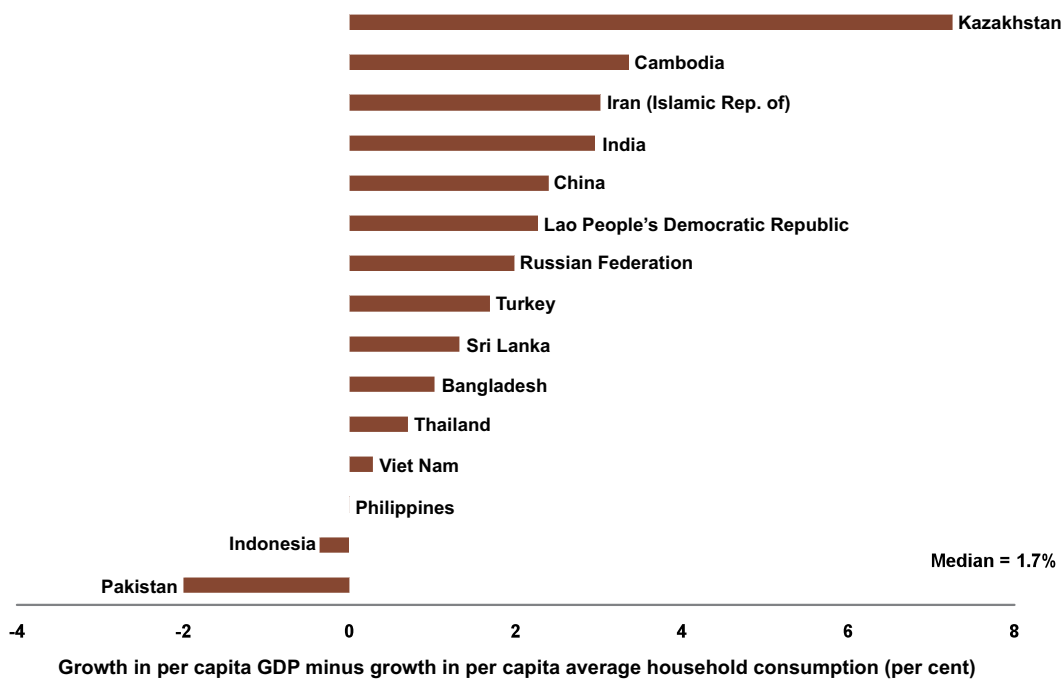
The first two columns in Table I.4 show for these 11 countries the most recent values for the average household consumption per capita and the Gini coefficient. The third column shows the potential “growth effect” – the reduction in the poverty headcount resulting from a 1% increase in the rate of growth of per capita consumption without any change in inequality. Among the countries listed in the table, those that would benefit most from faster growth would be Bangladesh and India (rural) where every one per cent increase in mean consumption per capita would reduce poverty by 0.70 percentage point. The Lao People’s Democratic Republic, Uzbekistan and urban India would also benefit significantly from such a strategy, with a poverty reduction of more than half a percentage point.

The fourth column of Table I.4 shows the effect of a one per cent decrease in inequality keeping per capita consumption constant. On this basis, the country that would stand to gain most would be Kyrgyzstan, which would see a 0.68 percentage point decrease in the poverty headcount, closely followed by Mongolia at 0.67 percentage points.

As indicated in Table I.4, it is typically the poorer countries that benefit more from promoting an increase in household consumption. As countries become richer, the benefit for poverty reduction of increasing household consumption decreases and the impact of reducing inequality becomes more significant. In Sri Lanka, for example, a 1% increase in household consumption per capita would reduce poverty by only about half as much as in Bangladesh. On the other hand, a 1% decrease in inequality in Sri Lanka would reduce poverty by 0.58 percentage point compared with 0.47 percentage point in Bangladesh.

It is important to note that a high-growth strategy may not necessarily produce commensurate gains in average household consumption. In fact, for many countries in the region over the 1990 to mid-2000s period this growth rate has been noticeably smaller than the rate of per capita GDP growth. As shown in Figure I.5, in 10 out of 15 countries, GDP per capita grew at least 1% faster than household consumption per capita, and the median difference in favour of the former was 1.7% per year. This

Figure I.5 Difference in annual average growth rates of GDP per capita and average household consumption per capita, selected countries



Source: ESCAP calculations based on data available at World Bank’s PovCalnet website and GDP per capita (PPP 2005) from the World Bank’s World Development Indicators database.

Note: Average annual growth rates computed using data from circa 1990 to the mid 2000s.

suggests that the region had a potential for reducing poverty faster than it did – if the rate of growth of average consumption would have been closer to the rate of per capita GDP growth. In a counterfactual analysis, ESCAP (2010, Table 3.3) showed that an additional 172 million people would have been lifted out of poverty between 1990 and the mid-2000s if household consumption per capita had grown 1% faster than it did (see ESCAP (2010) for a discussion of reasons for the discrepancy between per capita GDP growth and per capita household consumption). It should be pointed out that there are data issues. Household consumption data come from household surveys while GDP data come from national income accounts, and the results are often not compatible (Ravallion, 2001 and 2003).

Closing the poverty gap

If countries wish to close the poverty gap they will thus need to be concerned about GDP growth, average household consumption growth, and inequality. Three potential scenarios until 2015 are considered:

Scenario 1: Business as usual – Inequality continues along the historical trends between 1990 and the mid-2000s. Household income also rises according to the historical trend and the relationship between per capita growth in GDP and household consumption are similar to what they were over that period. Poverty reduction would thus be the outcome of changes in mean consumption offset or amplified by changes in inequality. Much would depend therefore on the historical trend in inequality. If this was increasing it could well outweigh any gains from increased in household consumption. Similarly, if per capita household consumption did not grow commensurately with per capita GDP, progress in poverty reduction would be slower.

Scenario 2: Inequality held constant – The relationship between the growth in per capita household consumption and the growth in per capita GDP remains the same, but in this case inequality does not increase. This would be the case, for example, if the government was determined to hold inequality in check, perhaps through more progressive forms of taxation.

Scenario 3: Increase in the rate of growth of consumption – Over the period 2010 to 2015, inequality is held constant, as in Scenario 2, and average household consumption per capita grows at an additional 1 percentage point per year above its current trend. This would be possible through a combination of policies focusing on strengthening social protection, promoting agricultural and rural development as discussed in ESCAP (2010) and through enhancing financial inclusion, as discussed below.

For each of these scenarios, the growth and distribution effects identified in Table I.4 can be used to estimate the GDP growth required to meet the MDG income poverty target for each of these 11 countries (see Annex 1 for technical details). The results are shown in Table I.5. The first column shows the IMF's current growth projections to 2015, which take into account the effect of the economic crisis. If these forecasts were to prove correct then, as indicated in Figure I.1, under the business-as-usual scenario 10 of the 11 countries would miss the target. The exception is Mongolia. The difference arises because the on- or off-track estimates in Figure I.1 are based on long-term trends, while those in Table I.5 are based on the latest forecasts for the period 2010-2015, which for Mongolia present a more optimistic picture than the historical trend would suggest. If these countries were to achieve the poverty targets under the business-as-usual scenario, which generally implies a rise in inequality, then they would have to boost economic growth considerably, perhaps to unfeasibly high levels – two or three times the current IMF forecasts.

Under scenario 2, if they could hold inequality constant the prospects would improve significantly. Kyrgyzstan, for example, would achieve the target by 2015, and other countries would not be far behind: India would reach it by 2016; the Philippines and Sri Lanka by 2017; and the Lao People's Democratic Republic by 2018. Indeed, with only moderately faster growth all three could hit the target: India, for example, would need to increase its average annual GDP growth rate from 7.9% to 8.9%.

Table I.5 GDP growth required to reach the MDG1 target assuming different scenarios

	Scenario 1 Business as usual		Scenario 2 No change in inequality		Scenario 3 Additional 1% in average household consumption per capita		
	Average annual GDP growth rates, IMF forecasts 2010- 2015 (%)	Year of achievement based on IMF forecasts	Estimated annual GDP growth to reach MDG target by 2015 (%)	Year of achievement based on IMF forecasts	Estimated annual GDP growth to reach MDG target by 2015 (%)	Year of achievement based on IMF forecasts	Estimated annual GDP growth to reach MDG target by 2015 (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bangladesh	6.2	2021	12.4	2019	10.0	2015	5.2
Cambodia	6.1	2025	16.3	2024	15.2	2019	9.8
Georgia	4.3	2033	17.8	2031	16.2	2026	12.2
India	7.9	2017	9.9	2016	8.9	2013	5.0
Kyrgyzstan	4.6	2016	4.8	2015	4.1	2014	3.8
Lao People's Democratic Republic	7.1	2019	10.9	2018	9.8	2012	3.4
Mongolia	7.3	2014	6.0	2014	5.5	2013	4.1
Nepal	5.1	2021	10.4	2021	9.9	2016	5.8
Philippines	4.2	2018	6.0	2017	5.2	2015	3.9
Sri Lanka	5.6	2020	9.7	2017	7.5	2014	4.7
Uzbekistan	6.4	2028	20.6	2027	19.9	2023	15.1

Source: ESCAP calculations based on data available at World Bank's PovCalnet website.

Notes: 1 - Estimates of average annual GDP growth rates are based on IMF forecasts for GDP growth 2010 to 2014 available in IMF (2009). *World Economic Outlook – October 2009* and IMF (2010). *World Economic Outlook Update - January 2010* (Washington, D.C., IMF). 2 - See Annex 1 for details of the estimation of the GDP growth rate required to reach MDG target by 2015.

The third scenario, of faster growth in household consumption as a component of GDP as well as no increase in inequality, would further accelerate the achievement of poverty target. Indeed, it would enable the Lao People's Democratic Republic to meet the target by 2012, while India and Mongolia would do so by 2013.

Overall, the message is clear. Most of these countries will not hit the poverty targets if they focus solely on economic growth. They will want to make sure that GDP growth is broad based and translates into household consumption growth – through fiscal policy, for example, or by offering incentives to promote the type of economic development that will most benefit the poor (Box I.3).

More equitable growth would also bring many other benefits, political and economic. Given changing world economic conditions, many countries of the region will want to diversify their sources of growth. Less able in future to rely on exports to the United States and Europe, they will be looking instead to boost local demand – which can be achieved by putting more money in the hands of poor consumers (see ESCAP, 2010).

Closing the other MDG gaps

How much investment would it take for the countries of the region to close the other MDG gaps? For such a large and diverse region the strategies and the costs will vary considerably from country to country. However, it is possible to arrive

Box I.3 Policies for more equitable growth

Unprecedented growth since 1990 has helped lift 548 million people across Asia and the Pacific out of extreme poverty (Table I.1). But the benefits of overall growth have not trickled down to everyone: Asia and the Pacific is still the home to the majority of the world's people, both rural and urban, without basic sanitation, of under 5 children who are underweight, of people infected with tuberculosis, of people living on less than \$1.25 a day.^a Growth is still vital; experience suggests that equity is best pursued in a growing economy. But growth is not sufficient. Indeed some countries, such as Uzbekistan, have had strong growth but seen poverty rise while others, such as India, with more modest growth have seen poverty fall. Growth clearly needs to be accompanied by a set of pro-poor policies. Across the region, these have included:

Promoting agriculture – Most of the poor live in rural areas and work in agriculture, so it is essential to increase rural productivity and the opportunities for marketing crops. Policies will include increasing output and diversifying into labour-intensive high-value production such as horticulture and livestock while improving infrastructure and access to credit and market information. From the 1980s, China, for example, adopted an agriculture-led development strategy which sparked off historically unprecedented reduction in poverty.^b In Viet Nam too, agricultural reforms have contributed to a remarkable reduction in poverty.^c

Investing in education and healthcare – In the 1960s, levels of economic development, measured in terms of GNP per capita, were relatively similar across the region. Subsequently, however, the gaps started to widen. In the period from the 1970s to the 1990s, the least developed countries, and the developing countries in South Asia, increased their per capita GDPs between two and five times. But growth was far more rapid elsewhere; in the Republic of Korea over a similar period, per capita GDP increased by a factor of 65, in Thailand by a factor of 13, and in Malaysia by a factor 10.^d The disparities can be attributed partly to spending on education which in the slower growing countries was only between 40 cents and \$1.60 per capita, compared with \$9.10 by the Republic of Korea, for example, and \$16.40 by Malaysia. Similarly, while Pakistan was only spending 12 cents per capita on health care, Malaysia was spending \$5.50 per capita.

Progressive industrial and labour policies – Governments can help SMEs by improving their access to management and technical skills, and to credit facilities – a strategy followed, successfully in China.

Offer social protection and social safety nets – Industrial policy should be accompanied by support for particularly vulnerable workers. In response to the 1997 financial crisis, the Republic of Korea, for example, introduced public works programmes to employ workers who had been laid off, along with means-tested temporary livelihood protection for the ultra-poor. Similar programmes are now being offered in many other countries. Bangladesh, for example, has introduced social measures in the past two years which have amounted to more than 15% of the total budget. These have included educational stipends and other types of allowance, and in 2008 an Employment Guarantee Scheme.

Develop new centres of growth – Asia and the Pacific has seen rapid urban growth and by 2003 had nine cities with populations of 10 million or more.^e Much of this growth is due to rural-urban migration which is putting a greater strain on the urban infrastructure and environment. A key objective over the medium term should therefore be to develop the smaller cities and towns into vibrant centres of economic growth.

Box I.3 Policies for more equitable growth (continued)

Protecting disadvantaged groups – A number of people are particularly disadvantaged. The largest numbers are women. An ESCAP study shows that the region as a whole is losing \$42-\$47 billion per year because of restrictions on women's access to employment opportunities and another \$16-\$30 billion per year because of gender gaps in education.^f Other groups for whom governments need to be concerned include older people and people with disabilities.

^a ESCAP/ADB/UNDP (2010). *Achieving the Millennium Development Goals in an Era of Global uncertainty: Asia-Pacific Regional Report 2009/10* (United Nations publication, Sales No. E.10.II.F.10).

^b See Box I.2.

^c Kakwani, N., S. Khandker and H.H. Son (2004). "Pro-poor growth: Concepts and measurement with country case studies", UNDP International Poverty Centre Working Paper, No. 1, August.

^d Hasan, A. (2001). "Development planning in a market economy", Least Developed Countries Series, No.6 (ST/ESCAP/2174).

^e Tandon, A. (2005). *Urbanization and Poverty in Developing Asia* (Manila, ADB).

^f For more details see Chapter 3 of ESCAP (2007b). *Economic and Social Survey of Asia and the Pacific 2007* (United Nations publication, Sales No. E.07.II.F.4).

at a general sense of what would be required in Asia and the Pacific on the basis of a needs assessment carried out by the United Nations Millennium Project (United Nations, 2005). This was a detailed analysis of five countries: Bangladesh, Cambodia, Ghana, Tanzania and Uganda. It covered the following 11 areas: hunger, education, gender equality, health, environment, water and sanitation, the lives of slum dwellers, science and technology, energy, and roads. For each of these it estimated the required investments in pro-MDG interventions, starting in 2006 and scaling them up linearly to meet the MDGs in 2015.

On the basis of the needs assessment for these five countries, a modelling exercise was carried out to estimate some corresponding costs in Asia and the Pacific. As with the Millennium Project, we focus on the total costs required for meeting the MDGs. In other words, we estimate the total needs for achieving the MDGs including the resources required to sustain current coverage levels (see Millennium Project, 2004, p. 32). Full details on the methodology are given in Annex 1. Table I.6 shows the results for nine indicators, covering all countries in the region. It shows what they are likely to spend to reach their projected achievement for 2015. For the off-track countries the table also shows the additional cost of closing the gap between the current projection and the target.

As indicated in Table I.6, some of the MDG gaps can be closed with relatively low investment. The underweight children target, for example, can be reached if countries that are off track on this indicator invest an additional \$23 billion. The gap in the provision of clean water and basic sanitation in rural areas can be closed by investing \$3 billion and \$8 billion, respectively. Overall, it should also be noted that the cost of reaching the targets in rural areas is much less than in urban areas – between one tenth and one fourth – and around twice as many people would benefit.

Table I.6 covers only the nine indicators for which there were corresponding data from the United Nations Millennium Project. The areas not covered are: gender equality, slum dwellers, energy, roads, rural development, education at levels other than primary, water shortages, hygiene education, tuberculosis and malaria. This report estimates that the nine indicators in Table I.6 should cover around 40% of the total costs. Scaling up to cover the remaining indicators would imply therefore multiplying the total cost of \$434 billion by 2.5 to reach \$1,084 billion, and multiplying the \$254 billion cost of the gap by 2.5 to reach \$636 billion. It should be noted, however, that this scaling-up does not include any costs related to income poverty or any further objectives related to climate change.

**Table I.6 Costs of meeting nine of the MDG targets in Asia-Pacific countries, 2010-2015
(in billions of United States dollars)**

MDG Indicator		Cost of reaching the current projected values (1)	Cost to close the gaps (2)	Total cost to reach the targets (3)=(1)+(2)	Gap as a proportion of the total cost, % (4)=100*(2)/(3)
MDG 1	Underweight children	20	23	43	53
MDG 2	Primary enrolment	43	65	108	61
MDG 4	Under-5 mortality	25	33	58	57
MDG 5	Births by Skilled Professionals	7	17	24	72
MDG 6	HIV prevalence	29	42	71	59
MDG 7	Water, rural	10	3	13	25
	Water, urban	16	30	46	66
	Sanitation, rural	6	8	14	55
	Sanitation, urban	23	34	57	60
Total		180	254	434	59

Source: ESCAP calculations based on data from United Nations Statistics Division, Millennium Development Goals Indicators database, reference populations from World Population Prospects: the 2008 Revision (United Nations, 2007) and estimates of the United Nations Millennium Project (United Nations, 2005).

Notes: See Annex 1 for calculation details.

**Table I.7 Estimated annual investment to meet the non-income MDG indicators
(in billions of United States dollars)**

Year	Cost of reaching the current projected values	Cost to close the gaps	Cost to close the gaps (Total cost to reach the targets)
	(1)	(2)	(3) = (1) + (2)
2010	47	96	143
2011	57	99	156
2012	67	104	171
2013	79	108	187
2014	92	112	204
2015	106	117	223
Total	448	636	1 084

Source: ESCAP calculations based on data from United Nations Statistics Division, Millennium Development Goals Indicators database, reference populations from World Population Prospects: the 2008 Revision (United Nations, 2007) and estimates of the United Nations Millennium Project (United Nations, 2005).

Notes: 1- Estimates cover selected targets and do not include target of income poverty reduction (\$1.25-a-day) or the environmental targets related to climate change. 2 - See Annex 1 for details.

Table I.7 shows how this investment could be distributed over the next six years. The cost of closing the MDG gaps starts at \$96 billion in 2010, rising to \$117 billion in 2015. The cost is distributed in this way because it is assumed that in the earlier years the country will have less absorptive capacity. It may, for example, have to train cadres of new teachers, whose numbers and salaries would increase in later years.

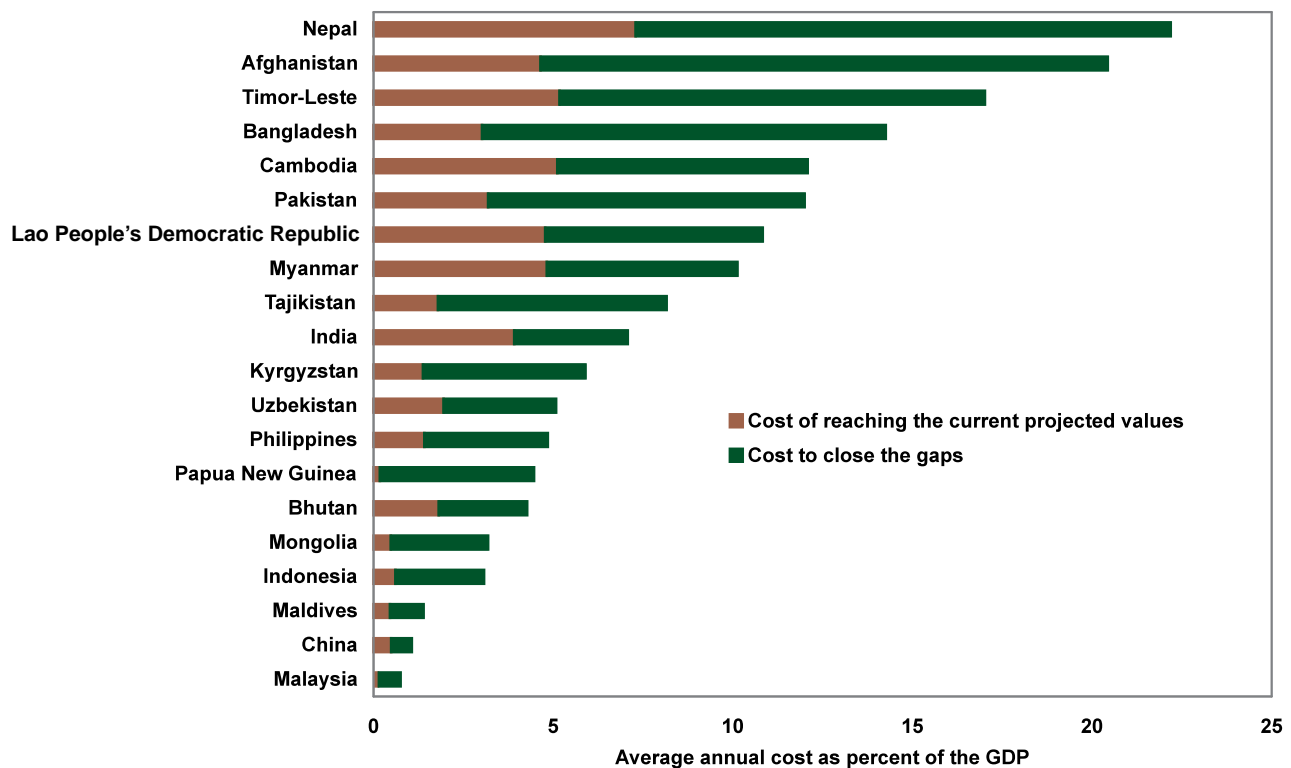
While for the region as a whole the costs of meeting the targets may not seem unduly high, for some countries especially the poorest ones, they are steep. This is illustrated in Figure I.6. The greatest costs, expressed as a percentage of GDP, are in Afghanistan, Nepal and Timor-Leste. Nepal and Afghanistan would require annual investments of over 20% of GDP to reach the targets, and over two thirds of these investments would require additional funding. Other countries that require large investments to reach the MDG targets are Timor-Leste (17% of GDP), Bangladesh (14%

of GDP), Cambodia and Pakistan (12% of GDP in both cases). Moreover, as Figure I.6 shows, financing gaps (in green) exceed projected financial costs (in brown) in all countries except India. Therefore, almost all countries will need to more than double their financial efforts in order to reach the MDG targets.

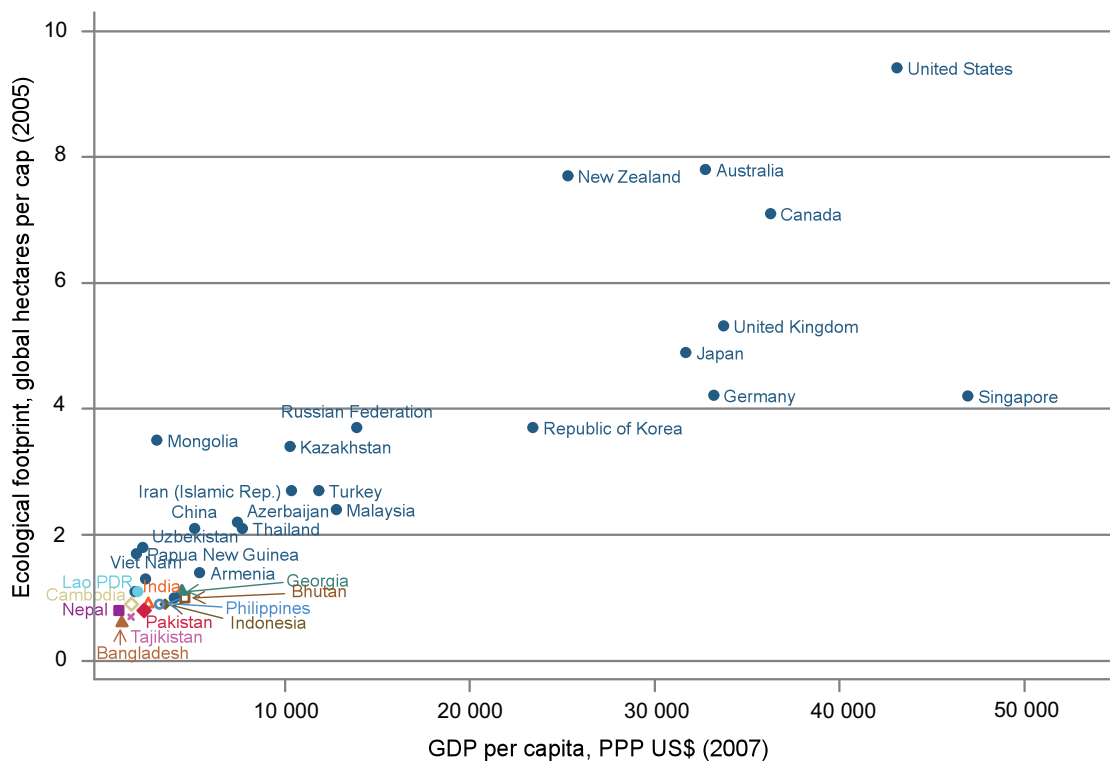
Climate change mitigation and adaptation

While MDG7 did include environmental dimensions it did not consider fully many of the costs associated with what is now recognized as an impending global crisis. Countries in the Asia-Pacific region, especially the poorest, stand to be among the most affected by climate change, which threatens to roll back development gains achieved over the last decades. Figures on the overall cost of addressing climate change, both in terms of mitigation and adaptation, differ according to various studies. The Stern Review, for example, estimated that the overall costs and risks of climate change will be equivalent to losing between 5% and

Figure I.6 Estimated investment required to close the MDG gap – annual average, LDCs and selected middle-income countries, selected targets (percentage of the GDP)



Source: ESCAP calculations based on data from United Nations Statistics Division, Millennium Development Goals Indicators database, World Population Prospects: the 2008 Revision (United Nations, 2007), United Nations Millennium Project (United Nations, 2005), International Monetary Fund, International Financial Statistics database.

Figure I.7 Ecological footprint and GDP per capita

Source: Ecological footprint per capita: data provided by the Global Footprint network, July 2005; GDP per capita: World Bank, World Development Indicators database.

20% of global GDP each year, now and forever (Stern, 2006). However, the costs of taking action to counter the impact would be much lower – only around 2% of global GDP each year.

ADB has similarly estimated that in South-East Asia the cost of inaction could be equivalent to a loss of 6.7% of the subregion's combined GDP by 2100, more than twice the world average estimates. However, the cost of taking action in climate change mitigation would require investments of around 1% of the subregion's GDP (ADB, 2009a). The World Bank estimates that the cost for developing countries to adapt to climate change would range between \$75 billion and \$100 billion per year for the period 2010-2050. The highest cost – between \$19.6 billion and \$25.0 billion – would be borne by the East Asia and the Pacific subregions (World Bank, 2008).

What appears clear is that the cost of taking action now will be far lower than the long-term cost of inaction. Investments in the next 20-30 years will

be critical. It is also evident that future economic growth must not only be more equally shared, it must also be delinked from environmental pressures. Achieving the growth needed to reduce poverty without compromising environmental sustainability is not only necessary, but feasible. This is suggested, for example, in Figure I.7 which shows that countries with similar levels of per capita GDP can have very different levels of ecological footprints.

Bridging the gaps

The Asia-Pacific region has already made progress towards achieving the Millennium Development Goals. On present trends it will achieve many, but by no means all. This will leave significant gaps in 2015, with millions of people deprived. As this chapter has demonstrated, however, most of these gaps can still be bridged, given sufficient commitment to inclusive and green growth. In some cases this will mean stepping up investment, though perhaps only by a few percentage points of GDP. The next chapter considers where those additional funds might be found.



Financing the MDGs and green growth

The previous chapter has considered the scale of the investment required to achieve the MDGs by 2015 and establish the countries of the region along a more inclusive and sustainable path of green growth. Most countries should be able to raise these funds from their own resources. Others will look more to international cooperation. This chapter considers the options.

Government spending on MDGs

If the developing countries in Asia and the Pacific are to meet the MDGs and reorient their economies to a more sustainable growth path, they will need to invest considerable sums. Many are already doing so. To assess the scale of current expenditure this chapter analyses government budgets in the Asia-Pacific region as recorded in the IMF's government finance statistics (IMF, 2008), which offer consistent data for 21 developing economies and two developed economies. With the exception of Fiji, there were no data available for the Pacific island economies.

Expenditure on the MDGs for this analysis is taken to be the outlays on "MDG sectors", which include health, education, housing and community amenities, and environmental protection. In addition, it includes the amounts spent on social protection, which in developed countries includes social security and in developing countries safety nets such as school feeding and employment programmes.

Table II.1 summarizes the data on MDG expenditure as a proportion of the GDP. This expenditure is the outcome of two fiscal policy choices: the share of

government expenditure in the gross domestic product and how that expenditure is allocated between sectors.

It should be emphasized however that the data in this analysis generally refer only to central government expenditure. It may thus offer a less accurate picture for countries with federal structures. For example, much of the expenditure on social sectors such as education or health may be financed by a grant from the central government for services to be implemented by provincial or local governments. In central government accounts this would therefore appear as "administrative" expenditure rather than social expenditure. For this analysis, such a classification is a major limitation.

In order to see if governments have changed their fiscal policies since the adoption of the MDGs, the analysis covers the period from 1999 to 2007. This makes it possible to assess policies in the three years up to 2001 (TE – triennium ending 2001), which would reflect priorities prior to the Millennium Summit, and compare these with the three years up to 2007 (TE2007), the most recent years for which comparable data are available.

As can be seen in Table II.1, as a proportion of GDP, the Maldives and Japan spend more than 20%, while China and Pakistan spend less than 1%. Much of this difference reflects the significance of total government expenditure in the economy – more than 20% in the Maldives, only around 6% in Myanmar.

In terms of trends, however, it is worrying that expenditure on MDG priorities, as a percentage of GDP, has increased in only six of these countries: Georgia, the Islamic Republic of Iran, the Maldives, Nepal, the Russian Federation and Sri Lanka. In the other 17 countries analysed it has remained stable or decreased, suggesting that governments have generally not been aiming to make greater

progress towards the MDGs than what they are already doing through changes in fiscal policy.

Countries with higher per capita incomes should be in a better position to spend more on the MDGs. Thus the two developed economies in this region, Australia and Japan, both spend more than 10%, as do five other economies with relatively high per capita incomes: Hong Kong, China; Islamic Republic of Iran; Singapore; Sri Lanka; and Thailand. But clearly a high income is not essential, since the list of countries spending more than 5% includes Bhutan, Nepal and the Maldives, which are LDCs.

Table II.1 Government outlay on MDGs priorities (percentage of GDP)

% of GDP in TE2007	Change over TE2001*		
	Increased (at least 1 percentage point)	Stable (+ / - 1 percentage point)	Decreased (at least 1 percentage point)
< 1%		China ^a Pakistan	
1% to 3%		India Myanmar ^a	Indonesia ^a
3% to 5%		Bangladesh ^a	Philippines
5% to 10%	Georgia Nepal Russian Federation Sri Lanka	Bhutan ^a Kazakhstan Republic of Korea Thailand	Hong Kong, China ^a Macao, China Singapore
10% to 20%	Islamic Republic of Iran	Australia Fiji ^b	
> 20%	Maldives	Japan ^a	

Source: ESCAP computations based on data from IMF (2008).

Note: The table is based on data on central government outlays only. For countries with a federal structure, the outlays on MDGs reported here would be an underestimate as those expenditures are usually carried out by provincial/local governments. For India, the IMF database does not report outlays on social protection.

* TE represents triennium ending.

^a For these countries the change since TE2001 is assessed using the latest data available as follows: TE2004 - Bangladesh, Bhutan, Indonesia; TE2005 - Myanmar; TE2006 - China, Hong Kong, China and Japan.

^b Data for Fiji are available only for TE2006, which does not permit assessment of the change since TE2001.

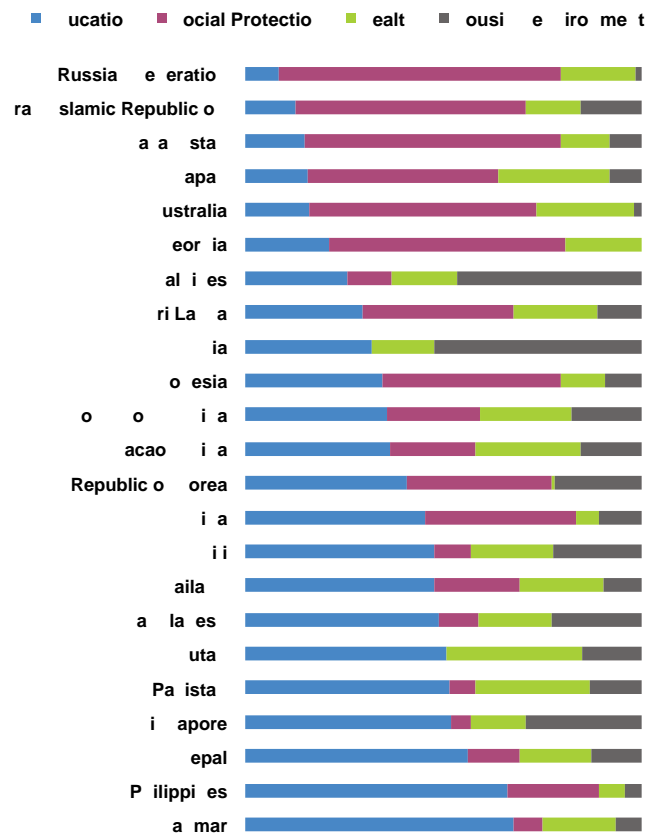
Amongst the LDCs, the spending on MDGs has increased only in the Maldives. Indeed the Maldives has witnessed the most dramatic rise in spending on MDGs from a already high level of 15% of GDP in TE2001 to 36% in TE2007, the highest amongst the 23 countries analysed here. It might also be thought that such spending might be encouraged by high economic growth. However, both China and India, two of the world's fast growing economies are among the low spenders. Clearly, the region as a whole should be able to spend more on the MDGs.

Figure II.1 shows for these 23 countries how this expenditure was distributed. For most countries, especially the developing countries, the largest single category of expenditure is education. As might be expected, the more developed countries, and those which were part of the former Soviet Union, devote quite high proportions to social protection.

Investing in agriculture

When assessing investments that help the MDGs, in addition to expenditure on MDG sectors and on social protection, it is also important to consider investment in agriculture, which makes a major contribution to the livelihoods of the poor. Agricultural growth is known to be inclusive and helps reduce poverty. In most countries of the region, direct government expenditure on agriculture, forestry, and fishing is relatively small – barely 1% of GDP. The exceptions are Bhutan at 3.4%, and Japan at 2.5%. However, this will represent only a part of what they are investing in agriculture growth since it does not take into account investment in infrastructure such as irrigation, rural roads, agricultural markets, and storage facilities – which are the responsibilities of various ministries and may thus not be reported as agricultural expenditures.

Figure II.1 Components of spending on the MDGs



Source: ESCAP computations based on data from IMF(2008).

Notes: For Bangladesh, Bhutan and Indonesia the data pertain to TE2004; for China, Fiji, Hong Kong, China and Japan, the data pertain to TE2006; for Myanmar, the data pertain to TE2005; for India, the IMF database does not report outlays on social protection.

Fully exploiting the fiscal space

One reason why government expenditure on the MDGs might fall short is a concern about fiscal deficits. Since the 1980s, and particularly during the 1990s and for most of the 2000s, governments have focused on fiscal consolidation driven by the view that high fiscal deficits are inflationary, resulting in high interest rates and thus ultimately constraining private investment and growth. Most governments have therefore been aiming either for a fiscal balance or a surplus. Some countries, such as India, Pakistan, and Sri Lanka, have fiscal responsibility legislation that set limits on fiscal deficits. The

general assumption has been that a deficit beyond 3% to 3.5% of GDP is unsustainable. Countries with high fiscal deficits have usually been advised to cut public expenditure – and the simplest cuts are often those on social expenditure.

The regional picture is shown in Table II.2 which reports the operating balances – revenues less expenditure – as a percentage of GDP. In the triennium ending 2007, of the 20 countries for which data are available, 11 had a surplus – over 10% of GDP in the Islamic Republic of Iran and the Russian Federation, and more than 3% in

Table II.2 Government budget net operating balance (percentage of GDP)

	TE2001	TE2004	TE2007
Australia	1.1	0.4	1.6
Bangladesh	1.5	1.8	..
Bhutan	19.0	12.0	..
China	-3.7	-2.3	-1.9
Fiji	..	0.0	-0.4
Georgia	-0.9	0.9	2.7
Hong Kong, China	..	-4.6	0.2
India	-3.9	-3.9	-2.7
Indonesia	1.6	1.4	..
Iran (Islamic Republic of)	5.9	8.1	12.1
Japan	-3.9	-5.4	-3.9
Kazakhstan	-1.1	1.8	3.9
Macao, China	0.1	0.3	0.5
Maldives	7.8	7.2	4.8
Myanmar	-2.6	-2.0	-2.1
Nepal	-4.2	-2.4	-1.6
Pakistan	-2.5	-0.9	-1.2
Philippines	-2.2	-4.4	-2.1
Republic of Korea	4.3	3.4	1.9
Russian Federation	2.9	6.4	10.5
Singapore	10.1	4.5	5.9
Sri Lanka	-5.0	-5.4	-3.6
Thailand	-0.3	0.9	4.3

Source: ESCAP computations based on data from IMF (2008).

Notes: For Bangladesh, Indonesia and Japan, the figures reported under column TE2001 pertain to fiscal year 2001. For China, Fiji, Hong Kong, China and Japan, the figures reported under column TE2007 pertain to TE2006. For Myanmar, the figures reported under column TE2007 pertain to TE2005.

Kazakhstan, the Maldives, Singapore and Thailand. The remaining 9 countries had deficits lower than 4%. As the table also shows, the trend is one of increasing fiscal conservatism: between TE2001 and TE2007 most countries have moved in the direction of larger surpluses or smaller deficits.

Under the prevailing economic orthodoxy of the “Washington Consensus”, the general rule of thumb has thus been that the fiscal deficit should be limited to around 3% of GDP for all countries, regardless of their economic conditions. Curiously, this target was first set in the European Union as a part of the Maastricht convergence criteria – as a precursor to monetary union. This might be appropriate for the advanced and mature European economies that have been growing slowly, if at all. Since they already have highly developed physical and social infrastructure they should no longer need high levels of public investment. Moreover they already have well developed systems of social protection for populations that have stopped expanding or may even be shrinking. They may therefore want to limit budget deficits to contain inflationary pressures – especially given the adoption of a single currency that requires that rates of inflation do not vary across countries.

The circumstances are very different in the Asia-Pacific developing countries. They have been growing more rapidly so have more room for manoeuvre. At the same time they need to invest more to improve their physical infrastructure, reduce poverty and social deprivation, and provide stronger systems of social protection. For these countries, it is questionable whether the 3% limit on budget deficits is relevant. Instead they might reasonably incur a higher budget deficit, say 5-6% of GDP, as a consequence of investment in poverty reduction and human development. The inflationary pressures resulting from this, if any, would be more than offset by productivity gains resulting from better standards of education and health. Of course, the quality of the public expenditure is critical.

What constitutes an optimal budget deficit would vary considerably according to national circumstances and remains an issue for further study. Nevertheless it is clear that policy makers in many developing countries have greater fiscal policy space

than they realize and they may consider exploiting it for meeting the MDG targets. Some of this policy space was actually exploited over the past two years for fiscal stimulus packages in the aftermath of the global financial crisis.

Reorienting public expenditure

If governments are to spend more on the MDGs one option would be to divert resources from other government expenditure. While there are many options across the range of government expenditure, this section focuses on just three – administrative cost, public debt servicing, and fossil fuel subsidies.

Administrative expenditure

Governments spending less on the MDGs tend to spend more on the administrative function of the government, which includes defence, public order and safety (Table II.3). This represents more than half of expenditure in seven countries: China, India, Indonesia, Kazakhstan, Myanmar, Pakistan and the Philippines. The situation is the most extreme in Pakistan where in TE2007, the administrative function accounted for over 88% of total expenditure. In China and India, the proportion was more than 80% and 70%, respectively. All these countries except Kazakhstan spent less than 5% of the GDP on MDG priorities. Conversely, the countries that spent more than 5% of the GDP on MDG priorities often devoted less than 40% of government expenditure to the administrative function. One important way of releasing resources for MDGs would thus be to reduce the burden of administrative expenditure.

This may not be easy. First of all, a major portion of the central government expenditure on the administrative function often consists of grants to provincial or local governments. Countries with federal structures typically base these intra-governmental transfers on well-established criteria which are difficult to change. Moreover, such grants are often intended to finance expenditure on MDGs by the provincial or local governments.

Another issue is that much of the administrative expenditure covers staff costs. Many of these employees may also be critical to the delivery of MDG-related services so cutting staff per se

**Table II.3 Government outlays on administration and public debt transactions
(percentage of total outlays)**

	Administration total			Public debt transactions		
	TE2001	TE2004	TE2007	TE2001	TE2004	TE2007
Australia	32.9	33.2	32.5	6.8	4.8	3.8
Bangladesh	43.0	47.1	..	14.6	16.0	..
Bhutan	28.1	36.1	..	0.9	1.7	..
China	78.4	75.2	83.3	..	4.9	3.9
Fiji	..	38.7	39.9	..	9.0	9.2
Georgia	48.9	51.4	42.6	18.8	13.6	4.6
Hong Kong, China	..	29.3	34.0	..	0.1	0.4
India	76.0	73.6	71.8	29.0	26.6	21.5
Indonesia	70.1	79.9	..	19.0	18.5	..
Iran (Islamic Republic of)	33.4	32.9	26.0	..	0.8	0.9
Japan	20.7	20.4	19.0	8.2	7.2	6.5
Kazakhstan	39.3	46.6	51.9	8.1	5.1	1.8
Macao, China	41.8	35.7	32.7	0.0	0.0	0.0
Maldives	44.7	37.8	31.9	3.9	3.9	2.6
Myanmar	52.1	47.7	51.0	..	..	..
Nepal	38.5	43.0	40.7	7.2	8.4	6.2
Pakistan	91.9	89.7	88.2	35.6	33.9	23.8
Philippines	57.6	64.9	68.7	21.6	28.3	31.5
Republic of Korea	40.3	38.7	37.9	6.0	4.8	5.5
Russian Federation	54.0	53.1	48.2	13.8	6.6	3.8
Singapore	40.6	43.3	46.8	2.1	1.2	0.7
Sri Lanka	51.9	49.9	42.7	23.6	28.6	20.9
Thailand	27.8	32.0	32.3	5.6	6.3	7.4

Source: ESCAP based on data from IMF (2008).

Note: Outlays on Administration includes "General public services, Public debt transactions, Defence, and Public order and safety". For China, Fiji, Hong Kong, China and Japan, the figures reported under column TE2007 pertain to TE2006. For Myanmar, the figures reported under column TE2007 pertain to TE2005.

should not be the main priority. Moreover, even where there is overstaffing, governments may find that reducing staff numbers is politically difficult. And government employees are typically the most organized workers and in a strong position to defend their jobs.

Servicing the public debt

A significant proportion of government expenditure in many countries is related to servicing the public

debt (Table II.3). In Sri Lanka, for example, nearly half of the administrative expenditures in TE2007 were for debt transactions, while in the Philippines the proportion was around 46%. In Fiji, India, Pakistan and Thailand debt transactions constitute between 20% and 30% of administrative expenditures. While no Asia-Pacific country has a debt crisis, some nevertheless have sizable public debt-servicing commitments that limit their capacity for pro-MDG investments.

Table II.4 reports the stock of net liabilities as a percentage of the GDP and, wherever possible, the split between domestic and foreign liabilities. In most of the region's developing countries the overall level of debt in TE2007 was moderate – around 30% or less of the GDP. In fact the greatest liabilities in the region were in two of the richest countries: Japan, 185%, and Singapore, 100%. The trend of debt over time has been mixed, rising in some countries, stable in others and falling in a few. The most dramatic reduction in liabilities between TE2001 and TE2007 was in the Russian Federation – from over 70% to about 12%. Georgia and Kazakhstan have also witnessed significant reductions.

Policies on debt will differ depending on whether the debt is domestic or foreign. Most domestic borrowing is from the country's own citizens – which often represents their savings. In many countries, postal savings, for example, typically offer people a safe form of savings – filling a void in the financial system. Even developed economies, such as Australia or Japan, have large government-backed postal savings schemes. Governments find it difficult to reduce this form of domestic liability. Nevertheless, they could try and reduce some of their domestic liabilities that do not serve a household savings purpose, possibly by using the proceeds from privatizing government assets. This may release some resources for MDG-related spending.

Foreign liabilities, on the other hand, have no savings element: they simply fill gaps in government budgets. Governments wishing to reduce foreign debt liabilities will therefore want to avoid borrowing at commercial rates, and instead seek concessional international aid that carries a lower interest burden. In the spirit of MDG-8, they, and the LDCs in particular, should also be able to rely on debt waivers. Both can reduce debt servicing payments and free up resources to spend on the MDGs.

Fossil fuel subsidies

A number of countries in the region devote considerable funds to subsidizing fossil fuels – primarily in order to reduce the prices to consumers. These annual expenditures can amount

to huge sums: the International Energy Agency (IEA) estimates that in 2007 non-Organization for Economic Co-operation and Development (OECD) countries paid \$310 billion in fossil fuel subsidies (IEA, 2008a).

Such subsidies have number of disadvantages beyond their huge costs. One is that the benefits are frequently skewed towards the rich: those for oil and gasoline are particularly popular among car drivers. The subsidies also lower the domestic price of commodities of which many countries are net importers, so affect the balance of payments. Finally, they encourage the use of fuels which add to pollution and the production of CO₂. OECD and IEA have estimated that global CO₂ emissions would be reduced by 10% or more by 2050 if all fossil fuel subsidies were removed.

With the G-20 countries responsible for over 80% of the world's energy use, it is encouraging that G-20 leaders concluded their 2009 Pittsburgh Summit with a commitment to phase out fossil fuel subsidies over the medium term. But many developing countries also have much to gain by reducing subsidies and thus encouraging the use of more efficient fuels while also releasing funds that could be used to invest in the MDGs. Indeed, many countries in the Asia-Pacific region have started to progressively reduce subsidies to fossil fuels and increase taxes instead. In 2004 fuel prices in China and the Russian Federation, for example, were 30% and 10% respectively higher than those in the United States (GTZ, 2009).

Augmenting government revenue and making fiscal incentives MDG-friendly

The varying ratios of revenue to GDP across countries apparent from Table II.5 indicate that some countries have unexploited potential for increasing government revenue to enable greater MDG spending. This shows in the first column the wide range in the proportion of GDP represented by government revenue – highest in the Maldives (56%), but much lower elsewhere, particularly in Myanmar (6%), China (9.9%) and most South Asian countries. This suggests that a number of countries have significant potential for raising more revenue domestically.

**Table II.4 Government debt in Asia-Pacific countries
(net liabilities as percentage of the GDP)**

	TE2001	TE2004	TE2007		TE2001	TE2004	TE2007
<u>Australia</u>				<u>Kazakhstan</u>			
Total	29.1	23.9	21.5	Total	22.0	14.3	7.1
Domestic	29.1	25.1	..	Domestic	4.2	3.4	3.9
Foreign	..	..	..	Foreign	17.7	10.9	3.1
<u>Bangladesh</u>				<u>Maldives</u>			
Total	34.8	34.6	..	Total	41.5	45.4	58.6
Domestic	19.7	20.0	..	Domestic	17.8	16.4	17.5
Foreign	15.1	14.6	..	Foreign	23.7	29.0	41.1
<u>Bhutan</u>				<u>Nepal</u>			
Total	47.0	65.9	..	Total	59.6	62.0	50.7
Domestic	0.0	2.0	..	Domestic	13.5	16.4	13.9
Foreign	47.0	63.9	..	Foreign	46.1	45.6	36.5
<u>China</u>				<u>Pakistan</u>			
Total	11.6	..	..	Total	74.0	..	..
Domestic	..	..	..	Domestic	43.4	..	..
Foreign	..	..	..	Foreign	30.7	..	..
<u>Georgia</u>				<u>Philippines</u>			
Total	69.7	54.2	31.5	Total	57.3	71.9	..
Domestic	23.7	18.2	12.1	Domestic	30.6	36.2	..
Foreign	46.0	36.0	19.4	Foreign	26.8	35.7	..
<u>Hong Kong, China</u>				<u>Russian Federation</u>			
Total	25.6	29.6	31.8	Total	70.6	41.4	12.4
Domestic	25.6	29.3	30.9	Domestic	12.5	7.3	4.7
Foreign	0.0	0.3	0.9	Foreign	58.1	34.1	7.7
<u>India</u>				<u>Singapore</u>			
Total	57.3	66.5	62.9	Total	92.4	110.6	100.3
Domestic	54.1	64.4	61.0	Domestic	92.4	110.6	100.3
Foreign	3.2	2.1	2.0	Foreign	0.0	0.0	0.0
<u>Indonesia</u>				<u>Sri Lanka</u>			
Total	40.9	30.2	..	Total	95.2	102.2	89.7
Domestic	0.5	0.0	..	Domestic	51.9	56.2	50.9
Foreign	40.4	30.2	..	Foreign	43.3	46.0	38.7
<u>Japan</u>				<u>Thailand</u>			
Total	151.7	168.7	184.7	Total	23.0	28.9	26.7
Domestic	..	..	..	Domestic	14.8	22.8	23.7
Foreign	..	..	..	Foreign	8.2	6.2	3.0

Source: ESCAP computations based on data from IMF (2008).

Notes: For Bangladesh, Indonesia and Japan, the figures reported under column TE2001 pertains to fiscal year 2001. For China, Fiji, Hong Kong, China and Japan, the figures reported under column TE2007 pertains to TE2006. For Myanmar, the figures reported under column TE2007 pertains to TE2005.

There are also significant differences in the sources of government revenue. For most developing countries the most important source is tax, which generally provides between 60% and 90% of the total – as indicated in the second column. Among the taxes, many governments raise a substantial portion of their revenue from those on goods and

services, while other governments rely on royalties or fees for their natural resources, which in Table II.5 are listed under “others”. Governments with social security systems also gain significant revenue from contributions either by individuals or employers – which represent an important source of revenue in Georgia, the Islamic Republic of Iran, Japan,

Table II.5 Profile of government revenues, selected countries/areas

	Total revenue as a percentage of GDP (1)	Total tax revenue (2)	Social contributions (3)	Grants (4)	Others (5)	Tax on goods & services (memo item) (6)
	as percentage of total revenue					
Australia	26.9	91.2	0.0	0.2	8.6	23.8
Bangladesh	10.3	73.4	0.0	7.0	19.6	28.8
Bhutan	29.7	29.9	0.0	42.2	27.8	11.7
China	9.9	88.8	0.0	3.9	7.4	79.1
Fiji	24.8	89.5	0.0	1.0	9.5	40.7
Georgia	21.5	64.1	17.3	5.3	13.2	54.3
Hong Kong, China	19.6	63.1	0.0	0.0	36.8	10.7
India	13.2	82.9	0.2	0.6	16.4	30.3
Indonesia	17.7	68.8	4.0	0.1	27.2	31.1
Iran (Islamic Republic of)	34.7	22.2	11.4	0.0	66.4	2.2
Japan	31.8	53.9	33.2	0.0	12.9	8.1
Kazakhstan	20.3	90.9	0.0	6.1	3.0	40.2
Macao, China	25.4	86.2	0.5	0.0	13.4	77.0
Maldives	56.5	36.7	0.0	19.6	43.7	7.8
Myanmar	6.0	51.1	0.0	0.0	48.9	24.4
Nepal	13.6	67.8	0.0	16.6	15.6	33.9
Pakistan	13.4	71.8	0.0	2.9	25.3	34.6
Philippines	15.6	87.3	0.0	0.0	12.7	24.3
Republic of Korea	21.8	67.6	16.2	0.0	16.2	28.3
Russian Federation	30.2	55.0	18.4	2.4	24.2	22.1
Singapore	19.2	63.7	0.0	0.0	36.3	23.4
Sri Lanka	17.0	83.1	1.2	6.9	8.7	53.2
Thailand	20.6	82.5	4.8	0.1	12.6	40.1

Source: ESCAP computations based on data from IMF (2008).

Notes: For Bangladesh, Bhutan and Indonesia the figures reported under column TE2007 pertains to TE2004. For China, Fiji, Hong Kong, China and Japan, the figures reported under column TE2007 pertains to TE2006. For Myanmar, the figures reported under column TE2007 pertains to TE2005.

the Republic of Korea and the Russian Federation, and to a lesser extent in Indonesia and Thailand. Some developing countries also rely significantly on grants, which, in Bhutan, for example, are the most important source of government revenue.

In terms of tax structure, there is a clear divide between the developed and developing countries. The developing countries obtain most of their revenue from indirect taxes on goods and services. These may be easier to administer but are generally regressive: because everyone pays the same rates – of sales tax, for example – the poor pay a higher proportion of their income in tax than the rich. This lack of equity in developing countries tax systems could be corrected – by making them more progressive.

For the developed countries, on the other hand, the most important revenue sources are direct taxes. These are typically more complex to collect but have the advantage of being progressive – with higher rates applied to higher incomes or larger property holdings. Developing countries will find this more difficult since they lack comprehensive systems for keeping track of incomes. In these countries, most economic activity is in the informal economy, where there is very little record of what people earn. In the longer term, as they develop, these economies are likely to become more formal – increasing the potential for levying progressive income taxes.

In the interim, however, governments can widen the tax base, even in the short term, by ensuring that the wealthy do at least file tax returns. For that purpose they could, for example, require everyone who engages in a property transaction that has to be legally registered, or who purchases high-value consumer durables such as automobiles, to provide evidence that they have filed a tax return. India, for example, has taken some of these measures in recent times and has widened its direct tax base: between TE2001 and TE2007 the share of direct taxes to total tax collection increased from one-third to almost one half. At the same time, countries should also simplify their tax systems to reduce the range of exemptions and loopholes that permit legal tax avoidance.

At present most developing countries rely for social protection largely on social safety nets such as subsidized food and on systems of social security which typically covers only the formal sector or just the public sector. However, as more countries consider extending their systems of social security, they can also use them as sources of revenue. The formal private sector usually contributes little to social security and, consequently, its employees are inadequately covered. To improve their coverage, enterprises could be required to offer systems of social security comparable to those in the public sector.

As governments reconsider fiscal policies in order to raise more revenue, they can also use them to support the creation of employment. At present many fiscal policies favour growth that is capital intensive rather than employment intensive. For example, corporate tax laws usually provide generous allowance for depreciation which gives companies an incentive to invest in new equipment, but they rarely offer comparable incentives for generating new employment. Thus, a reduction in depreciation allowances along with fiscal incentives for hiring more workers could contribute to both raising revenue and promoting human development.

Governments may also use fiscal measures to generate incentives to reduce pollution, economize on resources, and use more labour through “ecological tax reforms”, which apply the proceeds from taxes on pollution or the inefficient use of energy and resources to lower the cost of labour to employers, as discussed in Chapter IV. This tax shift requires balancing taxation levels so as to maintain revenue-neutrality and progressiveness, as well as measures to protect the most vulnerable.

Strengthening the global partnership

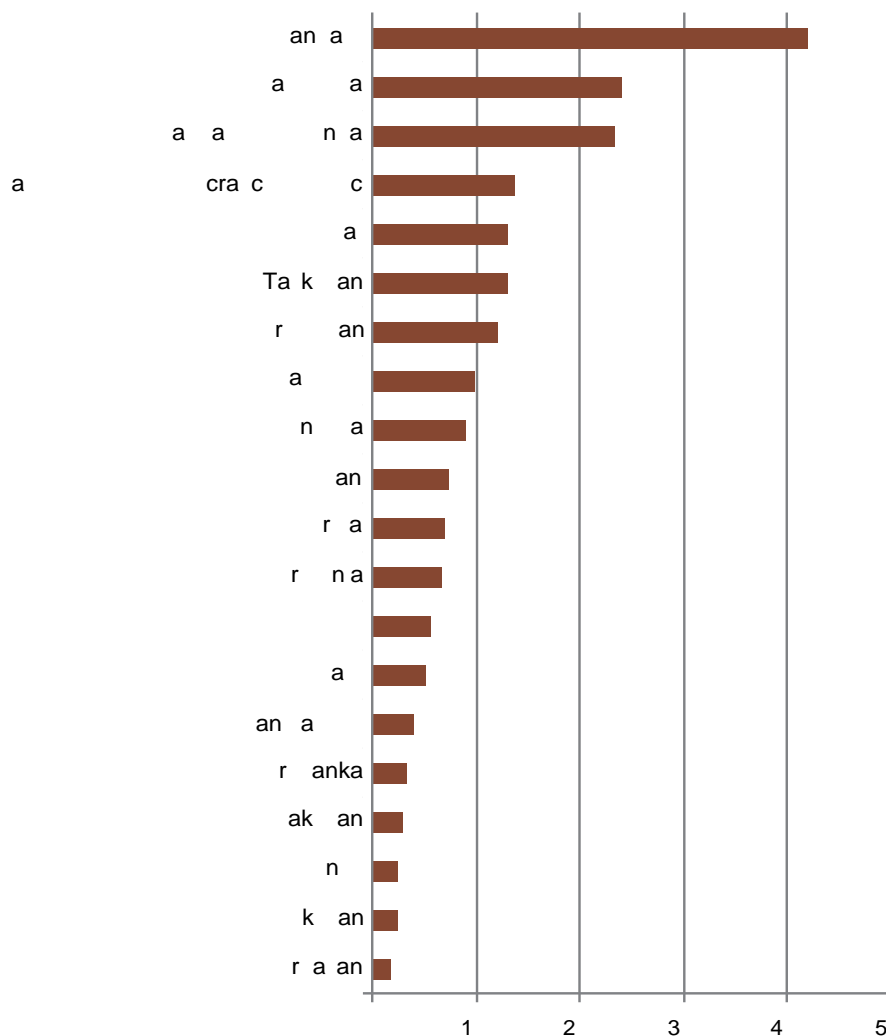
In addition to raising more of their own resources for investing in the MDGs, the developing countries, and the LDCs in particular, should also be able to rely on substantial support from other countries. MDG-8 establishes that such assistance can play a vital part in developing a global partnership for development – and calls for international cooperation in the areas of trade and employment, health care, technology transfer, development assistance and in dealing with problems of debt sustainability.

Flows of official development assistance

National resources for the MDGs could thus be supplemented by official development assistance (ODA). And to some extent they are. Since the adoption of the MDGs, donors have generally been providing more ODA. Between 2000 and 2008, global disbursements, expressed in 2007 dollars, increased from \$99 billion to \$169 billion. Of this, around 10% came from multilateral agencies; the rest was from bilateral assistance from members of the OECD Development Assistance Committee (DAC). Despite the increases, however, very few donor countries have met the United Nations target of devoting of 0.7% of their gross national income to ODA. The large donors especially have yet to fulfil this target.

Whether the funds will continue to increase will depend on the outcome of a number of countervailing pressures on donors. On the negative side, as they have to cope with their own economic crises, donors may find it difficult to maintain current levels of aid. Moreover, since the aid targets are defined in relation to GDP, total aid could be constrained by declining incomes, or at least by slower income growth. On the positive side, there does seem to be solid political will and public support for ODA within donor countries – partly because of the recognition that developing countries are victims of a crisis which originated in the developed world. It is difficult to judge how these countervailing forces will balance out.

Figure II.2 Aid as a percentage of fixed capital formation



Source: ESCAP estimates using data from the OECD and World Development Indicators.

Note: Refers to 2007 or latest available year

However, even if the aid flows do increase it seems likely that Asia and the Pacific will continue to get a steadily declining proportion of the total – which between 2000 and 2008 fell from 19% to 13%. Of the subregions, only South and South-West Asia managed to increase its share in recent years, to around 7%. Elsewhere, the shares have been declining, or at best stagnating.

Any reduction in aid flows will be of particular concern to countries for which ODA plays a significant role in the economy. This is illustrated in Figure II.2 which shows that ODA is equivalent to 42% of gross capital formation in Vanuatu, for example, and 23% in Cambodia.

It is also important to consider what proportion of ODA is directly supporting the MDGs. In general less than one third of the ODA committed has been directed to social sectors as a whole, though in recent years this share has been rising. Within the social sectors, the largest increases have been for governance, followed by population and reproductive health, and health services. In contrast, the commitments to education and to water and sanitation have declined somewhat.

Multilateral ODA commitments

At the outset of the global economic crisis, the G-20 summits recognized the importance of supporting emerging markets and developing countries. The London summit in April 2009 made available an additional \$850 billion through the IMF and the multilateral development banks. For the IMF, this included \$250 billion in bilateral financing from member countries, as well as a doubling of its lending capacity for low-income countries. To enhance global liquidity there would also be a general allocation of \$250 billion in SDRs of which \$100 billion was for emerging markets and developing countries.

For the multilateral development banks there would be an increase in lending of \$300 billion over the subsequent three years. The governments also agreed to support a 200% general capital increase for the ADB. In addition there was support for the International Finance Corporation (IFC) for the creation of a Global Trade Liquidity Pool. At the Pittsburgh summit in June 2009 they also agreed

to change the governance system of the World Bank and the IMF to enable a stronger representation for developing and transition economies.

In addition to these specific proposals, the global leaders reaffirmed their historic commitment to meet the MDGs and their respective official ODA pledges. Perhaps for the first time, they made a clear call for the principle of income convergence among nations: “We need to work together to make the policy and institutional changes needed to accelerate the convergence of living standards and productivity in developing and emerging economies to the levels of the advanced economies.”

These decisions helped increase resource flows to the Asia-Pacific region. The ADB is expected to increase its lending, from about \$22 billion in 2007-2008 to about \$32 billion in 2009-2010. The \$10 billion increase in lending comprises \$1 billion for trade finance, \$3 billion for the Countercyclical Support Facility and about \$6 billion to extend loans such as those for infrastructure investment. ADB also approved additional liquidity of \$400 million to member countries of the Asian Development Fund (ADF) and is permitting borrowers to front-load their entire 2009-2010 biennial allocation.

The World Bank Group also substantially increased its assistance in the region. Its concessional assistance through the International Development Association (IDA) increased by 19% to \$5.4 billion, and its non-concessional assistance through the International Bank for Reconstruction and Development (IBRD) increased by 97% to \$8.1 billion.

One major beneficiary has been Indonesia. In fiscal year 2009, the World Bank Group helped the Government of Indonesia mobilize contingent financing, including from bilateral, multilateral and other sources, of \$5.5 billion, of which \$2 billion was in a Bank-supported Development Policy Loan. In addition, IDA has provided crisis-related support to Afghanistan (\$800 million), Pakistan (\$500 million) and the Philippines (\$200 million).

The IMF has also been able to offer more assistance to developing countries, though most of this is outside the Asia-Pacific region. As of 11 December 2009 the IMF had 21 stand-by arrangements

worth SDR 55.9 billion. But only three were for Asian countries: Mongolia (SDR 0.153 billion), Pakistan (SDR 7.2 billion) and Sri Lanka (SDR 1.24 billion). As of that date, the IMF also had three Flexible Credit Line Arrangements worth SDR 52.2 billion, though none were for Asian countries.

South-South economic assistance

Although most ODA still comes from the DAC countries, more now takes the form of transfers from one developing country to another. At the global level, non-DAC aid amounted in 2007 to over \$8.6 billion – with Saudi Arabia as the largest donor with a contribution of \$2 billion.

Within the Asia-Pacific region, the largest developing country donors were China, at about \$1.4 billion, and India at around \$1.0 billion. Aid from the Russian Federation amounted to around \$0.2 billion. Data on South-South aid flows are not readily available as many developing-country donors do not publish the relevant information. Such scattered information that does exist indicates that South-South donors in the region are primarily helping their neighbours. For example, China mostly helps Cambodia, the Democratic People's Republic of Korea, Indonesia, the Lao People's Democratic Republic, Myanmar, Pakistan, the Philippines and Viet Nam. Similarly, India provides aid mostly to Afghanistan, Bangladesh, Bhutan, Myanmar and Nepal, while aid from Thailand flows mostly to Cambodia, the Lao People's Democratic Republic, Myanmar, the Maldives, and Viet Nam.

Though the total amounts of South-South aid are as yet relatively small, for some of the recipient countries these developing country donors are the largest providers. For example, China was Cambodia's biggest aid donor, providing \$600 million in 2007 and about \$260 million in 2008. China is also the largest donor to Myanmar and the second-largest donor to the Lao People's Democratic Republic. Similarly, Thailand is the largest donor to the Lao People's Democratic Republic and the second largest donor to Myanmar. India is the largest donor for Nepal and Bhutan. Further, in some instances the aid provided by these developing country donors exceeds that provided by all others put together. For example,

between 1998 and 2003, Thailand's aid to the Lao People's Democratic Republic exceeded that from all others donors, as did India's aid to Bhutan in 2003-2004.

Much of this aid thus goes to LDCs where it is likely to be used in support of the MDGs – generally going into sectors such as infrastructure, energy, agriculture, health, and education. For example, China and India have helped in building roads, bridges and hydro-electric plants in Bhutan, Cambodia, the Lao People's Democratic Republic, Nepal and Pakistan. Thailand has many cooperative programmes in the areas of agriculture and health with Indonesia, Malaysia, and Timor-Leste. Malaysia has provided assistance to Viet Nam for research relating to rubber. Such flows can help establish institutions, improve capacities and ultimately boost the incomes of the poor.

Another priority has been health. Malaysia, for example, has provided assistance for setting up clinics in Cambodia, while India has built hospitals in Afghanistan, the Lao People's Democratic Republic, the Maldives and Nepal. Donors also focus on education and training – setting up educational institutions in the recipient country, funding vocational programmes to develop skills that help improve productivity and incomes, and offering scholarships for students from recipient countries to study in the donor country. China, India, Malaysia, the Republic of Korea, Singapore and Thailand all have several such programmes for countries in Asia and the Pacific, and also for some countries in Africa (Kumar, 2009). These instances of cooperation, especially in social sectors, are clearly positive examples of regional cooperation. They also seem likely to increase as developing-country donors build up their economies and thus resources available to help their neighbours.

Private aid

Another source for development finance is private aid. Data on these aid flows are scarce but OECD reports that globally private aid in 2007 was \$18.6 billion – though other sources suggest several times more. While global charitable funds might be directed more towards the poorest countries in Africa, it should also be possible to raise more private funds within Asia and the Pacific, especially since

Table II.6 Remittances to principal Asia-Pacific migrant source countries, 2008

	Estimated inflows \$ millions	As percentage of 2007 GDP
India	51 974	3.3
China	40 641	1.0
Philippines	18 643	11.3
Bangladesh	8 985	9.6
Viet Nam	7 200	8.0
Pakistan	7 032	4.2
Indonesia	6 795	1.4
Russian Federation	6 033	0.4
Republic of Korea	3 062	0.1
Sri Lanka	2 947	7.8
Nepal	2 735	16.8
Malaysia	1 920	1.0
Thailand	1 800	0.7
Tajikistan	1 750	45.5
Azerbaijan	1 554	4.1
Kyrgyzstan	1 232	19.1
Iran (Islamic Republic of)	1 115	0.4
Armenia	1 062	9.2
Georgia	732	6.8
Hong Kong, China	355	0.2
Cambodia	325	4.2
Mongolia	200	4.9
Kazakhstan	192	0.2
Fiji	175	4.8
Myanmar	150	n/a
Samoa	135	22.8
Tonga	100	39.4
Solomon Islands	20	5.3
Papua New Guinea	13	0.2
Seychelles	12	1.5
Kiribati	9	9.0
Vanuatu	7	1.2
Maldives	3	0.3
Lao People's Democratic Republic	1	0.0
Total	168 909	

Source: Ratha and others (2009).

rapid economic growth in some countries has been increasing the number of wealthy individuals.

Workers' remittances

A further type of international financial flows in support of the MDGs in the region has been through workers' remittances. These support the MDGs in two ways. At the macro level, they have provided a relatively stable source of foreign exchange at times when trade and other flows have been more volatile – so have helped stabilize currencies. At the micro level, families have been able to use remittances to boost human development – frequently, for example, using the funds to invest in their children's education.

In 2008, countries in the region that were the sources of labour migrants received a total of \$169 billion in remittances (Ratha and others, 2009). The largest recipients of remittances were India, China and the Philippines, though as a percentage of GDP remittances were most important for Tajikistan, Tonga and Samoa (Table II.6). This, however, only reflects remittances travelling through official channels. Probably the same amount again arrives through informal systems such as hundi or hawala. Altogether, flows of remittances now exceed those from all forms of development assistance. The World Bank has estimated that in 2009 remittances to East Asia will fall by around 6% and to South Asia by around 4%. But in the longer term the trend seems to be upwards.

Private capital inflows

Private capital inflows, particularly foreign direct investment, should in principle help create employment and thus contribute to the MDGs by reducing poverty. Globally, FDI reached an all-time high of nearly \$2 trillion in 2007 before declining to \$1.7 trillion in 2008 in the wake of the global financial crisis. However, the FDI inflows to Asia-Pacific developing countries continued to expand from \$333 billion in 2007 to \$389 billion in 2008, representing 63% of FDI inflows received by developing countries (UNCTAD, 2009). The largest recipients in the region included China (\$108 billion), the Russian Federation (\$70 billion), Hong Kong, China (\$63 billion) and India (\$42 billion). With the emergence of the region as a growth pole, it is likely to attract greater

attention of multinational corporations which may lead to rising FDI inflows. Furthermore, an interesting development of recent years has been the emergence of new sources of FDI flows among developing and emerging countries whose outflows by 2008 totalled \$293 billion. The overwhelming bulk of this outflow was accounted for by Asia-Pacific emerging countries which contributed \$220 billion. The major new sources of FDI in the region in 2008 included the Russian Federation (\$52 billion), China (\$52 billion), Hong Kong, China (\$60 billion), India (\$18 billion) and Malaysia (\$14 billion). Given the strong effect of geographical and cultural proximity in determining the direction of these flows, the bulk of FDI from new regional sources is likely to be directed to other developing countries in the region.

Given the robust growth of the region and the rise in intra-regional trade flows, the outlook for FDI is promising. The other type of capital flows namely portfolio foreign investment, however, is fraught with uncertainty and risk. Unlike FDI, these flows are essentially short term and highly volatile. At present they appear to be increasing. In the aftermath of the financial crisis many western countries have pursued easy money policies. This has resulted in an increase in liquidity which is beginning to find its way to the Asia-Pacific region seeking quick returns in stock markets, real estate, commodities futures and currency speculation (ESCAP, 2010). These flows should be moderated through capital controls at national or international levels, as discussed later. In a major reversal of its position, the IMF now supports capital controls as a part of the policy tool kit in order to bring stability in the financial systems and capital markets.

Innovative sources of finance

Recognizing that ODA is volatile and unpredictable and needs to be supplemented, many people are now considering innovative sources of finance for development – involving governments, charitable foundations, NGOs, and prominent individuals. Three such initiatives are already functioning. These are: (i) UNITAID and the solidarity levies on airline tickets, (ii) The International Finance Facility for Immunization (IFFIm) / Global Alliance for Vaccines and Immunization (GAVI), and (iii)

Advance Market Commitment for pneumococcal vaccines (AMC-PV).

UNITAID, hosted by the World Health Organization (WHO), is a facility for purchasing drugs and diagnostics to fight pandemic diseases such as AIDS, malaria and tuberculosis. Bulk purchasing enables it to negotiate lower prices for drugs and diagnostics, which they then distribute to low-income countries. UNITAID has an annual budget exceeding \$300 million, raised in part from donors, charitable foundations, and through solidarity contributions levied on airline tickets of passengers originating in 11 countries. The levy on airline tickets has the potential of being a stable source of finance, as it has had no impact on the air traffic. Expanding this levy beyond the 11 participating countries could enhance the revenue potential. The Asia-Pacific region has a large and fast growing market for air travel, and thus has enormous potential for raising additional resources through an air travel levy.

IFFIm is a large facility for raising funds for immunization programmes in poor countries through government guaranteed bonds issued on international capital markets. So far six countries have offered guarantees to raise about €4 billion over 20 years, of which nearly \$1 billion was raised through the initial issue of bonds. Managed by GAVI, about \$862 million-worth of vaccines were distributed in 2007.

The AMC-PV is an attempt to address neglected diseases that affect poor countries. Through contractual partnerships between donor governments and pharmaceutical companies, it seeks to ensure that research on neglected diseases is carried out. A key feature of this contractual arrangement is that drug companies commit to undertake effective research, while governments commit to provide a market at guaranteed price for the drugs that come out of such research. About \$1.5 billion has been committed under this facility.

There are also examples from the region of governments trying to find innovative sources of finance for funding MDGs. India, for example, levies an “education cess” of 2% on the total income tax payable by individuals and uses this

to finance education – primary, secondary and higher secondary – for all children. Similarly, it has been imposing a “diesel cess” of Rupee 1 per litre of diesel to finance the expansion of its highway network. And recently, Maldives has proposed to levy a “green tourist tax” of \$3 per tourist per day as a climate tax. These are commendable efforts for addressing particular needs. However, they pale in comparison with the revenue potential of a tax on international capital flows. And the current economic crisis and the response of governments has brought out clearly the case for such a tax.

The case for a tax on international financial transactions

The Asian economies are exposed to surges in flows of short-term and speculative capital – with the inherent risks of volatility, financial instability and exchange rate appreciation. Asia-Pacific countries need to moderate the volatility and minimize the risks through capital controls at national or international levels. One version of these controls employed in Chile since 1991 included a stamp tax and a minimum-stay requirement for foreign capital. The authorities imposed a stamp tax on external loans at an annual rate of 1.2% on operations up to one year. External credits were also subjected to a non-interest bearing reserve requirement of 20%. The reserves had to be maintained with the central bank for a minimum of 90 days and a maximum of one year. The reserve requirements were raised subsequently to 30% when there were further pressures for currency appreciation and then reduced to 10% when there were pressures for currency depreciation. Similarly the minimum period for keeping reserves was set between 90 days and one year depending upon the circumstances. Apart from these reserve requirements, the Chilean authorities discouraged speculative flows by actively managing the exchange rate and thus introducing uncertainty into future movements of the exchange rate. These measures discouraged short-term flows and encouraged a switch from debt to direct investment and equity-based portfolio investment, as well as stabilizing exchange rates (Le Fort and Budnevich, 1997). Malaysia also imposed capital controls following the 1997 crisis.

A cleaner and more general alternative to the Chilean scheme is to impose a small tax on all

foreign exchange transactions. The so called Tobin tax, named after economist James Tobin who proposed it in 1978, was to be a small tax on foreign exchange transactions to “throw some sands in the well-greased wheels of international capital markets”. Besides its potential to moderate the financial volatility, the revenue potential of the tax makes it extremely attractive. With global foreign exchange transactions by 2007 running at around \$3.2 trillion per day, a tax of 0.1% would yield about \$960 billion per year in tax revenue. It is difficult to assess by how much a small tax of 0.1% would reduce the volume of foreign exchange transactions globally. If these come down by, say a third, the tax could still generate revenue of about \$640 billion a year globally – more than 3.5 times the total ODA in 2008. So as well as dampening down capital flows it could also generate revenue to fund global public goods such as MDGs and poverty reduction programmes.

A major obstacle to the introduction of a Tobin or a more general transaction tax is that to be efficient, it would need to be applied simultaneously in all major money markets – since any country applying it unilaterally could suffer a sudden drop in business. Such agreement at first seemed highly unlikely, with opposition from the United States Treasury and, initially at least, from the Managing Director of the IMF. Subsequently it has gained more traction, with support from European leaders, in particular those of the United Kingdom and France. Led by European Union leaders, the G-20 Summit has formally requested IMF to study the subject of global taxation of financial transactions. The formal European Union statement put the objectives of the tax in fairly general terms, namely, the “importance of renewing the economic and social contract between financial institutions and the society they serve”. It also urged the IMF to consider not just the Tobin tax, but “the full range of options, including insurance fees, resolution funds, contingent capital requirements and a global financial transaction levy”.

The subject is highly relevant to the Asia-Pacific region. While the ideal would be global tax, this may take a long time to achieve. Meanwhile the countries of the region could cooperate on a regional version as a stepping stone towards a global

tax. In any case, because of the linkages of the issue of short-term capital flows with other issues such as exchange rate management policy and regional reserve policy, it should be studied along with the broader issue of global reserve currency system.

A development-friendly reform of the international financial system

The Asia-Pacific region will need to formulate its position on reform of the international monetary and financial architecture. The aim should be to ensure greater stability and minimize the risk of financial crises in the future while ensuring adequate flows of development finance. Since the onset of the global economic crisis, discussion has taken place principally in two forums: the G-20 and the United Nations Conference on the World Financial and Economic Crisis and Its Impact.

The G-20 has now superseded the G-8 as the premier forum on global economic policy coordination including global financial and regulatory issues. This expanded group reflects the systemic importance of major emerging countries in Asia and the Pacific, such as China, India, Turkey, Indonesia, the Republic of Korea and Australia – in addition to Japan and the Russian Federation which were already included in the G-8.

At the London Summit in April 2009, the G-20 established the Financial Stability Board consisting of the central banks and other financial regulatory agencies of all G-20 members. In September 2009, the Pittsburgh G-20 meeting made further progress in strengthening cooperation on macroeconomic policies and giving the major developing economies of Asia and the Pacific a more influential agenda-setting role. At this meeting the governments also undertook an important reform by establishing a peer review mechanism of the economic policy framework of G-20 countries. For the first time, this gave developing country members an opportunity to review the policies of the developed countries – thus making them more transparent and accountable. The leaders also committed themselves to increasing the IMF’s quota share to emerging markets and developing to least 7%, although this has yet to come into force.

Box II.1 United Nations report on international monetary and financial reform

in 2002, the report also identifies a number of key areas for reform, including: (i) strengthening the international financial architecture; (ii) addressing the needs of developing countries; (iii) enhancing the role of the private sector; and (iv) improving the governance of international institutions.

The report also discusses the need for a new international financial architecture, which would be based on a more open, flexible, and resilient system. It calls for a new global financial architecture that is more inclusive, more resilient, and more effective. This architecture should be based on a more open, flexible, and resilient system, and should be based on a more open, flexible, and resilient system.

The Report provides specific recommendations on a number of issues— on the treatment of derivatives, for example, and on the need for a new global financial architecture. It also discusses the need for a new international financial architecture, which would be based on a more open, flexible, and resilient system.

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However, a number of important reform issues remain to be addressed. These include, for example, reform of IMF conditionalities – which tend to be procyclical and create hardships for countries affected by crisis. Instead of enforcing belt-tightening measures, the IMF should focus on providing sufficient funds to support exchange rates while countries pursue expansionary policies to resume their growth momentum. Likewise during economic crises, rather than trying to simultaneously deal with debt repayments, there should be a framework for debt standstills and cancellations. Other issues where progress remains sketchy include how best to reduce the scale of financial trading, possibly along the lines of a Tobin tax, and substituting the United States dollar with a new global reserve currency system, possibly based on a basket of currencies along the lines of SDRs. China has proposed the development of a transnational reserve currency system, based on a basket of the world's major currencies, similar to the current SDR scheme of the IMF, but with the basket of SDR currencies being expanded from the dollar, pound, euro and yen to include other currencies in the region. The Russian Federation has also supported the idea of using an expanded basket of currencies, as the basis for a global reserve system, with a similar expansion in the mix to include other regional currencies.

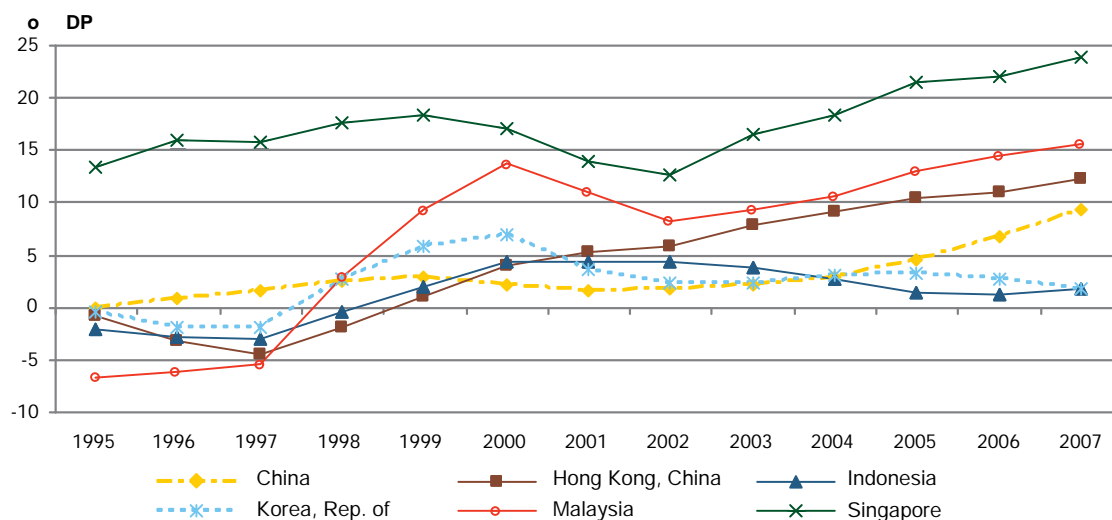
Global cooperation on the future financial architecture will therefore need to proceed in parallel tracks, so that countries that have been left out of the G-20 process can voice their views. The majority of the world's people that have been left out are from developing countries that are most dependent on globalization and yet are at greatest risk from its deficiencies. For that reason, the United Nations can play an important complementary role – providing analysis, technical support and building consensus through policy dialogues. In 2008, the President of the United Nations General Assembly established a Commission of Experts to reflect on the causes of the crisis, assess impacts on all countries and suggest adequate response (Box II.1). This issued a preliminary report in May 2009. In June 2009, in New York the United Nations held a Conference on the World Financial and Economic Crisis and Its Impact on Development. This included nearly all of the United Nations membership and came

up with a uniquely inclusive and comprehensive agenda for action – highlighting the challenges faced by the developing, and especially the poorer, countries. The meeting underlined, for instance, the plight of developing countries faced with a sudden reversal of private capital flows, large and volatile movements in exchange rates, falling revenues and reduced fiscal space for taking corrective measures. The meeting called for a coordinated and comprehensive global response focusing on restoration of the flow of development finance without unwarranted conditionalities – as well as debt relief to developing countries for “fostering an inclusive, green and sustainable recovery”, among many other measures (ESCAP, 2010).

Development of a regional architecture for financial cooperation

Although the region as a whole needs large amounts of investment to achieve the MDGs, paradoxically many developing countries in the region have a net surplus of savings over investment (Figure II.3). Foreign exchange reserves of the Asia-Pacific region are expected to be around \$5 trillion with developing Asia alone account for \$3.2 trillion in 2010 (Table II.7). Lacking a well developed regional financial architecture, the region's central banks have had no way of channelling the region's excess savings and growing foreign exchange reserves to meet the region's substantial unmet investment needs. They thus had no option but to invest their reserves in United States Treasury bills and other securities in the West which in real terms earned poor, if not negative, returns. This underlines the critical importance of developing a system of regional intermediation, so as to augment aggregate demand in the region and help meet the MDG targets. A regional financial architecture could not only help prevent crises and connect savings and investments but also help coordinate exchange rates. At the same time it would enable the countries of Asia and the Pacific to develop a regional perspective and establish a coordinated voice for reform of the international financial architecture.

Enhanced regional cooperation should not be regarded as an alternative to full participation in global economic relations but rather a complement, filling in the gaps and putting in place building

Figure II.3 Surplus savings, selected Asian countries (percentage of GDP)

Source: ADB (2009b).

Table II.7 Foreign exchange reserves in developing Asia (billions of United States dollars)

	2005	2006	2007	2008	2009	2010
Developing Asia	1 158	1 492	2 132	2 537	2 867	3 211
China	823	1 070	1 531	1 950	2 240	2 529
India	133	171	268	248	263	285
Others	203	251	333	339	364	398

Source: IMF(2009).

blocks for multilateral cooperation at the global level. This was clearly recognized in the Outcome Document of the United Nations Conference on the World Financial and Economic Crisis and Its Impact (United Nations, 2009b). The document points out, for example, that the Chiang Mai Initiative (CMI), created in 2000 by members of the Association of Southeast Asian Nations (ASEAN), China, Japan and the Republic of Korea could evolve into a reserve fund which could back the issuance of a regional asset that could be attractive to central banks around the world to hold as part of their reserve assets.

The CMI was expanded in early 2010 to have a pool of \$120 billion and it has been multilateralized. However it operates under the constraint that

only 20% of its resources can be used without an IMF programme. This reduces its utility given the reluctance of many regional members to subject themselves to IMF conditionality. As a result, when faced with balance of payments risks, countries in the region have sought swap arrangements elsewhere. The Republic of Korea, and Singapore for example, arranged bilateral swaps with the United States Federal Reserve Board and Japan. In any case, the CMI, focusing as it does on support for balance of payments, does not meet the needs of finance for infrastructure development or climate change nor of knowledge transmission. Asia and the Pacific needs a broader and more comprehensive regional financial architecture.

With combined foreign exchange reserves of nearly \$5 trillion, the region has now the capability of developing an ambitious architecture for mutually beneficial deployment of foreign exchange reserves. One of the clearest alternative uses for some portion of these assets, both for domestic development and for increasing regional integration, lies in the region's massive infrastructure funding needs. Recent estimates suggest that the region needs an annual investment of more than \$800 billion in transport, energy, water and telecommunications, but has an annual shortfall of more than \$200 billion. A regional architecture to facilitate intermediation between region's foreign exchange reserves and expanding unmet investment requirements could assist in narrowing the development gaps while augmenting aggregate demand and thus help sustain their dynamism (ESCAP, 2010). This architecture could include among other forms an infrastructure development fund, for instance, mobilizing just 5% of region's reserves of nearly \$5 trillion, thus providing start-up capital of nearly \$250 billion. It would also be able to mobilize additional funds, as and when required, by issuing bonds to the central banks of the region, thus enabling them to park their foreign exchange reserves. By co-financing viable projects along with other sources, such an architecture could expedite investments in infrastructure development, especially cross-border connectivity projects linking poorer parts of the Asia-Pacific region with the region's growth centres.

Creating a new regional financial architecture will require detailed analysis of its potential contours

and elements, an assessment of the existing financial institutions, and a process of consensus building. All these are manageable in principle. But technical experts have to evaluate and present various options to decision makers. They can also learn from the proposals and experiences. The time has come to review these and come up with a solid design for a regional financial architecture that can serve as a model for a stable and development-friendly international system. ESCAP as a truly regional and inclusive forum could assist the region in developing such an architecture by creating a task force or expert group.

Scope for investment

Countries in the Asia-Pacific region have committed themselves politically to the MDGs but many have yet to match this with the necessary financial resources. The funds required are significant but by no means unfeasible, in many cases just a few percentage points of GDP. As this chapter has shown, many countries have considerable potential for raising more resources nationally. Others may have to rely on international cooperation. There should also be scope within the region for building a new financial architecture that would enable more efficient allocation of regional surpluses.

For the MDGs, however, it will be just as important to reform the financial architecture at the national level, to ensure that everyone has the funds they can use to invest in their own futures. The possibilities for more inclusive financial services are the focus of the next chapter.



Eco-loans for ger insulation and heating in Mongolia



Making financial services work for the poor

A development-friendly national and international financial regime can support the MDGs and green growth. But the poor will benefit more from these and other resources if they have better access to finance for their own activities and enterprises – to savings, credit and insurance products.

In principle, everyone in the country should be able to benefit from a well-functioning financial system that fosters economic growth. The financial system helps to pool risks, mobilize savings and allocate resources to the most productive uses – thus facilitating the exchange of goods and services and encouraging better corporate governance.

How access to finance helps achieve the MDGs

Generally speaking, countries with better developed financial systems tend to grow faster. This should in turn enable them to accelerate human development and progress towards each of the MDGs.

MDG-1 – Reducing poverty

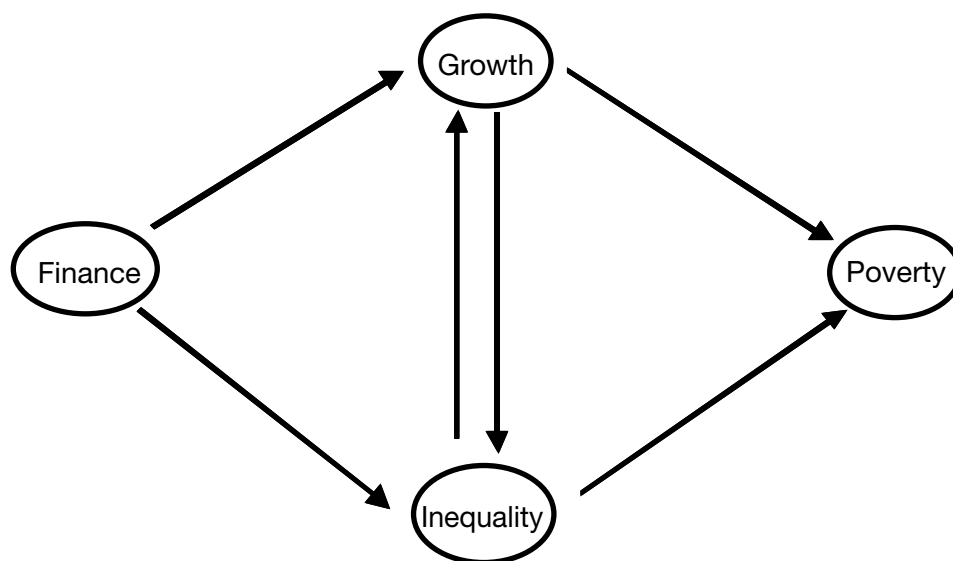
While financial development can lead to higher economic growth, it does not automatically reduce poverty. As indicted in Chapter I, much will depend on the extent of inequality. In more unequal societies any resultant growth will also be spread unequally. Indeed financial development may itself exacerbate inequality. As banks and other financial intermediaries grow in size and number, they generally choose to lend only to those who can offer collateral – typically the high-net-worth households and medium-sized and large firms – effectively excluding poorer households or small and

micro-enterprises. Similarly, when more extensive stock market emerges, this primarily benefits the large enterprises who can obtain listings, as well as richer households who have resources that they are prepared to put at risk by investing in equities (Demirguc-Kunt, 2006).

Higher inequality may also make financial development less effective in reducing poverty. This too is linked to collateral. Where information is costly and imperfect, scarce credit may have to be allocated less on the viability of a particular investment and more on the borrower's demonstrable possession of assets. Poor families would, for example, find it difficult to borrow to finance for schooling – restricting their opportunities to use their capabilities and thus reducing aggregate growth for the economy as a whole (Deininger and Squire, 1998).

The relationship between financial development and poverty is therefore complex and the final outcome will depend on whether financial development increases inequality – and whether it does so to such an extent that it cancels out the poverty benefits of overall economic growth (Figure III.1). The best way to ensure that the financial system does

Figure III.1 The relationships between financial development, economic growth, income inequality and poverty



not heighten inequality would be to make it more inclusive – opening it up to poor households and microenterprises, through a wider range of providers offering more appropriate products. This should allow poor families to borrow and invest not just in physical capital, such as agricultural machinery, but also in productive human capital – for example, by sending children to school. And if they always have some financial services to draw on they will also have a buffer against sudden emergencies, such as deaths in the family, business risks, or climatic shocks, such as floods, that can push a poor household into destitution. Loans, savings, and insurance help smooth out income fluctuations and maintain consumption levels even during lean periods. As a result, households with access to finance improve not only their economic well being but also their nutrition and health status.

Evidence from many countries shows the potential economic benefits to poor households of access to financial services. In Indonesia, for example, households borrowing from a microfinance institution (MFI), Bank Rakyat Indonesia, increased their incomes by 12.9%, compared to an increase of 3% for non-borrowing households (ESCAP, 2006b). In India, three-quarters of the borrowers of an MFI called SHARE saw significant improvements in well-being and half moved out

of poverty. In Bangladesh, members of one of the largest MFIs, run by the NGO called Bangladesh Rural Advancement Committee (BRAC), who stayed in the programme for more than four years, increased household spending by 28% and assets by 112%. Also in Bangladesh, members of one of the world's best-known MFIs, Grameen Bank, were found to have incomes which were 43% higher than those of non-members in villages not served by the Grameen Bank and 28% higher than those of non-members in villages served by the Grameen Bank (Littlefield and others, 2003). In Pakistan, the leading microfinance bank is Khushhali Bank and a recent study has found that it has been effective in reaching out to the poor, including those in remote rural areas, and has contributed significantly to income generation activities such as agricultural production – in particular raising animals – thus reducing poverty (Setboonsarng and Parpiev, 2008).

Membership of a microfinance scheme is also linked to better standards of child nutrition. Households that have access to credit can smoothen consumption even through a period of income shock. BRAC clients, for example, have been found to be better nourished than non-clients, with fewer suffering from severe malnutrition – and the differences become more marked the longer

they are members. A World Bank study for the same country found that a 10% increase in credit to women was associated with a 6.3% increase in mid-arm circumference of daughters. Mid-arm circumference of sons also increased, though to a smaller extent. Both boys and girls were less likely to be stunted (Littlefield and others, 2003).

In Indonesia, studies based on the Indonesian Family Life Survey (1993-2000) – which covered the period of the 1999 financial crisis – found that children living in communities with access to small-scale-microfinance institutions experienced significantly greater weight gain (DeLoach and Lamanna, 2009).

MDG-2 – Education

One of the first things poor people do if they earn more from microenterprise is invest in their children's education. Studies show that children of microfinance clients are more likely to go to school and stay there longer (Littlefield and others, 2003). Responding to this, many microfinance programmes are developing new credit and savings products specifically tailored to school expenses. In Bangladesh, for example, in BRAC member households, a study found that between 1992 and 1995 the proportion of children of 11–14 years who had achieved a basic competency in reading, writing, and arithmetic increased from 12% to 24% – while in non-member households the proportion only rose to 14%. Similarly in Grameen households it was found that almost all the girls had some schooling compared with only 60% of girls in the comparison group; and 81% of Grameen boys went to school compared with only 54% in non-Grameen households (Littlefield and others, 2003).

MDG-3 – Women's empowerment

Microfinance programmes have generally targeted women. The evidence suggests that, compared with men, women often are more financially responsible and are more likely to repay loans. Also, women are more likely than men to invest increased income in household and family well-being. Moreover, women who have access to financial services tend to become more confident and assertive, participating more in family and community decisions, and better able to confront systemic gender inequities (Littlefield and others, 2003).

The Women's Empowerment Program in Nepal, for example, found that 68% of its members were making decisions on buying and selling property, sending their daughters to school, negotiating their children's marriages, and planning their family, when traditionally these decisions were made by husbands. Similarly, in the Philippines, programme participation in the MFI named TSPI increased the proportion of women who were principal household-fund managers from 33% to 51%. In the control group, only 31% of women were principal fund managers.

In India, women who participated in the Self Help Group (SHG) bank link programme were found to have greater self-confidence and capacity for decision-making – and were able to make a greater contribution to family income (EDA Rural Systems Private Limited, 2005). There is also evidence that women members of SHGs are more likely to undertake social action on community issues, such as lobbying for, and managing, village infrastructure, water supply, schools – and on social issues such as dowry, bigamy, widow remarriage, and alcoholism amongst the village men.

In Bangladesh, a survey of credit-programme clients found that they were significantly more empowered than non-clients – in terms of physical mobility, ownership and control of productive assets, including homestead land, involvement in decision-making, and political and legal awareness. This empowerment increased the longer they were members, suggesting that the programme itself had a strong influence. The study also found, in some cases, that programme participation initially led to an increase in domestic violence. However, over time men and families became more accepting of women's participation, which ultimately led to a reduction in violence (Kabeer, 1998).

Nevertheless, inclusive financial development will not necessarily deliver better gender equality. Gender-related issues are complex and depend on many social and cultural factors. Programmes need to be designed carefully if they are to ensure that inclusive financial development empowers women.

MDGs-4, 5 and 6 – Health

The most serious crisis for poor families is generally illness. When there is death or sickness and family members have to take time off from work their incomes can suddenly drop. Households may have to start selling assets and are likely to fall into debt. Illness is often the main reason why poor households fail to repay loans.

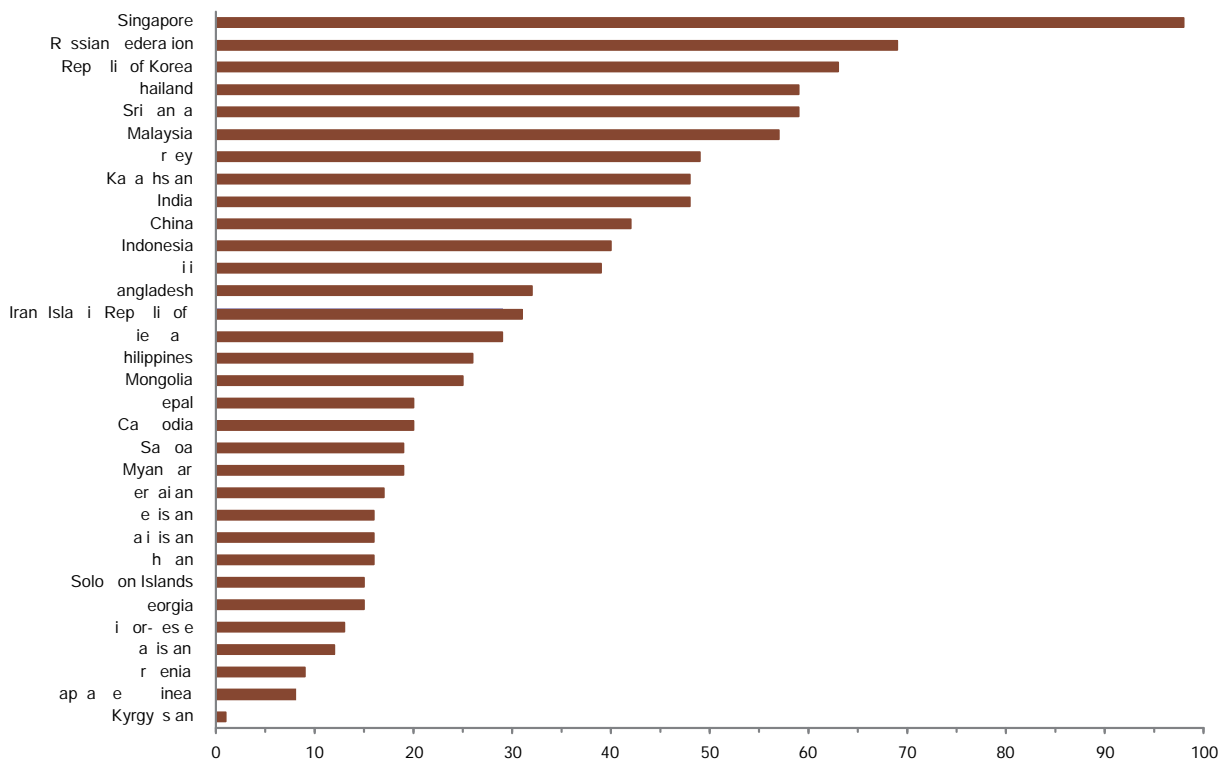
Households of microfinance clients, on the other hand, appear to have better nutrition, health practices, and health outcomes. They can, for example, treat health problems immediately rather than waiting for conditions to get worse. Moreover, the microfinance institutions themselves often provide health education, usually in the form of short, simple preventive care messages on immunization, safe drinking water, and pre- and post-natal care. Some programmes provide credit products for water, sanitation and housing. Several microfinance institutions have developed partnerships with insurance providers to offer health insurance to clients.

Households with access to microfinance are also likely to have better reproductive health. Another survey of microfinance clients in Bangladesh indicated that rates of contraceptive use were significantly higher for Grameen Bank clients (59%) than for non-clients (43%). This could be due to greater awareness of contraceptive programmes gained by attending group meetings, and from increased mobility that allows women to seek out such services (Littlefield and others, 2003).

The current extent of financial inclusion

At present, however, across most developing countries of Asia and the Pacific, financial services are used by only a small proportion of the population. While many now have access to microfinance, only in a handful of countries do more than half the households have access to formal financial services (Figure III.2). In most of these countries, the vast majority of the population, especially the poor and those only slightly above the poverty line, are typically excluded from core financial services – savings, credit, insurance and remittances.

Figure III.2 Access to formal financial services (percentage of households)



Source: Adapted from Honohan (2007).

If the poor are to get full benefit from financial services, they not only need access to them: they also have to use them. Even when people have a bank account, for example, they may not necessarily take advantage of it. In India in 2006, the central bank, the Reserve Bank of India, took an initiative to bring the underprivileged into the banking system. As a result, by 2008, 28 million people had “no-frills” basic savings accounts with limited transactions facilities that allowed them to keep zero, or very low, balances. But less than 11% of these accounts were active (Kochhar, 2009).

People can find themselves excluded from financial services for a number of reasons. Some may simply be unaware of what is available – particularly if financial institutions make little effort to market their services to them. Others may find the services on offer inappropriate or too expensive. The main barriers to access can be considered from the perspectives of both demand and supply. Demand-side factors would include such issues as the capacity of potential clients to deal with banks – their level of literacy, for example, their income, their occupation and whether the services on offer are appropriate. On the supply side, the banks will be looking at the potential profitability of poorer customers, the risks they are thought to present, and the costs of dealing with larger numbers of small transactions.

All of these issues need to be tackled through innovation, investment, and improved efficiency and technology – guided by an appropriate regulatory framework. This can be complemented with efforts to extend different forms of security to the poor, via social protection and other interventions that will make them less of a risk for banks (Box III.1).

Small and medium-sized enterprises (SMEs)

Small and medium-sized enterprises suffer from many of the same barriers to finance as individuals. However they will differ in terms of scale since they generally need larger sums, either for investment or working capital. And for SMEs the problem is less likely to be lack of access, since most will be located within range of banking services. Their difficulty is generally that banks are unwilling to extend credit.

Typically, small enterprises will obtain capital either through retaining profits or by relying on extended family connections or other types of network, based perhaps on ethnic or religious group. In many countries, informal relationships based on kinship, trust or reputation, are more important than formal legal mechanisms. In China, for example, the growth of firms in some of the coastal provinces often depend on relationships facilitated by Confucian ethics, and built on social capital and shared interests with local government officials. As they expand, SMEs may also be able to obtain working capital from larger enterprises for whom they might serve as suppliers. However, for this they will probably be charged relatively high interest rates.

Relatively few will take bank loans. Enterprise surveys of small firms suggest that only 20% in China have loans and 30% in the Russian Federation, though in India the proportion rises to 55%. In the majority of cases, this is because they did not need a loan. But others may have been discouraged by burdensome procedures, high demands for collateral, or high interest rates – as well as by corruption which would have obliged them to make additional informal payments.

Banking biases against the poor

At present, the banking system suffers from a range of biases against the poor.

Location – Banks open branches where the better-off people live, often near major roads and where other services are available – excluding people who live in remote or poorer areas. In the past, some governments have tried to counter this by requiring commercial banks to open new branches in rural and semi-urban areas so that the unreached stand a better chance of accessing a bank. This has had some success. In India, for example, the expansion of commercial banks into rural areas significantly reduced rural poverty (Burgess and Pande, 2005.)

Opening hours – Banks generally open at times that are the most convenient to the bank staff and their elite clients, which also tends to be when many unreached people are busy earning their livelihoods. Although some branches now open in the evenings, or round the clock, these are generally confined to urban and semi-urban areas.

Box III.1 Extending insurance to the unbanked

People who live in precarious circumstances are naturally more anxious. This is partly because they will do their utmost to avoid regular payments. They are also more likely to have significant concerns. This is an often-mentioned reason why micro-finance providers have difficulty reaching people in the event of a sudden loss of income and correspondingly reducing their social lenders.

Micro-finance providers in the region have yet to develop insurance systems of social protection, including social insurance, that would tide people over difficult periods. These range from overall social insurance provided at a national level through different forms of group insurance or policies that are purchased by individuals or companies. If the poor have any insurance at all, it is mostly likely to be through group insurance or savings schemes, or local health funds or schemes run by religious groups.

Many of the risks that people face can be classified as “idiosyncratic” in that they are likely to fall on individuals or households. Insurance companies are less likely to be interested in extending insurance cover to the poor directly because of the costs of assessing risks and collecting payments. The most likely mechanism is for insurance companies or through brokers or community groups who would sell the policies, collect premiums and organize claims. This would in itself be all and affordable premiums with payments that are sufficiently flexible to accommodate the, usually lumpy, cash flow needs of the poor.

While micro-insurance products are similar to micro-credit, the risks are primarily for policy holders who may be persuaded to produce shares or other income in the way they expect. The second is that the insurance may collapse so that the purchaser loses the premiums paid. This suggests a strong public role in the regulations on both the liability and simplicity of policies combined with a form of re-insurance to cover the collapse of the insurance company.

A more direct form of public insurance could involve covering covariant risks, such as floods or droughts that cover whole countries or regions. This would allow, for example, for forms of crop insurance that would be able to far more effectively from banks.

High costs – The unbanked are sensitive to indirect costs like commissions, covert bank charges and overt transaction costs, as well as informal costs such as bribes and commissions paid to middlemen. Thus, even in cases where interest rates are manageable, the total cost may be prohibitive. And even if the banks’ charges are uniform within or across countries, they will be viewed differently in different places. In China, for example, they would be perceived to be more costly in Xian Jing than Shanghai. And the services of a multinational bank will generally be more affordable in Thailand than in Cambodia or the Lao People’s Democratic Republic. While central banks can prescribe lower interest rates on certain types of loans – as in Bangladesh, India, Pakistan and Sri Lanka – and ceilings on interest payable on deposits, the onus

must be on the banking sector itself to reduce costs through internal efficiency.

Cultural bias towards the rich – Bankers like to speak to business leaders and people who are articulate – those that represent the elite: dominant and wealthy groups. Such groups become the bankers’ main sources of information and their concerns are then viewed as “the priorities of the people”.

Gender bias – Most local-level bank staff are men – who tend to neglect female farmers, female fisher-folk and female informal-sector workers. Also, many women are reluctant to speak to male service providers. As a result, some of the most vulnerable people remain under-served.

Preference for high-profile projects – Banks often gravitate towards the types of project currently in vogue. In India, for example, during the 1970s, 1980s and 1990s, policymakers and banks were very keen on dairy and poultry projects. Banks also like projects which give them high visibility. Thus they have been keen to lend to high-profile projects such as the Anand Dairy Cooperatives in India; the Comilla Project in Bangladesh and the Muda Irrigation Project in Malaysia. Many other equally viable projects that could benefit the poor often command less attention.

Specialised professional training – Bank staff typically have specialist training that focuses their attention on a single discipline. Consequently they may have less understanding of the multifaceted aspects of poverty – in which lack of assets, physical weakness, isolation, vulnerability and powerlessness all mesh and interlock. Bankers who are trained in agricultural sciences, for example, will be drawn to the more “progressive” farmers rather than to poorer farmers who face not just economic issues but also social and political constraints. And, since bank staff are also generally overburdened with work, they are likely to become even more single minded – with neither time nor inclination to develop wider horizons.

Range of financial institutions

Each country has a range of financial institutions, each with their own strengths and weaknesses and of varying usefulness to the poor.

Commercial banks

Commercial banks are central to a country’s financial system. Firms that need external finance typically turn first to commercial banks, where they are more likely to succeed if they are an existing customer with a good credit record. If not, they will need some form of collateral – which will work to the disadvantage of small and micro enterprises which have few assets.

Commercial banks have not generally in the past reached out to poor households, whom they do not consider bankable. However, banks in some countries have recently ventured into microfinance and specialised lending to targeted low-income groups. They may have done so under regulatory

pressure or in response to increasing competition. But they have also been assisted by developments in information and communications technology that have enabled them to increase outreach and reduce costs.

Microfinance institutions (MFIs)

Microfinance institutions may be of three broad types. The first consists of informal institutions or community-based organizations such as self-help groups (SHGs) and credit associations which provide microfinance services on a voluntary basis and are not subject to any kind of control or regulation. The second type may be considered semi-formal institutions – registered entities which provide various financial services. They are subject to all relevant general laws, but are usually not deposit-taking institutions, or if they are, they cannot grant credit. The third type are formal banks – either microfinance banks, microfinance-oriented banks or microfinance-sensitive banks which offer credit and take deposits, and for these reasons are subject to banking regulations (Box III.2) (de Aghion and Morduch, 2005).

The great strength of MFIs is their capacity to reach the poor – not just with funds but with a range of support services such as health advice, training and extension services that can help their clients improve the commercial viability of their investments. The MFIs may provide such services on their own or through partnerships with other governmental- or non-governmental organizations. Through their innovative approaches the MFIs have demonstrated that it is commercially feasible to reach the unbanked.

The development of a large microfinance sector has additional benefits for a country. Many MFIs can, for example, in addition to lending funds also enable clients to make best use of other sources of income such as remittances – by providing money transfer services, for example, and advice on savings and investment (Box III.3).

State-owned development financial institutions

In many countries, governments have tried to provide cheap refinance facilities for commercial banks and other financial institutions to encourage

Box III.2 A commercial bank enters microfinance, ICICI Bank in India

ICICI Bank, one of the largest private sector banks in India, ventured into microfinance in 2001, but within a short span of time achieved remarkable progress. Between 2001 and 2003 its microfinance portfolio grew from \$16 million to \$63 million – with an average loan of \$223.

It has addressed major challenges of the inability of poor people to offer collateral or a credit history, in order to lend to poor communities and is beginning to develop various financial products like weather insurance, health insurance, remittance services and micro-derivatives.

Source: ICFAI (2009). "Microfinance in India: The case of the ICICI Bank", ICFAI Business School Case-study Hyderabad, ICFAI Indian Business School.

Box III.3 Leveraging remittances with microfinance in Asia and the Pacific

Many countries in Asia and the Pacific receive sizeable international remittances from overseas migrants. Studies of six countries in the region – i.e., Indonesia, the Philippines, Samoa, Sri Lanka and Indonesia – found that remittance flows are a major driver of enterprise development and savings, as well as asset building and housing improvements.

Microfinance institutions are particularly suited to help households to use remittances, given the relatively poor background of remittance-receiving households and the small size of most of their financial transactions. Microfinance can contribute to leveraging the development impact of remittances by providing money transfer services, saving and cash management products, remittance-linked lending and non-financial services such as financial literacy education and financial planning assistance. An enabling business environment can make it more likely that remittance flows will be used in micro-enterprise development rather than consumption.

Source: Monash Asia Institute, Institute for Regional Development and Foundation for Development Cooperation (2007). "Leveraging remittances with microfinance", AusAID Research Report Canberra, Australia.

them to reach out to the poor. In Bangladesh, for example, the central bank itself provides refinance facilities to commercial banks and MFIs to extend credit to agriculture and SMEs (Rahman, 2009). India has specialized development financial institutions (DFIs) that offers such refinance and long-term lending facilities. The National Bank for Agricultural and Rural Development (NABARD) set up by the Reserve Bank of India provides refinance to cooperative banks, regional rural banks and commercial banks that lend to agriculture and allied sectors, while the Small Industries Development Bank of India (SIDBI) provides finances to small scale industries in India. These two development banks have been crucial in

India's pro-poor strategy and have been protected to a large degree by the Indian Government from the financial liberalization process initiated since 1991 (Sen and Vaidya, 1997).

DFIs that engage in direct lending activities, often at subsidized rates, to industrial units and infrastructure projects, usually operate in situations unattractive to most commercially-oriented lenders – where the capital costs of initial investment are high and the returns are uncertain, at least in the initial years. Thus they lend to start-up firms who may not be able to borrow from the market and they also focus on pro-poor sectors such as agriculture and small industry. They also have the advantage of providing

long-term funds under stable low-cost financing arrangements rather than the short-term loans provided by commercial banks. As well as providing firms with loans, many DFIs subscribe to firms' equity. This enables them to become involved in the ownership and management of these companies and take a close interest in their activities.

Being state owned, the DFIs are less subject to systemic failures than commercial banks, though they are prone to political intervention. Nevertheless, DFIs operating on sound principles and without political interference can be powerful instruments for promoting development.

Capital markets

Stock and bond markets are unlikely to play a major role in financial inclusion. Stock market listings and bond issues are normally prohibitively expensive for small and micro enterprises. Nevertheless, in a few developing countries, start-up firms have, to a limited extent, obtained equity funding from venture capitalists (Lerner, 2009). Recently, some MFIs too have managed to raise funds from professional investors through capital markets to expand their operations. These professional investors typically raise the necessary finance from pension funds, corporations, insurance companies

and high-net-worth individuals mostly, but not exclusively, based in advanced market economies. Donors such as the United States Agency for International Development (USAID) and the IFC have also shown a strong interest in private equity financing. These agencies can give guarantees to private investors that they will receive all or most of their money back, and, by doing so, encourage them to use their resources in developing countries, by investing in relatively high-risk enterprise such as software firms in India. This type of private equity financing can be a significant catalyst for the growth of small and medium-sized enterprises.

Post offices and other networks

Other public networks that are usually not considered as part of the financial system can also play an important role in achieving financial inclusion. This will include post offices which in developing countries are usually government run. They combine a pervasive national presence with a large amount of trust. Village post masters generally have close ties with the residents of villages. (Box III.4).

Recent years have also seen the emergence of mobile phone networks that far exceed the reach and spread of banking networks – geographically and across income classes, including the poor. In

Box III.4 Post offices can be important channels for financial inclusion

One of the friendliest services provided by the government is typically the postal service which can reach the poorest homes even in the most remote areas. And post offices are far more numerous than banks. In the rural areas of some Central Asian countries, for example, for every bank branch there are 10 to 25 post offices.

Post offices have also operated savings banks, generally serving as agents collecting money on behalf of the ministry of finance or the government. These can operate on a huge scale – in Japan \$1.8 trillion, in China \$342 billion and in India over \$100 billion. The deposits in the postal banks in Bangladesh, Pakistan, the Republic of Korea and elsewhere are also very large.

But in addition to collecting funds, post offices could also manage deposits and offer other services such as microcredit. The China Postal Savings Bank, for example, operates in over 3,000 small cities, and more than two-thirds of its branches are in rural areas. At the end of 2006, almost 10% of the Chinese population had deposits with the postal service. The bank offers a deposit card, issued for free, as a service for which deposits reached about \$30 billion.

Box III.4 Post offices can be important channels for financial inclusion (continued)

Traditionally, post offices also have provided important services, like handling remittances in the form of money orders, which are very important for poor migrants or others in the diaspora across the region. In recent years, many post offices have combined with money transfer organizations to promote international remittances. The international business of India Post, for example, accounted for more than \$1.5 billion during 2008-2009.

However, post offices, like many other state services, have suffered from underinvestment. Instead, governments in countries where financial inclusion remains a problem could consider modernizing and extending their post office networks and the financial services they offer.

Source: Based on inputs from Asia-Pacific Postal Union Bureau, Bangkok.

some countries these have already been providing several financial services through “mobile banking” (Box III.5).

Other technological advances such as automated teller machines (ATMs) and point-of-sales (POS) devices now allow banks to provide smaller communities with financial services such as savings,

Box III.5 Banking with mobile phones

Mobile phone banking works by combining the caller line identification technology in the mobile phone with user authentication, such as a personal identification number (PIN) or voice recognition. According to ADBI (2009), more than 1 billion people in emerging markets do not have a bank account but do have a mobile phone.

A number of Asia-Pacific countries are already using mobile phone banking. Cambodia, for example, in 2009 launched a service called *WING*, which enables small businesses to transfer, deposit and withdraw money using their mobile phones at a low cost – and already covers 16 of the country’s 24 provinces through more than 150 representation points. *WING*’s customers include many under- and un-banked people such as garment workers and migrants from rural areas working in urban areas. It has now enhanced. Approximately 80% of the customers are from rural areas, of which 35% are poor. *WING*’s major challenges include the low penetration rate of mobile phones in the country, the relatively small number of transactions – about half a million and US\$ 200 in the entire country.

Similarly in the Philippines, mobile communications companies, Smart Communications and Globe Telecom, offer electronic money products “Smart Money” and “G-cash”. These payment products are now used by about 8 million customers for shopping, for making payments and for transfers, including receiving foreign remittances.

The full potential of mobile phone banking, however, is presently constrained by several issues and the need to make the systems easy to use by poor people who are typically illiterate and may not be fully literate in the technology. Further, there are regulatory challenges as mobile phone banking is a cross-border regulatory domain, including licensing, electronic communications, payments systems and anti-money laundering.

Source: ADBI (2009). “Promoting financial inclusion through innovative policies”, Proceedings of the workshop on Promoting Financial Inclusion through Innovative Policies, ADBI, Tokyo, Japan, 31 March – 3 April.

credit, and payments. For this purpose, they can enter into partnerships with new players who act as “business correspondents” – such as fuel pump operators, shopkeepers, and even individuals of high integrity who command respect in the local community.

How governments can promote inclusive financial services

If governments wish to promote inclusive banking, they should ensure that the overall financial system is efficient, fair and secure. At the top, for example, they will want to incorporate a safety net, consisting of a lender of last resort and a deposit insurance agency, and build in various safety features such as cash-remittance-transit insurance and mechanisms to deal with distressed banks.

Inclusive banking also has to be closely linked with other services. Poor communities tend to take greater advantage of financial services if they also have access to better health and education systems. Banking thus needs to interact with broader social policy. At present, most countries take a fragmented approach, with no clear articulation of how social policy objectives, like achieving the MDGs, interact with banking policy objectives, such as financial stability. Banking policy should also go hand in hand with development programmes and projects. If governments invest in reliable infrastructure and communications systems then people living in remote and isolated areas will have better access to markets and thus be more attractive to banks.

Regulation for financial inclusion

Lack of financial services for the poor can be considered as a market failure that justifies public intervention. This may be achieved through government-owned banks that operate according to social as well as financial criteria – or by directing the activities of commercial banks. The Indian banking sector has seen one of the world’s most extensive state interventions. This included bank nationalization, which is thought to have increased bank density in the rural and semi-urban areas, and consequently led to an increase in private savings (Loayza and others, 2000; and Athukorala and Sen, 2002). In addition, from 1969, in order to bring commercial banks under social control, the government required any bank

wanting to open a branch in an area that already had one or more bank branches to also open four more branches in locations that had none. The government also required commercial banks to lend a large proportion of their funds to designated priority borrowers such as agricultural households and small- and medium-sized enterprises. There is evidence that policy-induced rural branch expansion in India significantly reduced rural poverty (Burgess and Pande, 2005). The nature of state intervention required to achieve financial inclusion is not a settled matter. It is likely that it would vary from country to country, and even within a country it could vary as the country moves from one stage of development to another. What is clear, however, is that left to itself the financial system is unlikely to champion financial inclusion. Regulatory pressure and continuous monitoring by the financial regulator are critical at all times to ensure that the poor are not left out.

Encouraging new entrants

As an alternative or a complement to regulation, governments can encourage the entry into the market of a more diverse range of players. There should be many different types of retail financial institution, each of which will have its own strengths and weaknesses. Those most likely to serve people currently unreached in rural areas are small enterprises that offer “reach and depth”. These would include co-operatives, savings and credit institutions, rural banks, NGOs and community-based organizations (CBOs) – as well as other intermediaries. On the other hand small enterprises and households should, wherever possible, also have access to larger institutions that offer greater “range”, through a wider spectrum of banking services.

Institutions that provide services to the poor can thus take many different forms. There is no reason why a well run commercial bank cannot make a profit from serving poor customers. On the other hand institutions that are more socially oriented may well be able to reach the poor but may do so inefficiently in ways that raise costs for their clients. Generally, the institutions that have greater potential to reach the unreached are also profitable.

To foster greater diversity, policymakers will need to ensure there are few entry barriers for new institutions, while also allowing existing sound institutions where appropriate, to develop banking services. At the same time, policymakers should be encouraging innovative strategic alliances and other new relationships among existing providers, such as alliances between banks and mobile phone companies or between banks and post offices.

This will often mean changes to the legal, regulatory and policy frameworks. One alternative is a tiered structure of banking, as in Hong Kong, China, with different regulations for institutions operating at different tiers, along with appropriate capital adequacy norms. Policymakers can also use the tax system to encourage more inclusive lending – for example, offering tax breaks for commercial banks involved in microfinance-type lending.

Regulations should also embrace some services which are currently forced underground. Village money lenders, for example, are often accused of exploiting the poor – even though they provide a useful service of rapid, albeit high-interest, doorstep loans to high-risk customers. It would be better to alter the regulatory framework to accommodate some of these services and allow them to operate more transparently.

As well as encouraging diversity, policymakers can consider consolidating the number of institutions in circumstances where too many services providers are offering too few products. This would enable them to take advantage of economies of scale and scope and hence reduce costs. For example, NGOs and CBOs providing savings and credit services may be converted into limited professional banks or required to obtain banking licenses. This might also simplify the task of the regulatory authority – though it would need to be done carefully to ensure that it did not reduce competition.

The overall aim should be to establish and strengthen a wide range of retail institutions without jeopardizing the integrity of the overall banking system. While encouraging diversity, policymakers will also want to ensure that they are protecting consumers from exploitation while not

exposing them to moral hazard. In doing so, they might need to bear in mind the dictum: “don’t regulate what you cannot supervise”.

Improving the banking architecture

The banking architecture refers to the set of services that maintains the integrity of the banking system and allows banks to communicate efficiently with each other and to transfer funds and instruments safely. There are a number of developments that would help the poor.

Credit bureaus – It should now be possible to use information technology to establish central credit bureaus that would hold records of the credit status of individuals or small businesses – based on credit history or credit scores related to borrower characteristics (Box III.6). Having established their credentials with one institution they would then have easier access to others, though they will soon be penalized if their credit history deteriorates. Banks could be legally required to participate. Credit registries are still on a relatively small scale in developing countries. Some have none at all; others only a few. In Pakistan, for example, 4.9% of adults are covered by a public registry and 1.5% by private bureaus. In India, private bureaus cover 10.5% of adults, in Sri Lanka 8.7% and in Nepal 0.2% (La Torre and Vento, 2006). However, it seems that more countries are seeking to expand such registries: China is in the process of drafting appropriate laws, determining a balance between public and private initiatives. The Russian Federation is also developing a legal framework to establish a private-public balance. In India the nationalized banks created credit bureaus several years ago though these still have limited reach and functionality.

Guarantee funds – Banks will be more flexible and less risk averse if they can rely on public loan guarantees for designated types of borrower. Commercial banks could, for example, use such guarantees as a basis for lending to MFIs – which would expand the funds available to the poor. Such guarantees at the national level could be supported by a multilateral Regional Guarantee Institution which would provide credit risk guarantees, political risk guarantees and advisory services internationally.

Box III.6 The National Credit Bureau of Thailand

The National Credit Bureau (NCB) Co. Ltd. of Thailand was established in 2005 under the provisions of The Credit Information Business Act, 2002, through the merger of two earlier credit bureaus. The NCB is a private company whose shareholders are mostly private and public banks. It has 80 member financial institutions who supply to NCB all the credit-related information on 65 million accounts belonging to 16 million people and 4 million accounts belonging to 300,000 companies. The NCB consolidates all the information pertaining to a single individual or company into a single database. In this it makes use of the 13-digit ID card that every Thai citizen has, which helps minimize potential fraud through change of names by individuals in the poor credit history. The Credit Information Act is subject to the privacy protection provisions of the Act, 2002. Merely in itself, the inclusion of potential lenders, a release of his consolidated database orders and the client's credit history, and this has helped even low-income people with good credit history to get a loan. The NCB's role is limited to maintenance and provision of credit history information, and does not offer any suggestions on loan applications.

Source: Bangkok Post (2010). Spectrum 3(7), 14-20 February.

Accounting and auditing standards – Microcredit can be a stepping stone to mainstream credit. But this will require MFIs to follow standard accounting and auditing guidelines, and systems of public disclosure of information. Countries with advanced banking sectors such as Japan and the Republic of Korea could help other countries in this regard.

Reporting on access – Banking supervisors at present properly focus on the soundness and stability of the banking system – aiming to protect customers against losses from bank failures or opportunistic behaviour of bank management. But if the objective is also to make banking more inclusive, they should also require banks to report on the usage of banking services – on the measures they have taken to open up their services to the poor.

Promoting banking literacy

Through both formal and informal channels, governments, along with civil society organizations, will need to promote banking “literacy” to marginalized groups and individuals. This is very critical to ensure that the poor, who are provided access to banking services through the efforts of various entities including the government, banks, and NGOs, actually begin to make use of those services.

Widening collateral

Many people are unable to obtain credit because

they lack assets that the banks will accept as collateral. Governments can therefore consider how they might widen the options. One of the most significant forms of collateral for the poor is land. People who have stronger title to land will find it easier to deal with banks. In China, for example, where most poor households have some land they can obtain mortgages and free loans from the country's National Credit Union Network. Governments could also help widen collateral by requiring landlords to provide documented tenancies that could help confirm the credit worthiness of landless farmers. Similarly, they could formalize some of the customary access rights of fisher folks to water bodies owned by the State.

How banks can develop inclusive financial services

Banks themselves may choose to reach out to the poor who represent a new type of customer. Two banks that have done so recently are the Hatton National Bank in Sri Lanka and ICICI Bank in India, both private banks (Box III.2). One advantage of lending to previously unbanked households is that as poor households become richer, they become loyal customers. Therefore, in order to increase their marketshare, commercial banks may choose to lend to customers who usually are reached only by microfinance institutions. In all these cases, however, banks will have to evaluate the trade-offs between those channels that are most

convenient to customers and those that are most profitable. Some of the options include:

Branches and satellite branches

Banks can combine convenient branches along transportation routes – such as train and bus stations and taxi stops. In the most remote areas that are beyond the reach of telecommunications, as in the delta of the Irrawaddy River in Myanmar or the mangrove forests of the Sunderbans in Bangladesh and West Bengal, India, banks can consider having mobile banks on motor boats that call regularly on certain days of the week, as some banks do. Similarly, banking vans can travel around mountainous areas – as in northern India and China, the Lao People’s Democratic Republic and northern Pakistan, stopping regularly in selected villages.

Partnerships for financial inclusion

Banks can also forge partnerships with other existing service providers who already have a local presence such as post offices and mobile telephone companies or who work with the poor such as MFIs, NGOs and other local service providers or even individuals.

Instead of opening new branches in a remote location, banks can work through an agent, an organization or an individual, who serves as a local “business correspondent”. Business correspondent banking, sometimes called “agent banking” or “branchless banking” can greatly reduce the cost of providing services. Typically, this involves the bank entering into a partnership with an organization, such as the post office or a local agent, who could be a village shopkeeper, fuel pump operator, or any individual of good reputation such as a teacher. The agent provides various services on behalf of the bank – accepting deposits, or making cash payments – and issuing receipts to the client while entering transactions into the bank’s system. Thus, most of the basic banking services can be provided without having to open an expensive brick and mortar bank branch. The business correspondent can operate with a manual ledger, but nowadays is more likely to work electronically using a POS/Palmtop in conjunction with an e-kiosk that provides internet banking services. The Reserve

Bank of India has actively encouraged the business correspondent model for achieving financial inclusion and has formulated guidelines for the appointment of bank agents.

Similarly, banks can also enter into partnerships with mobile telephone companies to offer a suite of mobile banking products. The spread of the mobile phone network has increased the options for scaling up low-cost cell-phone-based services using short-message technology (Box III.5). Transactions which can be mainly used by poor customers could include balance enquiries, bill payments, money transfers, transaction alerts and accounting services. In the Philippines, for example, the Text-A-Withdrawal service allows registered rural bank depositors to withdraw their funds remotely, in effect creating hand-held automated teller machines. By partnering with mobile phone companies, banks can make use of these technologies to roll out more services to the poor and the unbanked.

Banks can also benefit from the expertise of MFIs and NGOs who have had the greatest success in serving the poor. One of the advantages of MFIs and NGOs is that they have a committed set of workers who are “footloose” and are able to reach the poor in areas that are often neglected by most formal institutions, including banks. They have also shown remarkable ability to identify the poor and their needs quite effectively. Through partnerships, banks can tap into the networks of MFIs and NGOs to provide financial services to the poor. The Self-Help Group Bank Linkage programme in India is such an attempt to extend financial services to groups of poor in rural areas, typically women, in which NGOs play a critical role in the formation of the SHGs. Such partnerships, with MFIs especially, can help the poor graduate to activities that are more rewarding and sustainable. This can also overcome the possibility of segmentation that MFIs are supposed to suffer from.

Providing a package of services

People will better use financial opportunities if the bank can support these with other services. The bank should itself be able to provide many of these – basic information on banking services and assistance in choosing the correct products,

preparing documentation and working out repayment schedules. For example, they could suggest that poor clients open a simple savings account rather than a checking account on which they might easily become overdrawn. But banks can also usefully add other services to customers such as extension services or market linkages. For this purpose, they may need to build alliances with specialized providers including NGOs and CBOs (Box III.7).

Micro venture capital

In the case of SMEs, banks can also consider equity financing or taking stake in SMEs and taking a close interest in the fortunes of the investee enterprise. In the case of larger enterprises, this might extend to taking a seat on the board or at least participating in management decisions – a function similar to that of development banks. Another option is equity finance: rather than offering a loan which the entrepreneur might be unable to service, the bank buys shares on the understanding that the entrepreneur can subsequently buy these back. This might be considered as a form of micro venture capital investment, though in this case it is not wealthy individuals taking bets on start-up companies but, perhaps, a defined part of the bank's capital that it allocates to this activity. In this case, governments could encourage such funding through tax breaks.

Appropriate products and services

Banks also need to ensure that they are offering products and services that meet the needs and circumstances of the poor. For this purpose, they will need to improve their product mix, reduce total transaction costs, provide convenience, and clearly outline the eligibility criteria for products and services. Unreached customers have needs that can be encapsulated in a package of “five-micros”: micro-savings, microcredit, micro-repayments, micro-remittances and micro-insurance.

Micro-savings – Banks could develop flexible products with daily deposit collection and withdrawal facilities. The operating principle should be to provide a savings product that the poor can use as and when they have cash on hand, which could be significantly unpredictable. Here it is critical to reduce the cost of small transactions through a combination of technology, such as biometric enabled ATMs, and appropriate model of service provision like business correspondent or mobile banking.

Microcredit – Banks could extend what many have done in urban areas in the realm of purpose-free loans and credit cards – offering them as part of relationship banking, while taking steps to managing the risks better for example, through the peer group joint liability format. Poor households

Box III.7 Branchless banking for financial inclusion and livelihood promotion

The Reserve Bank of India has actively encouraged the business correspondent model for achieving financial inclusion and has formulated guidelines for the appointment of agents. One of the operational plans in India, the Corporation Bank, has used this model extensively to bring banking services to many unbanked villages in the southern Indian state of Andhra Pradesh. The bank enters into a partnership with the government to enhance the livelihoods of the poor by promoting dairy farming and animal husbandry, not only to generate income, but also to improve the expertise of the National Dairy Development Board (NDDB). Under this joint project with the NDDB, women dairy farmers are given credit and a standardized Milk Milk Card. The milk from their farms is supplied to the bank and the payments for the sale are made directly to the bank account of each woman. The bank also provides the details of these transactions to the government, and allows the government to operate their own account in the village through the business correspondent who is also a member of the local community. According to the bank, linking banking with the livelihood of the poor is a key objective of its branchless banking model.

Source: Kohar, S. 2009. *National study on speeding financial inclusion*. Delhi, India: India.

would thus have access credit products with flexible repayment options. The number of loans that a household may take out at a time can be fixed. Neither collateral nor personal guarantors may be required. The bank may require as collateral only a minimum savings balance equal to a certain percentage of the outstanding loan balance. Loans could be taken and repaid flexibly, with no minimum or maximum duration. Each month, the minimum payment should be only the interest due, but principal repayment should be left entirely flexible, to give clients the maximum flexibility in their use of loans (Box III.8).

Micro-remittances – The Asia-Pacific region has a huge number of migrant workers. These workers use a variety of channels for sending their remittances, some formal and some informal, both domestically and internationally. Outlets for formal channels are either few and far between or are expensive and people often resort to informal, more risky, channels. Here there is considerable scope for innovation, for example, through high-tech electronic substitutes for cash and cell-phone-based remittance services which can deliver financial services to people who

previously had no access to the formal economy. This has been demonstrated by the success of the Smart Padala and G-Cash service offerings in the Philippines and other forms of “m-banking” and “m-remittances” (Trucano, 2006).

IT-enabled remittances have also been established very successfully by the State Bank of India in Mumbai (Mahapatra, 2009). Many people in the city send micro-remittances to their homes on a regular basis to take care of family needs. Now they can easily do so via a special Internet money transfer counter. Customers deposit cash at the counter and the bank official issues a receipt and instantly transfers the amount to an account of their choice in any part of India. This service is now being used by taxi drivers, auto-rickshaw drivers, construction workers, vegetable and scrap dealers in Dharavi, Asia’s largest slum. The e-kiosks in many villages and mobile phones can also be used for sending such remittances.

These new services can be very profitable, even for large inter-regional players like Vodafone and Orascom Telecom, which also operate in Europe

Box III.8 SafeSave – a microfinance-based banking service in Bangladesh

SafeSave is a microfinance organization in Bangladesh that allows poor people to save on a daily basis, withdraw as needed at their doorsteps and access credit products with flexible repayment options. SafeSave offers an account to anyone living within one kilometre of a branch office. Clients are recruited as individuals: there are no groups or meetings to attend.

Clients may deposit as little as one taka each day (\$0.015) when the collector calls at their house. Accounts with balances above 1,000 taka (\$15) earn 6% interest. Clients may withdraw up to 500 taka per day (\$7.50) at their doorstep, or up to 5,000 taka per day (\$75) at the branch office within a guaranteed maximum of 10 minutes (larger amounts within 24 hours).

Loans are not mandatory, and there is no minimum amount. Loan interest is 3% per month on the declining balance – about 30% annually in real terms. A minimum savings balance equal to one third of the loan balance is required as collateral at all times. No other forms of collateral or personal guarantors are required. Each month the minimum payment is the interest due, but principal repayment is left entirely flexible. However, steady repayment progress is required to earn increases to the credit limit, and this provides an indirect incentive (along with avoiding future interest) to repay as quickly as possible. Roughly two thirds of all clients hold a loan, with outstanding balances averaging 4,000 taka (\$57). Product rules are issued in writing to all clients, to ensure that service is fair and consistent, and a complaints line is manned by headquarter staff at all interested reporting hours.

and the Middle East. If people are to use IT-enabled remittances services, however, they need to be well informed about them – aware of the benefits and the degree of security they offer.

Micro-insurance – Though there are important differences between social and private insurance schemes, insurers generally have done too little to include the poor and disempowered who have been unable to claim access. In this regard micro-insurance is conceived as an autonomous enterprise, independent of external operators or of permanent financial lifelines (Box III.9). Unlike many community-based operations which are in fact dependent on decisions taken far away – at the level either of governments or of NGOs – the locus of decisions in micro-insurance is with each unit. At the same time, micro-insurance is more than just an activity at the level of single communities; it foresees setting up networks to link multiple small area- and occupation-based units into larger structures that can enhance both the insurance function (through a wider pooling of risks) and the support structures needed for improved governance (through training, data banks, research facilities, etc.).

Banking on the unbanked

Microfinance institutions have shown that they can not only reduce poverty but also help countries make faster progress towards the other MDGs. By the same token, the financial system as a whole

can open up many more opportunities for people who are currently unbanked – providing credit and other services that will allow poor communities to increase the range and scale of their economic activities.

A number of governments have already demonstrated what is possible – strengthening their regulatory environments in ways that can safely encourage many more institutions to offer financial services. Some financial institutions too have been showing greater imagination in the range of services on offer, taking advantage of new technologies that make it possible to deal with larger numbers of people using relatively small sums of money. As yet, these innovations are mostly confined to some of the larger countries, and are on a relatively small scale. But they could expand rapidly in the years ahead.

Economic development in Asia and the Pacific could thus be based on the efforts and energies of millions more people. This in itself will make growth more inclusive. But this still raises questions of sustainability. Would millions more successful entrepreneurs start to put unbearable pressure on the natural environment? As the next chapter shows, a more inclusive financial system also has to be part of a larger shift to an economic development paradigm that will sustain growth for generations to come – towards “green growth”.

Box III.9 Micro-insurance in China

China Life Insurance Co., Ltd. unveiled a micro-insurance pilot programme in 2008. Its micro-insurance products, including personal insurance products, group insurance products and micro-loan products, would be first launched in nine provinces, including Gansu and Heilongjiang, in mid-August 2010 and then other provinces and regions across the country. As a part of microfinance, micro-insurance is proved to have played a significant role in helping people, especially those who live in rural areas in developing countries, run out of poverty. In order to assist micro-insurance in China, the China Insurance Regulatory Commission (CIRC), the top Chinese insurance regulator, set up an independent office focusing on micro-insurance development in the country in May 2007. The CIRC is to provide support to China Life's micro-insurance pilot program in aspects like supervision fee, sales channels and assisted in reserves etc.

Source: Yang, D. (2008). "China: China Life Insurance Company unveils micro-insurance pilot program", 19 August, accessed from www.microcapital.org/news-wire-china-life-insurance-co-ltd-unveils-micro-insurance-pilot-program, on 3 December 2009.



Photo: Sunlabob

Growing greener – technology and finance

A more inclusive financial system, at both international and national levels, can make a major contribution to achieving the MDGs. It will also help spur economic growth. But if this growth is to benefit both current and future generations it must follow a greener, more sustainable path.

In recent decades, many countries in the Asia-Pacific region have achieved high rates of economic growth but paid little heed to their environmental impact. Growth has helped lift millions of people out of poverty – between 1990 and 2005 the percentage of the population living on less than \$1.25 a day fell from 49% to 25%. This has been a huge achievement, but the countries of the region now realize that in the long term the conventional “grow first and clean-up later” strategy is unsustainable.

In the face of rising environmental pressures, Governments of the region convened at the Fifth Ministerial Conference on Environment and Development in Asia and the Pacific in March 2005 and expressed their strong support for environmentally sustainable economic growth – or “green growth”. Green growth aims to decouple economic activities from environmental pressure by reducing their energy and carbon intensities, while also recasting environmental protection as an engine of growth. Green growth has the potential for both substantially reducing the costs of repairing environmental damage and mitigating climate change, and enabling the region to provide jobs and incomes for future generations.

Green growth towards the MDGs

World leaders underlined the importance of environmental sustainability when they established it as the seventh Millennium Development Goal. But they also realized that environmental sustainability is not an isolated objective: it also underpins progress in the other MDGs – providing the basis for livelihoods, health and security, particularly for the poor.

MDG-1 – Eradicate extreme poverty

Natural resources are especially important in the poorest countries of Asia and the Pacific where millions of people depend for their livelihoods directly on ecosystem goods and services – coral reefs, forests, mangroves, aquifers and other forms of natural capital. While in high-income countries natural capital constitutes only 5% of national wealth, in low-income countries on average the proportion is 40%. In some rural areas, natural capital contributes over 40% of household income (World Bank, 2008).

This capital has been eroded. While the green revolution of the 1960s and 1970s contributed greatly to the region’s food security, it also led to a considerable decline in soil fertility and an

increase in air and water pollution – as a result of unsustainable agricultural practices, such as slash-and-burn agriculture, intensive nutrient-extractive cultivation, excessive use of fossil fuel-based fertilizers and pesticides, and poorly managed irrigation systems. Around half the arable land in Asia and the Pacific is thought to have been damaged by unsustainable agricultural practices which have reduced soil fertility, increased salinity, and in some places either turned the land arid or caused it to become waterlogged (Pender, 2008). Similarly, coastal fish stocks, on which poor fishing communities depend for their livelihoods, have been considerably depleted: overall, the region's coastal fish stocks have declined by around 40% over five years (Sugiyama and others, 2004). The problem will have been further exacerbated by climate change – potentially increasing the number of undernourished people globally by 40-170 million by 2050 (IPCC, 2007).

Green growth can help eradicate poverty and hunger. Investing in sustainable ecosystem management alone would, over the long term, save trillions of dollars. Recent research has shown that investing in expanding protected areas on land and sea – around \$45 billion over several decades – would secure benefits of four to five trillion dollars per year. In southern Viet Nam, for example, replanting nearly 12,000 hectares of mangroves costs about \$1 million dollars but will save annual expenditures in dyke maintenance of well over \$7 million (TEEB, 2009).

MDG-2 – Achieve universal primary education

Children of poor families, especially girls in rural areas, spend considerable time gathering firewood and collecting water. As ecosystems become degraded, the children have to devote more time for finding these scarce resources – time they would better spend studying and attending school. Environmental degradation also affects their health and thus their capacity to learn: in Pakistan, for example, water-related infections cause an annual loss in education performance equivalent to 4.2% of GDP (World Bank, 2008). Education would also benefit from more reliable and sustainable forms of energy since better lighting enables children to study longer with less strain on their eyesight.

MDG-3 – Promote gender equality

The increasing scarcity of firewood and drinking water hits particularly hard women and girls, who traditionally bear this responsibility. A survey in 2006 found that women collected water in a high proportion of households: 90% in Bangladesh, 86% in Nepal, 84% in the Lao People's Democratic Republic and 82% in India. However, men tend to take a more active role in some other countries: 48% of men collect water in Cambodia, for example, and 49% in Mongolia (WHO/UNICEF, 2008).

Better access to clean energy, safe water and adequate sanitation would make a huge difference to the lives of millions of women. Some of the greatest benefits would come from shifting from firewood to renewable technologies, such as biogas, biomass gasifiers, solar photovoltaic systems, solar water heaters, or small hydropower systems. Where a move to cleaner energy sources is not possible, people can generally benefit instead from improved cooking stoves. The Policy Innovation Forum launched in November 2008 by the International Network on Gender and Sustainable Energy (ENERGIA), in cooperation with ESCAP, is bringing together policy makers and practitioners to move forward with new approaches that will lead to pro-poor and pro-women energy policies and programmes.

Women are also typically the worst affected by disasters, many of which are exacerbated by environmental destruction and climate change. In Myanmar, for instance, approximately 61% of those killed by Cyclone Nargis in 2008 were women, and in certain villages this percentage was even higher (Tripartite Core Group, 2008). Most of the casualties of the 1991 cyclone in Bangladesh were also women who, constrained by cultural norms, had less access to emergency warnings and cyclone shelters (UNISDR, 2001).

MDGs-4, 5 and 6 – Improve health

According to WHO, one fourth of the global disease burden, and more than one third of the burden among children, can be attributed to environmental threats, such as polluted air, contaminated water, lack of adequate sanitation, toxic hazards, disease vectors and degraded ecosystems (WHO, 2006). Diseases such as diarrhoea and malaria take a huge toll

across the Asia-Pacific region. Indoor air pollution is responsible for pneumonia, chronic respiratory disease and lung cancer. Women and children are particularly exposed since they spend the most time near the domestic hearth and they also suffer from the lack of energy sources for illumination and refrigeration. It is women too who then have to cope with the resulting health problems by caring for sick family members. Shifting from solid fuels to cleaner energy technologies – such as liquid petroleum gas, biogas or solar power generation – can reduce indoor air pollution while minimizing the environmental impacts of energy production and consumption. Other health problems result from exposure to toxic hazards, particularly in the poorer countries where people are more likely to be exposed to chemicals and pesticides.

Environmental factors also contribute to the most common vector-borne diseases including malaria and dengue. These are spread more easily as a result of poorly designed irrigation and water systems, inadequate housing, and poor waste disposal and water storage. Currently, 40% of the urban population in Asia and the Pacific live in slums – which provide perfect conditions for the transmission of these diseases. Moreover, climate change will contribute to a substantial increase in the number of people at risk of dengue fever (WHO, 2003).

MDG-7 – Ensure environmental sustainability

Although several governments started to integrate environmental sustainability into their development process, many still consider the issue as a trade-off. The opportunities for green growth, however, highlight many synergies between environmental sustainability, economic development and poverty reduction.

Green growth strategies will also improve the access of the poor to modern energy and cleaner and more efficient technologies. Currently, some 1.7 billion people in Asia and the Pacific rely on carbon-emitting biomass for cooking and heating, and an estimated 900 million people in rural areas lack access to modern energy services (World Bank, 2008). Deforestation alone contributes 25% of total man-made greenhouse gas emissions (FAO, 2005). Properly designed and implemented,

climate change mitigation options through forestry will have substantial co-benefits in opportunities for employment and income generation – in the conservation of biodiversity and watersheds, for example, and the production of timber and fibre, as well as in the provision of aesthetic and recreational services.

MDG-8 – A global partnership for development

Many of the key environmental challenges can be solved only through global and regional partnerships. The United Nations Millennium Project recommends that international donors mobilize support for global scientific research and development to address the special needs of the poor in the areas of health, agriculture, natural resources and environmental management, energy, and climate. The total needs are expected to rise to approximately \$7 billion a year by 2015. Such support should be geared in particular towards addressing the special needs of the least developed countries (LDCs), landlocked developing countries (LLDCs) and small island developing states (SIDS) (United Nations, 2005).

International trade and investment can also play a key role in mobilizing the appropriate technologies and financial resources. Environmentally sustainable economic growth will benefit from an open, rule-based, predictable, non-discriminatory trading and financial system.

Global and regional platforms are also needed to exchange experience and information on innovative practices. Such exchanges can only take place through regional and global platforms. ESCAP is engaged in this respect with programmes such as the Seoul Initiative Network on Green Growth, the Green Growth Capacity Development Programme, the Kitakyushu Initiative for a Clean Environment, and initiatives on Eco-efficient Infrastructure, Payment for Ecosystem Services (PES), Integrated Pro-poor Water and Wastewater Management in Small Towns, and Pro-poor and Sustainable Solid Waste Management in Secondary Cities and Small Towns.

Fostering green growth

Green growth can thus make an important contribution to achieving the MDGs. But, as

experienced in several countries, if governments are to encourage this new alternative, they will need to be proactive. Market forces alone will not make economic growth either green or inclusive. Instead, governments will have to help steer economies along a more sustainable path. For this purpose, ESCAP has identified four key areas: eco-tax reform; sustainable infrastructure; greening of business; and sustainable consumption.

Eco-tax reform – Current market prices do not reflect real social and ecological costs and thus will not produce sustainable outcomes. Governments will need to correct these market failures through regulation and a mix of economic and fiscal instruments. One key tool can be ecological tax reform which means applying green taxes, on pollution or inefficient use of energy and other resources, to encourage enterprises to reduce pollution and economize on resources, while using the proceeds to reduce labour costs and enable enterprises to take on more workers. For this purpose, governments will want to balance taxation levels so as to maintain revenue neutrality and progressiveness, while taking steps to protect the most vulnerable (McNeill and Williams, 2007).

Sustainable infrastructure – Constructing, using and maintaining infrastructure is very resource intensive – taking up energy, water, materials and land, and having major environmental impacts. Along their lifecycle, buildings alone are estimated to consume up to 40% of total energy use. Infrastructure is also difficult and costly to modify – locking in patterns of consumption for decades. There is an opportunity to develop this infrastructure in an inclusive and sustainable manner but it is fast closing. The infrastructure challenge demands a shared approach in the delivery of projects between the public and private sector. Public-private partnerships (PPPs) can be an effective means to complement efforts of governments, but countries of the region still face a number of barriers, such as a lack of adequate administrative and regulatory frameworks and capacity building needs (Heyzer, 2010).

Greening of business – Greening the economy ultimately requires greening business practices. Businesses already have much to gain from integrating environmental considerations into

production processes – higher productivity, for example, saving energy and materials, improving their public images, and profiting from new demands for environmentally preferable goods and services. However, in future, business should have stronger incentives for adopting environmentally sustainable practices. Apart from responding to tax breaks, they can also be encouraged by other aspects of public policy, including green procurement. Governments can also create a favourable environment for social entrepreneurship which, particularly in rural and impoverished communities, can fill the gap between private-sector interests and government programmes.

Sustainable consumption – As countries develop economies based more on the exchange of knowledge and information, they tend to become more eco-efficient. However these gains can be more than offset by rising consumption as more people adopt energy- and material-intensive lifestyles (WRI, 2000). Governments will therefore also want to foster sustainable consumption – through energy efficiency, for example, and mass-transit systems.

Green growth and climate change

A green growth strategy also provides options for low carbon development. In order to improve eco-efficiency, green growth will minimize the use of energy and other resources. This approach is in line with the Bali Action Plan, which requests developing countries to undertake nationally appropriate mitigation action in the context of sustainable development.

When it comes to addressing climate change, Governments can take two main strategies: “co-benefit” mitigation and “no-regrets” adaptation. Co-benefit approaches are those which are in themselves already economically and developmentally sound, but have the additional merit of reducing greenhouse gas emissions. These would include promoting water conservation and energy efficiency, and reducing, reusing, and recycling solid wastes.

“No-regrets” adaptation refers to measures and interventions that would yield benefits even in the absence of severe climate change. These would include protecting and maintaining coastal environments, particularly mangrove forests,

upgrading slums and squatter settlements, updating and improving the enforcement of building codes, cleaning up and maintaining natural drains and waterways, and developing local disaster management plans. Adaptation can also produce win-win results for agricultural development, with tighter integration of natural resource management – addressing land degradation, for example, reconfiguring irrigated production systems to use water more efficiently, and increasing capture and retention of rainwater (Padgham, 2009).

Co-benefits and no-regrets approaches can be very cost-effective, especially for resource-constrained developing countries. Measures for climate change mitigation and adaptation should therefore be part of an integrated green growth strategy that contributes to the resilience of countries, societies and communities (Box IV.1)

Box IV. 1 Outcomes of UNFCCC COP-15 – The Copenhagen Accord

The Copenhagen Accord is the main outcome of the 15th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC), which was held in Copenhagen, in December 2009. The Conference has adopted to deliver a legally binding agreement for climate change mitigation beyond 2012, after the end of the first commitment period of the Kyoto Protocol. The Copenhagen Accord was “taken note of”, not formally adopted by the COP, and it is subject to signing by individual Parties in order to realize the decisions contained in it. However, the Accord provides the basis for ongoing negotiations for a legally binding agreement by COP-16, to be held in Mexico towards the end of 2010 or next year at COP-17 in South Africa.

The Accord does not specify quantified greenhouse gas (GHG) mitigation targets. But it agrees that deep cuts in global emissions are required to halve global emissions in order to limit the increase in global average temperature to 2°C. As a result, the Accord does not contain quantified targets for individual Annex I Parties, but requires that Annex I parties commit to implement, individually or jointly, quantified emissions reductions for 2020, to be submitted by 31 January 2010. Non-Annex I Parties will also implement mitigation actions, including those to be submitted by 31 January 2010. Countries and States may undertake actions voluntarily and on the basis of support. Mitigation actions shall be undertaken every two years. Unsupported actions will be subject to domestic measurement, reporting and verification (MRV), while supported actions will be subject to international MRV. The Accord stresses the importance of enhanced action and international cooperation on adaptation and calls for the establishment of a comprehensive adaptation programme including international support.

In terms of financing, the Accord stipulates a collective commitment of developed countries to provide developing countries with new and additional resources of 30 billion for 2010–2012 in the allocated amount to be used for adaptation and mitigation. Developed countries also voluntarily providing globally 100 billion a year by 2020 in financing from a wide array of sources. The Accord establishes for near-term actions a mechanism on REDD-plus, a High-Level Panel under the COP to study the implementation of financing provisions, the Copenhagen Green Climate Fund and a Technology Mechanism, to accelerate technology development and transfer in support of action on adaptation and mitigation.

By 1 February 2010, the secretariat of UNFCCC had received submissions of national pledges to cut and limit greenhouse gases by 2020 from 55 countries. These countries together account for 78% of global emissions from energy use.

Green growth underway

Countries will need to tailor green growth to their own priorities. There is no “one-size-fits-all” approach. Many countries in Asia and the Pacific are already successfully integrating environmental sustainability into their socio-economic development strategies, as illustrated by the following examples.

Cambodia – Cambodia was the first LDC in the region to develop a National Green Growth Roadmap, with technical assistance from ESCAP. This will serve as the basis for a holistic approach to development – helping to reduce poverty and decrease vulnerability to climate change. Priority areas include increasing sustainability in agriculture, forestry, water resource management, transport, and waste management, and a scheme to promote eco-villages.

China – China has attached great importance

to sustainable economic growth, with basic national policies saving resources and protecting the environment. As early as August 2006, the Government took a number of major measures for green growth. For example, improvements in energy consumption, scientific research for energy efficiency and recycling technologies, and systems of labelling and certification to provide consumers with choices for sustainable consumption (Zhao, 2006) (Box IV.2). As a result, between 2005 and 2008, energy consumption per unit of GDP fell by 10%, while sulphur dioxide emissions decreased by 9%.

India – The Government has taken several steps to lower energy intensity, especially in energy-intensive industries, such as cement, steel, fertilizers and aluminium. As a result, between 1972 and 2003 the energy intensity of GDP decreased by 36%. The Government is also encouraging energy-efficient public transport and green buildings – and

Box IV.2 Pursuing environmental sustainability in China

Aiming to make economic development more environmentally sustainable, the Government has passed a number of pieces of framework legislation. Among these are: the Circular Economy Promotion Law; the Renewable Energy Law; the Energy Conservation Law; the Water Pollution Control Act; the Environmental Impact Assessment Law; the Solid Waste Pollution Prevention and Control Law; and the Cleaner Production Promotion Law.

The Government has also adopted a number of policies aimed at conserving energy. These include, for example, establishing binding targets for energy consumption per unit of GDP into the Eleventh Five-Year Plan, along with fiscal and pricing reforms. The Government has also increased capital investment for new and renewable energy development and established a mandatory system for government procurement of energy-saving products.

Key programmes and initiatives include:

- Investment in 10 key energy-saving, circular economy and industrial pollution control projects and in environmental technology demonstration projects.
- The Huimin Project – Fiscal subsidies for efficient energy-saving products in 10 categories, including air conditioners, refrigerators, television sets and washing machines.
- Double subsidies for car trade-ins to replace outdated or heavily polluting vehicles.
- The Golden Sun Project – Support for the industrialization of domestic photovoltaic power generation, and financial assistance for other power generation demonstration projects.
- Changes in pricing policy to make electricity generated from renewable energy resources more competitive, and reform in the pricing of coal.

promoting renewable energies, including wind and solar. In June 2008, India adopted a National Action Plan on Climate Change encompassing a very broad and extensive range of measures including eight national missions focussing on solar energy, enhanced energy efficiency, sustainable habitat, conservation of water, sustaining the Himalayan ecosystem, creating a “Green India”, sustainable agriculture and establishing a strategic knowledge platform for climate change (India, 2008). The Government is also actively supporting regional cooperation in renewable energy development through the Asia and Pacific Centre for Transfer of Technology (APCTT), a subsidiary body of ESCAP.

Indonesia – The Province of Aceh had to rebuild its economy in the aftermath of the 2004 Tsunami and a thirty-year conflict. For this, it adopted a Green Economic Development and Investment Strategy which integrates environmental sustainability – through renewable energy policies and better land-use management, along with community development, commerce and conservation. With assistance from ESCAP, the provincial government will also provide incentives for sustainable land management through a policy on payment for ecosystem services.

Japan – Among recent initiatives, Japan has adopted in 2009 the “Innovation for Green Economy and Society” plan, as a strategy to recover Japan’s economy through green innovation of economy and society. The plan focuses on 6 strategic areas, namely social capital, local communities, green consumption, green investment, green technology and regional environmental cooperation in Asia. Japan has also pledged to reduce its GHG emissions by 25% by 2020 as compared to 1990 levels, as well as to assist developing countries in their efforts on climate change mitigation and adaptation, including through a co-benefit approach. Moreover, in line with the concept of “mottainai” (too valuable to be wasted), Japan has been actively promoting 3R (reduce, reuse and recycle) policies since the year 2000.

Malaysia – The Government has identified three main areas of green growth: first, decoupling GDP growth from energy consumption through energy

efficiency and increased productivity; second, promoting knowledge and innovation industries; third, developing renewables for energy security. Policies in these areas would also aim to reduce poverty, for example by promoting renewable energy for rural development (Deraman, 2009). A Green Technology Council headed by the Prime Minister has also been formed, and a Green Technology Financing Scheme has been launched to spur innovation, manufacturing and consumer adoption of a wide range of new environmentally-friendly technologies and services. The Government has requested the support of ESCAP in promoting green technologies and in the organization of the Green Technology Future Conference and Exhibition in October 2010.

Philippines – The Government has identified green growth as a way of addressing the financial crisis and climate change (Atienza, 2009). As part of this strategy it has, for example, passed a Renewable Energy Act. Renewables already account for 33% of the energy supply, but with the country’s great potential in geothermal energy, the Government is seeking to increase this share. Moreover, it has adopted a green procurement programme and is promoting green businesses. The Philippines has also taken steps to promote green growth at the regional level by convening the International Conference on Green Industry in Asia, in Manila in 2009.

Republic of Korea – The Government recently adopted a national vision and strategy for low-carbon green growth. Its green industry also has a three-pronged strategy: first, regulatory measures for energy conservation and promoting renewable energies; second, encouraging investment in green energy technologies; and third, transforming traditional industries, such as the automotive, shipbuilding, steel and semiconductor industries, including developing green products, such as hybrid cars and low-electricity semiconductors. The five-year plan (2009-2013) for green growth is expected to have positive effects on production – equivalent to 4% of GDP on a yearly basis (Republic of Korea, 2009).

Other countries are also integrating green growth in their development policies. *Kazakhstan*, for

example, has included elements of the green growth approach in the National Sustainable Development Strategy approved by its national assembly in 2007, and *Thailand* is preparing a budgetary reform that would, among other things, include a green tax to support public transport.

Many countries have also incorporated green growth elements into their stimulus packages in response to the global economic crisis. Investments have, for example, been channelled towards renewable energies, energy efficiency, sustainable transport, waste management and recycling. An overview of the green aspects of selected economic stimulus packages is provided in Table IV.1.

Green growth is an issue on which Asia and the Pacific have taken the lead, but this is now being followed across the world with the support of multilateral agencies. The United Nations, with the Department of Economic and Social Affairs and UNEP, has proposed a Global Green New Deal, calling on world leaders to promote job-creating programmes that restore the natural systems underpinning the global economy. UNEP has also

launched the Green Economy Initiative, which aims to promote a green industrial revolution that can support income generation. Many non-United Nations organizations have also been moving in the same direction. At a ministerial meeting in 2009, the Organization for Economic Co-operation and Development, for example, adopted a Declaration on Green Growth (OECD, 2009).

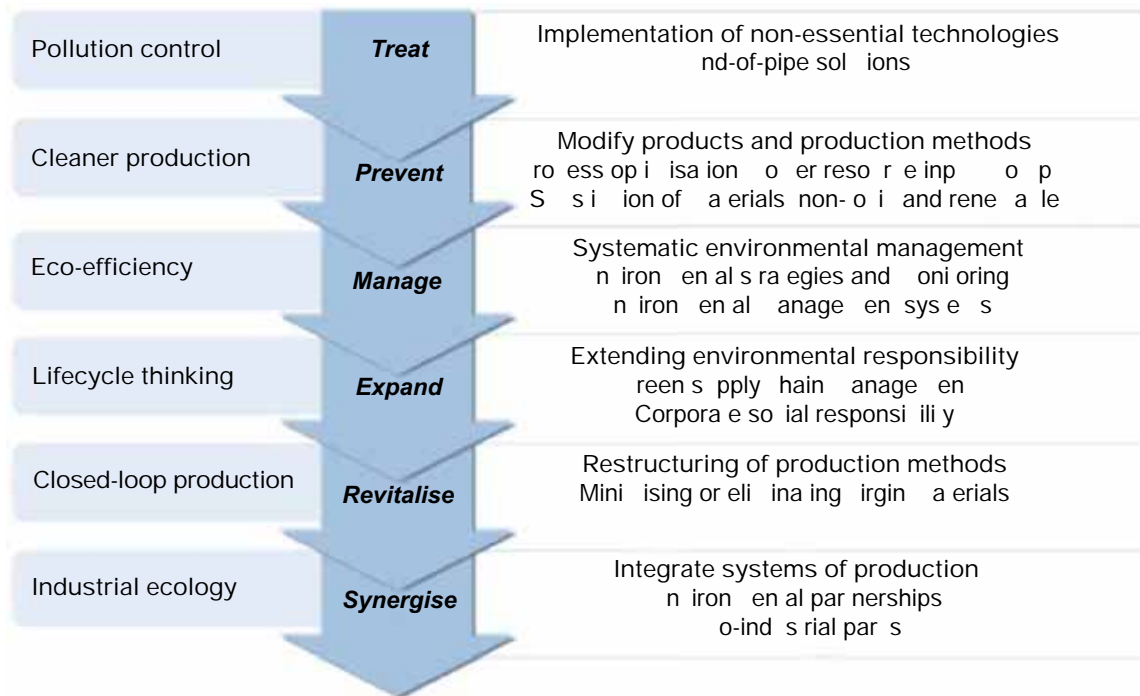
Technology and innovation

Achieving environmental sustainability will require changes in public policy, business strategies and personal behaviours. But it will also require better technologies. Environmentally sound technologies are those that protect the environment, are less polluting, use natural resources in a more efficient manner, minimize and recycle wastes and handle residual wastes in a more responsible manner. This applies not just to individual technologies and equipment, but to total systems which include know-how, procedures, goods and services, along with organizational and managerial procedures.

Table IV.1 Green components of selected national stimulus packages

	Australia	China	Japan	Republic of Korea
Total green stimulus for announced period (billions of United States dollars)	5.8	51	12	36.28
Share of green components in total package (percentage)	21.48	8.7	1.62	81
Share of green stimulus in GDP (percentage)	0.73	1.18	0.28	3
Total green jobs expected to be created (thousands)	160	1 500	1 000	960
Total amount of green tax cuts (billions of United States dollars)	..	..	3.1	10.17
Total investments in green infrastructure (billions of United States dollars)	5.8	30.07	..	24.21

Source: Based on International Labour Organization fact sheets compiled from different sources

Figure IV.1 Evolution of sustainable manufacturing concepts and practices

Source: OECD (2009).

The concept of environmentally sound technologies has also steadily been evolving. This process is illustrated for manufacturing in Figure IV.1 which shows the change of emphasis from an initial focus on pollution control, through pollution prevention, then to consideration of overall product lifecycles, and later to integrated systems of production which aim at closing material loops.

The evolution shown in Figure IV.1 is primarily related to manufacturing. Another major area of concern is energy. A green growth strategy will involve decoupling energy consumption from economic growth and in particular moving away from fossil fuels so as to achieve greater energy security and mitigate climate change. Table IV.2 presents the energy technologies that have the highest potential for CO₂ reduction. Many of these already exist or are in an advanced state of development. Figure IV.2 illustrates the stages of development for power generation – from basic science through to commercialization.

It should also be emphasized that the concept of environmentally-sound technologies extends far beyond those related to manufacturing or energy.

It also includes technologies to conserve and restore ecosystems, as well as those for adapting production and consumption processes and systems to changes in environmental conditions – and particularly to current or expected irreversible changes in climate.

Accelerating the transfer and adoption of new technologies

Richer countries can invest in developing new systems. But for developing countries, an important condition for ensuring environmental sustainability is their access to appropriate environmentally sound technologies. The UNFCCC provides for the commitment of developed countries to support developing countries, through the transfer of technology according to the principle of common but differentiated responsibilities (UNFCCC, 2009, Art. 4.5).

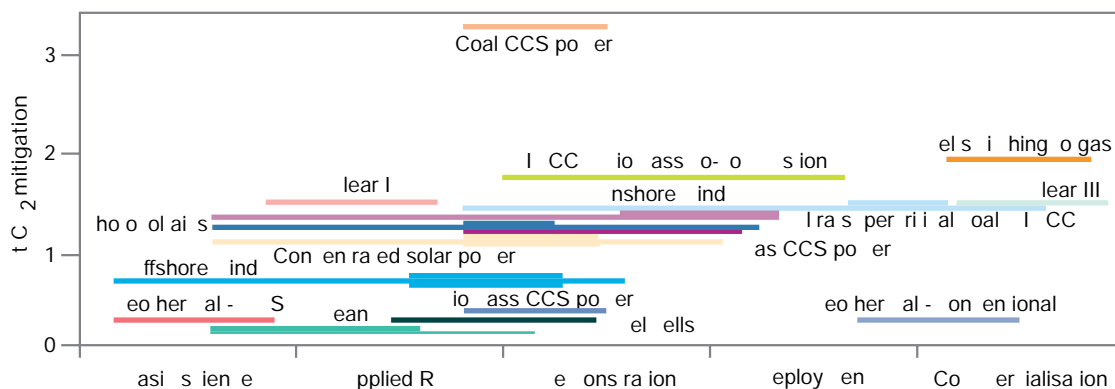
The bulk of the technology in the field is protected by intellectual property rights such as patents that tend to be dominated by corporations based in developed countries. For instance, four-fifths of all renewable energy patents granted during 2000-2004 were owned by the G-3 – the European Union, the United States and Japan – while their

Table IV.2 Energy technologies with the highest potential for CO₂ reduction

Supply side	Demand side
Photovoltaic systems	Energy efficiency in buildings and appliances
Onshore and offshore wind	Heat pumps
Concentrating solar power	Solar space and water heating
Biomass integrated-gasification combined cycle and co-combustion	Energy efficiency in transport
Coal: integrated-gasification combined-cycle	Electric and plug-in vehicles
Coal: ultra-supercritical	Industrial motor systems
Second-generation biofuels	H ₂ fuel cell vehicles
CCS fossil fuel power	CCS in industry, H ₂ and fuel transformation
Nuclear power plants	

Source: IEA (2008b).

Figure IV.2 Technology development and CO₂ mitigation for power generation



Source: IEA (2008b).

share in motor vehicles abatement technologies was as high as 95% (United Nations, 2009c). Such a high concentration of patent ownership by private corporations based in a handful of developed countries reduces the access of developing countries to relevant technologies. Although transfer and dissemination of technology is an explicit objective

of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) (Article 7), and provides for appropriate measures to prevent practices that adversely affect international transfer of technology (Article 8), the Agreement leaves the provisions for transfer of technology quite vague.

There is room for defining conditions, norms and practices for facilitating transfers of environmentally friendly technologies. A review of the Agreement could address conditions under which technologically less advanced countries could seek transfer of technology from patent owners. In this context, developing countries could exploit the flexibilities provided in the TRIPS Agreement including provisions for compulsory licensing in their IPR legislation in order to safeguard them from possible abuses of monopoly power obtained by patent owners as provided under Art. 31. Recent discussions leading to public health related exception in the TRIPS Agreement showed some flexibility in interpreting what constitutes 'exigent circumstances', opening the door for a potential use of such exceptions on environmental sustainability grounds (United Nations, 2009c).

Beyond transfer, an immediate task is to adopt and diffuse existing green technologies that can help respond to pressing socio-economic problems in developing countries. Adoption and diffusion is constrained by a number of barriers.

Some may be institutional such as the lack of an appropriate regulatory framework; others may be technological, such as weak infrastructure; others may be financial. A list of potential barriers is shown in Table IV.3. Overcoming such a broad array of barriers is a complex process not least because they can involve a large number of stakeholders – including governments, private-sector entities, financial institutions, NGOs and research and educational institutions. Promoting environmentally sustainable economic growth will require identifying and removing barriers to the transfer of clean technology from North to South and South to South and to the large scale diffusion of technologies in developing countries, especially in countries with special needs (LDCs, LLDCs and SIDS).

At present, most technology transfer is currently driven by the private sector, and some of the rest results from NGO or community initiatives (Box IV.3, Box IV.4, Box IV.5). There has also been some technology transfer as a result of the Clean Development Mechanism (Box IV.6).

Table IV.3 Barriers to the adoption of clean energy technology

Type	Example
Institutional	Lack of legal and regulatory frameworks, including adequate protection for intellectual property rights, limited institutional capacity, and excessive bureaucratic procedures.
Political	Instability, interventions in domestic markets (for example, subsidies), lack of coordinated policies.
Technological	Lack of infrastructure, limited collaborative R&D, lack of technical standards and institutions for supporting those standards, low technical capabilities of manufacturing firms, and lack of a technology knowledge base.
Economic	Non-transparent markets, high costs and capital intensity of renewable energy technologies, subsidies and trade barriers that inhibit uptake of clean energy technologies.
Information	Lack of technical and financial information and lack of a demonstrated track record for many clean energy technologies.
Financing	Lack of access to investment capital and financing instruments.
Cultural	Consumer preferences and social biases.
Legal	Lack of intellectual property protection and unclear arbitration procedures.

Source: USAID (2007).

Box IV.3 Heat and clean air for the urban poor in Mongolia

In Ulaanbaatar, Mongolia, levels of pollution in winter are alarmingly high. More than half of this emerges from the traditional homes – gers. On average, each year these households each burn 5 tons of coal and 1.5 tons of wood. As a result, the poorest 20% of the population spend up to 40% of their monthly winter income on heating fuels. As an alternative, a microfinance institution, XacBank, provides low-interest loans to enable households to reduce their fuel costs, breathe cleaner air, and stay warmer in the depths of the long winter – and reduce greenhouse gas emissions. They use the loans to switch to energy efficient heating products, such as highly efficient stoves or better insulated gers. XacBank finances the programme by selling off many of its own offices to other organizations in developed countries.

Source: Presentation by XacBank Eco Loans Unit at the “Bazaar of Ideas: Applying the Green Growth approach for basic service delivery and poverty reduction”, a side event to the first Committee on Environment and Development of ESCAP, Bangkok, Thailand, 4 December 2009.

Box IV.4 Renting solar lanterns in the Lao People’s Democratic Republic

Most people in the Lao People’s Democratic Republic who live in remote areas beyond the public electricity grid use kerosene lamps for lighting, which are a serious health problem. Some have tried solar lighting systems but these have often failed because of poor quality, or because users have recharged the batteries irregularly or “hot-wired” them to other equipment, resulting in early battery failure.

Sunlabob, a commercial company based in the Lao People’s Democratic Republic, is piloting a different system. Renting lanterns allows users to recharge and maintain a solar-powered photovoltaic array. They do not pay for the lanterns, only for the service, effectively paying hours of solar lighting. In each village, Sunlabob trains a community health worker to recharge lanterns, collect fees, and maintain the system. Village energy committees act as a platform for collective decision-making. Even in its pilot form, the project has already been replicated in Vientiane and Phongsavan.

Source: Presentation by Sunlabob at the “Bazaar of Ideas: Applying the Green Growth approach for basic service delivery and poverty reduction”, a side event to the first Committee on Environment and Development of ESCAP, Bangkok, Thailand, 4 December 2009.

Box IV.5 Water for poor communities in Manila

Many slum dwellers in Manila, in the Philippines, cannot get water connections, either because they do not have legal title to their land or because their homes are physically difficult to reach. Following the privatization of the water supply, the Manila Water Company realized that it could not extend its standard services to slum dwellers. To solve this problem, the company partnered with community organizations to adapt a water distribution system to their needs. In addition, for example, provide individual deliveries to the community health worker to deliver water to long households. Through these measures, the system has improved access to water – and reduced the company’s losses since it now gets paid for the water it supplies.

Source: ESCAP, Project on integrated pro-poor water and waste water management in small towns (see www.unescap.org/pdd/paper).

Box IV.6 Technology transfer through the Clean Development Mechanism

The Clean Development Mechanism (CDM), established under the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC), enables developed countries to meet their emission reduction targets through projects in developing countries. As well as providing companies in industrialized countries with greater flexibility, the CDM also enables the companies to transfer environmentally sound technologies to developing countries.

The UNFCCC report assessed the extent of technology transfers in 3,296 registered and proposed CDM projects. It found that around one third of projects, generally the larger ones, claimed technology transfer. But the extent of the transfers varied from country to country – as revealed by a comparative study of Brazil, China, India and Mexico. In a comparison for three categories of all CDM projects, the proportion of projects with technology transfer was 68% in Mexico, 59% in China, and 40% in Brazil, but only 12% in India.

One reason for the high rates of technology transfer in projects in Mexico and Brazil is that they had significant involvement of foreign companies. The proportion is also likely to be higher in China which has strong technology capabilities. In India, the proportion may be lower as state enterprises are more likely to be doing domestic technologies. Cross-country variation could also be a result of trade policy, since some countries impose significantly higher tariffs on imported equipment. The report also found that technology transfer generally declines over time, as people rely on more local knowledge and experience.

So far, it seems, however, that the CDM has been on a high profile and has been overwhelmingly concentrated in a few developing countries to allow industrialized and sustainably growing countries to transfer technologies. The situation could improve, however, if the CDM were simplified and included sectoral or technological enhancements which in the longer run might have a more effective impact in raising technological standards.

Source adapted from United Nations (2009). World Economic and Social Survey 2009: Promoting Development, Saving the Planet, Department of Economic and Social Affairs (United Nations publication, Sales No. E.09.II.C.1).

But in the case of green growth a strong impulse can come from the public sector. Many steps in the development, transfer and diffusion of environmentally sound technologies, particularly those that are not immediately viable or profitable, will benefit from public policies, initiatives and support structures. This can start with basic research. Publicly funded research can lead to considerable economic benefits, both direct and indirect – as happened with the Green Revolution. However, most of these potential benefits have yet to materialize (Van Berkel, 2008).

One problem is the lack of effective national systems of innovation. In most countries in Asia and the Pacific such systems remain weak. To some extent these gaps could be filled by a regional network.

The ESCAP Asia and Pacific Centre for Transfer of Technology (APCTT), for example, could guide and support a network of centres or agencies to develop best practices. Indeed, instead of setting up expensive national training and research institutions in each country it may be more effective to create them at the regional level. This would be particularly appropriate for the many small countries in the Pacific.

Many other countries in the region with special needs will also require assistance for the diffusion of clean energy technologies. For this purpose they should be able to rely on greater bilateral, regional and international cooperation. One example is the Asia-Pacific Partnership on Clean Development and Climate Change (AP4) in which Governments have agreed to work together, along with private-

sector partners, to meet goals for energy security, air pollution reduction, and climate change mitigation, by accelerating the development and deployment of clean energy technologies. In addition to renewable energy, the APP focuses on reducing greenhouse gas emissions in industries such as steel and cement.

At the global level, a number of other mechanisms have been proposed for encouraging technology generation and transfer. These include technology funding mechanisms to enable developing countries to participate in international R&D projects or global R&D alliances for research on key technologies. There could also be opportunities for pooling or sharing patents so that each country would not have to deal with individual patent holders.

Research and development opportunities

Green technologies will not just change the character of economic growth, they will also help drive growth. This has been happening in industrialized countries where R&D investment in green technologies has contributed to innovation and economic competitiveness. Similar opportunities have opened up in high-income countries in Asia and the Pacific, such as Japan, the Republic of Korea and Singapore, as well as in middle-income countries with high technological capabilities, such as China, India, Malaysia, the Russian Federation and Thailand. China, for example, has rapidly become the world's leading manufacturer of solar photovoltaic cells, increasing its market share in only 8 years from 1% to 35% (Liu and others, 2010).

At present, however, R&D on technologies for sustainable development in Asia and the Pacific is still at relatively low levels. If the region is to make faster progress, the more developed countries will need to increase investment, but they can help maximize their return through stronger regional cooperation. This potential was demonstrated, for example, in 2009 at a tripartite summit in which China, Japan and the Republic of Korea resolved to promote, among other things, a Joint Research Collaboration Programme.

Opportunities through trade

International trade can serve as a channel for spreading environmentally-sound technologies. There are two key rationales for reducing tariffs and

other trade-distorting measures in environmentally-friendly goods and technologies. First, reducing or eliminating important tariffs and non-tariff barriers in these types of products should reduce their price and therefore facilitate their deployment. The access to lower cost and more energy-efficient technologies may be particularly important for industries that must comply with climate change mitigation policies. Second, liberalization of trade in environmentally-friendly goods could provide incentives and domestic expertise for producers to expand the production and export of these goods. A number of developing countries in the region have also been increasing their exports of climate-friendly goods.

Thus far, regional trade agreements have largely accommodated environmental concerns through environmental clauses and cooperation mechanisms, including the targeted removal of trade barriers for green and climate-friendly technologies. Regional and bilateral trade agreements might, however, also include provisions to harmonize standards or to facilitate green investments. In addition, agreements could include cooperation mechanisms to promote technology transfer, technical assistance, and capacity building (Kim, 2009).

Unfortunately, in the midst of an economic downturn, there are disturbing indications that some countries are using environmental or climate change issues as a basis for new forms of protectionism. They are considering, for example, requiring businesses that import energy-intensive goods from countries without GHG emission reduction constraints comparable to those in the importing countries to pay an additional tax or to purchase corresponding emissions allowances. This would discriminate against goods from developing countries which have lower levels of capability (Khor, 2009a). Such measures could have an impact on international trade though it is not clear how effective they would be at reducing "carbon leakage". A more positive approach would be to reward positive behaviour – by allowing subsidies for research and development into renewable energy and reforming agricultural subsidies so as to offer incentives for organic agriculture or sustainably produced bio-energy products.

The potential for green jobs

A crucial part of any sustainable development strategy, including green growth, must be to create sufficient employment. Asia and the Pacific also accounts for around two thirds of global employment – with six of the ten largest labour markets. As technological change is stripping labour out of production – in agriculture, manufacturing and services alike – the challenge is to create enough jobs. The recent financial crisis and the negotiations for a post-2012 climate regime have raised questions about employment prospects under a green, low-carbon economy. A number of reports have emerged, commissioned by national governments or prepared by international organizations. Projections on job creation have also been included in the green components of several national stimulus packages issued in response to the crisis (Table IV.1).

UNEP and ILO define green jobs as “work in agricultural, manufacturing, R&D, administrative, and service activities that contribute substantially to preserving and restoring environmental quality”. Others define a green job as one which “reduces the negative impact made on the environment relative to the status quo”. Whatever the definition, it will clearly be vital to consider the employment implications of green growth. UNEP and ILO identify four overall areas:

Job creation – As in the manufacture of pollution-control devices for existing production equipment.

Job substitution – As in shifting from fossil fuels to renewables, or from truck manufacturing to railcar manufacturing, or from landfill and waste incineration to recycling.

Job elimination – Some jobs may be lost without direct replacement – as when packaging materials are discouraged or banned and their production is discontinued.

Job transformation – Many existing jobs will steadily be redefined as day-to-day skill sets, work methods, and profiles are greened. This would be the case, for example, for plumbers, electricians, metal workers, and construction workers.

Key sectors identified by green recovery strategies include: construction and retrofitting of buildings; transport, especially mass transit and fuel-efficient vehicles; renewable energies, such as solar, wind and biomass; and environmental protection, such as waste management.

Since the financial crisis, many countries have been looking beyond short-term recovery measures and anchoring their long-term employment visions on a green growth strategy. The five-year plan (2009-2013) in the Republic of Korea, for example, will create an estimated 1.56 to 1.81 million jobs, skilled and unskilled (Republic of Korea, 2009).

Many jobs related to green growth will emerge from solutions for sustainable transport. This should include a focus on railways which are more environmentally friendly and labour intensive (UNEP/ILO/IOE/ITUC, 2008). Other forms of public transport are also labour intensive and more jobs will also be created in making them greener: the introduction of 6,100 compressed-natural-gas buses in New Delhi, for example, is expected to create 18,000 new jobs (*The Hindu*, 2007). Other forms of transport are even more labour intensive: cycle rickshaws in India, for example, provide an estimated 6 to 9 million jobs (AITD, 1997). Three-wheel taxis in Sri Lanka generate 300,000 direct jobs (DFID, 2002). More persons in China are employed in bicycle fabrication than in automobile manufacturing (GTZ, 2003). The Cheonggyecheon waterway in Seoul, (Box IV.7) also shows how integrated approaches to urban infrastructure can deliver important economic, environmental and social returns.

Green jobs will also result from measures to address climate change. Many will emerge in response to adaptation – for example, in coastal-zone management, flood protection, soil conservation, agroforestry and irrigation. Others will be linked to mitigation – for example, low-carbon energy sources, waste management, green buildings and construction, and sustainable transport. Added to this is the potential from the production of green products – such as those generated by managing and providing ecosystem services, non-timber forest products and organic agriculture – all of which offer new livelihood opportunities for the poor.

Box IV.7 Urban regeneration for green growth in the Republic of Korea

One of the world's leading examples of eco-friendly infrastructure is the restoration of the 5.8-kilometre Cheonggyecheon area in central Seoul. The Cheonggyecheon had been covered over to allow for an elevated expressway, but in 2003 the City of Seoul embarked upon a programme of restoration to open up the area.

According to the Seoul Development Institute, the Cheonggyecheon restoration project will have produced economic benefits of between 3.3 trillion to 23 trillion won (\$2.9 billion to \$20 billion) and created 300,000 new jobs in construction, machinery, real estate, and retail industries. There are also major environmental benefits, since the stream helps cool areas otherwise heated by paved asphalt and encourages greenery that attracts both wildlife and pedestrians. Already the ecosystem along the Cheonggyecheon has been greatly enriched: the number of species of vegetation has increased from 62 to 308, the number of fish species from 4 to 25, and the number of insect species from 15 to 192. The area has also become a major attraction, drawing over 40 million visitors during its first year: today around 90,000 people visit the Cheonggyecheon's banks every day, helping retailing local shops and restaurants.

Source: Lee, Y. (2005). "Cost-benefit analysis and economic effects of Cheonggyecheon restoration", Seoul Development Institute (in Korean), accessed from www.sdi.re.kr/download/ecny/boad/200509_efocus02.pdf.

Green jobs should also be decent jobs – with adequate wages, and close attention to safe working conditions, job security, and workers' rights. Unfortunately, millions of jobs that have environmental goals cannot be classified as green as they are not decent (UNEP/ILO/IOE/ITUC, 2008). In China, for example, around 2 million people are involved in the informal collection, re-use and recycling of electronics waste, but they mostly disassemble this in small workshops without health and safety rules, where they are seriously exposed to hazardous substances (Sepúlveda and others, 2010).

Likewise, the greening of the economy should contribute to poverty reduction. But this will not happen automatically. Some approaches to greener transport, for example, may focus more on making public transport attractive to the middle classes than on improving access and affordability for the poor. Indeed, infrastructure development in Asia has at times made many poorer people worse off as a result of mass evictions from informal settlements. On the other hand, microfinance schemes that support small-scale projects, such as solar photovoltaics or biogas systems, can create livelihood opportunities for the poor. Environmental challenges can

be turned into economic and employment opportunities (Box IV.8). Urban greening can also generate employment for the poor and even improve food security through urban agriculture and "edible landscapes" – which means designing new landscapes based on food-producing plants.

It is also important to consider the distribution of jobs across different industries and regions. Some regions, communities and companies will profit; others will lose. Governments will therefore want to help steer the transition.

The transition to a green and low-carbon economy will also mean building the necessary capacities. This has to happen at three different levels: first, the capacities of institutions to formulate and implement the required policies; second, the capacity of enterprises to use new and existing knowledge to green their operations and to take advantage of business opportunities in a green economy; third, the capacity of the workforce to engage in green and low-carbon economic activities. For this purpose, governments can help by setting the agenda, mobilizing the resources and developing adequate capacity building programmes.

Box IV.8 Turning waste into incomes and jobs in Bangladesh

Many local governments in Asia and the Pacific already spend 20% to 40% of their budgets on waste disposal. In Bangladesh, however, a social business enterprise, Waste Concern, has shown how to turn waste into an opportunity – providing 800 people previously working in the informal sector with a formal job, health insurance and other benefits.

The approach uses simple technology, and is easy to operate and maintain. Households separate the waste into organic and dry parts which are then collected by a local hand cart. The plan, the materials are further hand sorted into usable and composted and recycled materials. Finally only 5-7% of the waste goes to a dumpsite. Each neighbourhood-based compost plant is designed to serve about 1,000 houses and treat 2 to 3 tons of wastes per day. The plants are run as profit-making entities under public-private partnerships with the local government. They derive their income from collection fees, and the sale of compost and recycled materials. This decentralized approach results as a resource, initiatives operating costs, and improve as a collection services, while also providing decent employment.

Over the next five years, a new project funded by the Bill and Melinda Gates Foundation will see ESCAP and Waste Concern scaling up this approach to operate citywide and also replicating it in 10 cities across Asia.

Financing green growth

Since economic growth is generated largely in the private sector, most of the investment funds needed to shift to environmentally sustainable and low carbon growth will also need to come from the private sector. In case of low-carbon investment, for example, it has been estimated that 85% of the capital will have to come from private sources (World Economic Forum, 2009). Nevertheless, this capital is unlikely to appear fast enough or on a sufficient scale unless it is encouraged and steered by public policy. At present, enterprises can often internalize revenues while externalizing many of the costs in the form of environmental destruction. The overall aim should instead be to ensure that green-growth priorities that might have previously been seen as externalities are internalized into market mechanisms. This will involve new regulations, along with incentive structures via taxation and subsidies that will guide the private sector into making such investments (Box IV.9).

In the longer term the private sector might develop ways of pricing in the costs of environmental impacts such as carbon emissions – by establishing global standards that could be followed by

accounting firms, credit rating agencies and insurance companies. But the most immediate responsibility will fall on governments who can help direct private-sector capital into activities that will stimulate green growth.

Public investment

Even when the government's own investments are on a smaller scale, they are still substantial and can serve as catalysts for corresponding private-sector activities. Much of this will be related to infrastructure. Governments now have the opportunity to develop infrastructure that will result in better, long-term management of resources – which will in turn channel private-sector capital into these investments. This can also extend to investment in the preservation of ecosystems whose survival can be critical to long-term economic growth (Box IV.10). But direct government financing can also take place through greening public procurement and increasing the energy efficiency of public buildings and enterprises.

Support to Green R&D

Currently much of the R&D is being financed by private sector carbon funds (Box IV.11), however,

Box IV.9 Promoting energy efficiency in the Russian Federation

The Russian Federation has adopted a number of measures to ensure more efficient use of energy – aiming between 2007 and 2020 to have reduced the energy intensity of GDP by 40%. Recently, for example, the government has adopted new legislation which includes de phasing out incandescent light bulbs by 2014, as well as energy labelling requirements for products, compulsory energy auditing of energy resources, and energy efficiency regulations for buildings. To enable a smooth transition to the new regime, the government plans to provide consumer credits and financial incentives to entrepreneurs. Investment to support these activities is estimated at around 10.5 trillion rubles.

Source: ESCAP (2009c). Report of the ESCAP Committee on Environment and Development at its First Session, 4 December, (E/ESCAP/CED/L.3).

many critical technologies are not being funded. Governments can therefore redirect part of public R&D spending to support the development of green technologies. They can also provide subsidies, taxes and rebates to channel private-sector funding to research and development.

Public financing mechanisms

At present, for many private investors the risks of environmentally sustainable projects are not being justified by the estimated returns. Public financing mechanisms (PFMs) can tilt the balance in favour

of profitability, for example, by offering soft loans or guaranteeing the loans from private-sector banks (Box IV.12). For climate mitigation, for example, UNEP has estimated that \$10 billion in public funding could leverage \$50-150 billion in private investment (UNEP, 2009).

Global partnership for financial support for developing countries

The UNFCCC provides for the developed countries to support developing countries in their adaptation efforts. In this context, a number of initiatives

Box IV.10 Reviving a coastal wetland in the Republic of Korea

Suncheon City on the southern coast of the Republic of Korea has demonstrated how investing in ecosystems can significantly contribute to green and sustainable development. Suncheon has long been regarded as fairly advanced compared to other coastal cities which had relied on industrial lands and heavy industry.

Suncheon City has taken the opposite approach. Since the late 1990s, it has redeveloped industrial sites into a series of open green spaces. The city government has initiated a series of measures to restore the ecosystem of Suncheon Bay, enabling the city to emerge as a centre of eco-tourism, attracting more than 2.3 million visitors (more than 10 times its population) and creating 6,400 jobs and economic benefits amounting to \$100 million. Suncheon Bay is one of the world's five largest coastal wetlands and is the first from the Republic of Korea to be registered to the Ramsar Convention.

This success did not come easily. Businesses and land owners initially resisted plans to relocate commercial areas out of the Bay and turn rice fields into a reserve for migratory birds. The critical factor for mobilizing support behind the scheme was strong leadership from the mayor, combined with a firm conviction that a rich and diverse ecosystem can be a driver of economic growth.

Source: Ramsar Convention Bureau (2006). Information sheet on Ramsar Wetlands (see www.ramsar.org).

Box IV.11 Private-sector carbon funds: Sindicatum Carbon Capital

Sindicatum Carbon Capital (SCC) is a private-sector fund which is involved across Asia in carbon financing mechanisms, as well as in the adoption of green technology. SCC develops projects that generate carbon credits, alternative-energy tariffs, energy-efficiency cost savings, and sales of by-products. Project investment to date so far has ranged from \$2 million to \$26 million in areas such as waste management and agriculture, agricultural waste and energy efficiency. Once the investment is complete and funding has been provided, SCC works with companies to roll out their business model in their target countries.

For example, one company co-owned by SCC is Milestone Energy Developments China, which is engaged in the replacement of coal-fired household heaters with biomass gasification heaters. The first series of projects have been registered under the CDM mechanism, and the household boiler and services business model has been rolled out in five mainland provinces. Over the next five years, the project plans to distribute its biomass gasification boilers to approximately 4 million households.

Box IV.12 Reducing pollution in China

Between 2005 and 2008 the Pollution Prevention Energy Efficiency (P2E2) initiative, has been helping reduce levels of air, water and ground pollution, and energy waste in mainland China, especially among the factories and properties in Southern China that were owned by Hong Kong companies.

The initiative, which was promoted by the United States Government, was launched in Hong Kong, China and mobilized resources from international financial institutions like the IFC, Proparco, HSBC and the Hong Kong bank Citic Ka Wah, a private equity company APG, insurers Allied World, Willis and Marsh, as well as from neighboring energy service companies.

Over the period 2005-2008, the P2E2 initiative launched 70 projects, worth around \$300 million in power generation, cement, food processing, real estate, and manufacturing. The average payback for energy efficiency equipment was less than three years. Without the P2E2 programme, more than 80% of these projects would not have been completed.

have been taken by multilateral agencies such as the World Bank group, the Global Environment Facility (GEF) and governments. Despite these efforts there is wide gap between the need and the available resources. The costs of adaptation have been estimated to be in the range of \$ 50-100 billion, per year – of which around 50% would be needed in developing countries. However, the sum actually mobilized and available is only \$154 million (United Nations, 2009c; and Khor, 2009b).

The United Nations Climate Change Conference in Copenhagen in 2009 recognized that developing countries would need scaled-up and predictable funding (UNFCCC, 2009). The collective commitment by developed countries to provide new resources was approaching \$30 billion for the period 2010-2012. The developed countries also committed to a goal of mobilizing jointly \$100 billion a year by 2020 to address the needs of developing countries.

Multilateral and bilateral agencies

Multilateral and bilateral finance institutions can play an important role in influencing financing decisions of the private sector, which values their ability to enhance the credit worthiness of projects, particularly for long-term infrastructure construction. They can, for example, provide export credit guarantees for capital equipment, loan guarantees, patient equity, anchor investments, seed capital, and technical and project development expertise (Box IV.13). Without this kind of encouragement, many private-sector commercial banks would not, for example, have participated in electricity initiatives across Asia in the 1990s. In

2008, of the \$250 billion of debt raised for project financing structures globally, loans and guarantees from multilateral and bilateral development finance institutions accounted for \$23.7 billion – approximately 9.5% of total debt financing sources.

A recent example of a multilateral agency working to influence private-sector choices is the support by the IFC and the United Kingdom’s Department for International Development (DFID) for a Carbon Efficient Index produced by the international rating agency Standard & Poor’s. Investors who buy this index of carbon-efficient companies in emerging

Box IV.13 Multilateral financing for sustainable energy projects

A number of international institutions have devised new mechanisms for financing activities related to energy and climate change. These include:

Asian Development Bank

Energy Efficiency Initiative – This aims to direct capital flows into energy efficiency and renewable energy projects. It will invest \$1 billion per annum on clean energy development programmes over the period 2008-2012. From 2013, the target will increase to \$2 billion per annum.

Carbon Market Initiative – This was established in 2006 to help countries that wished to tap into global carbon markets by providing up-front co-financing for project preparation and implementation. It does this through three major activities: the Asia-Pacific Carbon Fund, the Technical Support Facility, and the Credit Marketing Facility. For the first time, the Carbon Fund was announced in July 2008, will see a record \$1 billion generated beyond 2012 to provide financing for clean energy projects.

Cities Development Initiative for Asia – This is a multi-donor programme to help medium-sized Asian cities bridge the financing gap between planning and implementation of infrastructure investments. The initiative supports the identification and development of urban investment projects that focus on environmental improvement, poverty reduction, and climate change mitigation or adaptation.

World Bank

Climate Investment Funds – There are two funds: the Clean Technology Fund and the Strategic Climate Fund, which are financing instruments designed to pilot transformational change towards low-carbon and climate-resilient sustainable development. Donor countries have pledged over \$6 billion to finance the two funds.

Millennium Development Goals Carbon Facility

The Millennium Development Goals Carbon Facility – This is a carbon finance mechanism using emission offsets derived from a pool of Clean Development Mechanism and Joint Implementation projects. Launched in June 2007, the facility offers a comprehensive package of project development services, ensuring that these projects meet the Kyoto Protocol’s agreed standards whilst delivering benefits to the environment and contributing directly to achieving the MDGs.

markets can reduce their carbon exposure, while the companies included on the index get access to more capital. Over the next three years, this is intended to mobilise more than \$1 billion for carbon-efficient companies. The index has already performed well, showing that investment in such companies can be profitable (see Box IV.14).

Corporate social responsibility (CSR)

To some extent private-sector decisions are also being influenced by consumer and employee pressure towards greater CSR. Often, this produces win-win results for the companies – increasing both consumer approval and staff morale while quickly recuperating any investment costs. CSR measures

in relation to the greening of business include: the purchase or in-house generation of renewable energy; increased efforts to reduce, re-use, and recycle input materials, water and wastes; reducing pollution through better technologies; increasing telecommuting; reducing travel and increasing the use of video-conferencing; and balancing carbon emissions by purchasing carbon offset schemes.

The more far-sighted companies in Asia and the Pacific will take such measure out of self-interest. But too many still confuse CSR with philanthropy. Governments can nudge them in the right direction by increasing awareness of the benefits of CSR, highlighting good examples, and

Box IV.14 Carbon Efficient Index

In 2009 the international rating agency Standard & Poor's (S&P) and the International Finance Corporation (IFC) launched the Carbon Efficient Index, which measures the performance of investable emerging market companies selected on the basis of their carbon emissions, while closely tracking the returns of the established financial index, the S&P/IFCI Large Mid Cap. The index is the world's first carbon-efficient index for emerging markets that is intended to mobilise more than \$1 billion for carbon-efficient companies over the next three years. This market mechanism rewards those companies that are carbon efficient, with a low carbon footprint, and enables them to gain a competitive edge. The index is an important tool for investors seeking to reduce their carbon exposure in a broad portfolio of companies in emerging markets.

		S P I C I	
		Carbon Efficient	Large-Mid Cap
Returns	1 month	4.18	4.13
	3 months	14.03	13.20
	YTD	72.75%	70.41%
Annualized	1 year	85.46	83.20
Returns	3 years	5.73	5.20
	Annualized	3 years	
Risk Std Dev		32.55	32.59
Sharpe Ratio	3 years	0.2694	0.2543
Correlation	3 years		0.9998

The data above depict the strong correlation between the index and the original S&P/IFCI Large Mid Cap Index, demonstrating that investments in environmentally sustainable companies are financially rewarding, contrary to the public perception that environmentally sustainable companies are more likely to be overvalued.

offering incentives, monetary or otherwise for more desirable business behaviour. The United Nations Global Compact is one of the key global CSR instruments. Companies signing up to the Global Compact commit themselves to ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption. Working together with governments and NGOs in Global Compact Local Networks at the country level, these companies can contribute to change not only by changing their own behaviour but also by encouraging others to emulate them. ESCAP is currently supporting these networks in the region by building capacity and providing some of the necessary tools.

Institutional investors

Some of the largest sources of funds for any investment, green or otherwise, are in the hands of institutional investors which globally are thought to control \$110 trillion in funds. Pension funds alone have more than \$12 trillion (IFSL, 2008). Institutional investors generally have a limited tolerance for risk – so may be attracted to companies whose attitudes to corporate social responsibility suggest that they have the potential for stable, long-term growth. Institutional investors can also take positions on the boards of larger companies to encourage them in this direction. In order to provide investors with a framework for considering such issues, the United Nations has established Principles for Responsible Investment, an initiative that now has more than 600 signatories, who are responsible for combined assets of some \$18-21 trillion.

Carbon markets

Some low-carbon development projects have benefited from the Clean Development Mechanism (CDM) of the Kyoto Protocol. CDM projects in developing countries that demonstrate emission reductions can earn Certified Emission Reduction credits (CERs) that they can sell to industrialized countries – which use the CERs to meet a part of their emission reduction targets. By boosting

project viability, these upfront CER payments also help attract other sources of debt and equity capital. So far, however, the uptake of the CDM has been limited, and concentrated in a few developing countries. Correcting this will require reforming current modalities and devising an improved mechanism for the post-2012 regime.

Some activities, though on a small scale, are being financed through voluntary carbon markets. Consumers wanting to purchase carbon offsets for products and services have been financing a number of small-scale projects.

Payment for ecosystem services

In a similar vein, governments across the region are exploring the potential of rewarding communities that preserve ecosystems – for example, by sequestering carbon, maintaining the aesthetic beauty of the environment, or managing watersheds to the benefit of those living downstream. These PES can be in cash, or in non-monetary forms such as greater market access, more secure land tenure, better local infrastructure or helping build local knowledge and capacity. One example is Lombok, Indonesia (Box IV.15) where this approach is being used to address heightening water deficits and resulting conflicts.

The relevance of PES for the region was recognized at the South-East Asia Regional Workshop on Payment for Ecosystem Services, organized by the ASEAN Centre for Biodiversity (ACB), the Asia Regional Biodiversity Conservation Program (ARBCP), ADB and ESCAP in June 2009, and the up-take of PES has since then gained momentum. The Government of Viet Nam is the first in the region to be considering a national PES scheme. Currently being piloted in two provinces, this charges large enterprises for the use of natural resources. Hydropower plants, for example, pay \$0.001 per kWh of electricity and water utilities pay around \$0.002 per cubic metre of water. The funds collected in this way are distributed to participating households.

Box IV.15 Payments for ecosystem services in Lombok, Indonesia

In the island of Lombok in Indonesia, donors realize that water users are not paying prices that reflect the costs of managing the forest land on which the water supplies depend. This scheme started with scientific and technical research to identify priority zones for improved land management, determine the economic value of water and establish a water user fee. An independent body, supported by district regulation, was established to monitor land management and distribute the corresponding revenues.

The water utility now charges each water-using household \$0.10 per month as part of their water bills – covering around a total of 34,000 households. These payments from households, along with payments from water-intensive industries, are distributed to the communities that have agreed to land management plans.

Source: Prasetyo, F. A., A. Suwarno, Purwanto, and R. Hakim (2009). "Making policies work for payment for environmental services (PES): An evaluation of the experience of formulating conservation policies in districts of Indonesia", *Journal of Sustainable Forestry*, vol. 28, Issue 3, April, pp. 415–433.

Financing an inclusive and green future

Alarm about the impact of climate change, and the fragility of international financial markets, have underlined the importance of pursuing development that is equitable, inclusive and sustainable. The Asia-Pacific region can no longer hope to "grow first and clean-up later". Instead countries across the region will want to seize the opportunities afforded by green growth – which can not only drive their economies forward but also support their efforts to reduce poverty, achieve all the other MDGs and address many concerns about climate change.

This will require clear and consistent commitment across the whole spectrum of public policy. But as this report has emphasized, much will depend on the ways in which governments can steer financial systems, local, national and international in a new and more productive direction. Some of the ways of doing so have already been demonstrated, others are still embryonic. The Asia-Pacific region has already established itself as a pioneer in economic development and poverty reduction. Now it can display similar leadership when it comes to financing an inclusive and green future.

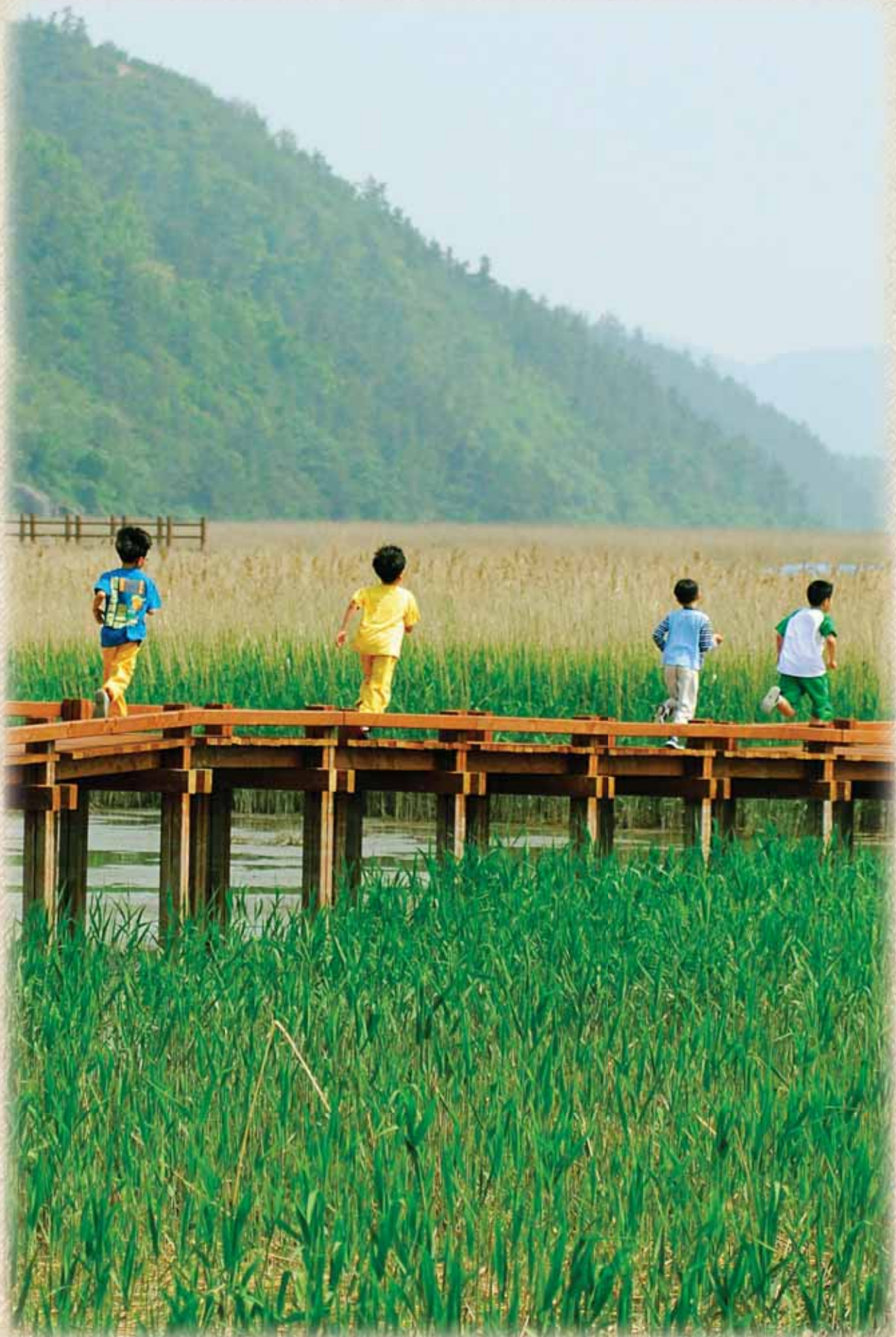


Photo Courtesy of Suncheon City

Annex 1: Technical notes

(i) Iso-poverty line

The iso-poverty line in Figure I.3 was calculated on the basis of the empirically plausible assumption proposed by Bourguignon (2003) that incomes are lognormally distributed. The poverty headcount is calculated from the mean household consumption per capita \bar{y}_t and the international poverty line z (i.e. \$1.25-a-day – PPP 2005) by the following formula:

$$H_t = \Phi\left(\frac{\log(z/\bar{y}_t)}{\sigma} + \frac{1}{2}\sigma\right), \quad (1)$$

where Φ is the cumulative distribution function of the standard normal and σ is the standard deviation of the lognormal distribution. The latter can be calculated from the Gini coefficient G by the following equation:

$$\sigma = \sqrt{2} \left[\Phi^{-1}\left(\frac{G+1}{2}\right) \right]. \quad (2)$$

From equations (1) and (2), the following equation can be obtained:

$$\bar{y}_t = \frac{z}{\exp\left(\sqrt{2} \left[\Phi^{-1}\left(\frac{G+1}{2}\right) \right] * \left(\Phi^{-1}(H_t) - \frac{1}{2} \sqrt{2} \left[\Phi^{-1}\left(\frac{G+1}{2}\right) \right] \right)\right)}. \quad (3)$$

This equation is used to calculate the iso-poverty line in Figure I.3. It gives values of mean household consumption per capita given various values for the Gini coefficient G and a specific poverty headcount, which in the figure is the MDG target for rural China.

(ii) Impact of growth and inequality on poverty reduction

The semi-elasticity of poverty reduction with respect to per capita consumption growth k_y and the semi-elasticity of poverty reduction with respect to distributional changes in relative consumption per capita k_σ reported in Table I.4 were calculated following Klasen and Misselhorn (2008, p. 8-9) as:

$$k_y = \frac{1}{\sigma} \Phi\left[\frac{\log(z/\bar{y}_t)}{\sigma} + \frac{1}{2}\sigma\right] \quad \text{and} \quad (4)$$

$$k_\sigma = \Phi\left[\frac{\log(z/\bar{y}_t)}{\sigma} + \frac{1}{2}\sigma\right] * \left[\frac{1}{2} - \frac{\log(z/\bar{y}_t)}{\sigma^2}\right], \quad (5)$$

where σ , the standard deviation of the lognormal distribution, was calculated from the Gini coefficient using equation (2). The data for these calculations were obtained from the World Bank *PovecalNet* website in August 2009.

(iii) Estimate of annual GDP growth rate to reach the income poverty target by 2015

To estimate the annual rate of growth of GDP required to reach the income poverty target by 2015 as per *scenario 1* (column 3 of Table I.5), the following steps were followed.

- 1) For each country that is off-track in reaching the target, the poverty gap to be closed by 2015 (ΔH^T) was estimated as follows:

$$\Delta H^T = H_{last} - H_{2015}, \quad (6)$$

where H_{last} is the latest available international data of poverty headcount (\$1.25-a-day) and H_{2015} is the target poverty headcount by 2015.

- 2) The Gini coefficient G in 2015 for each country (G_{2015}) was estimated from their past trends using the following regression model:

$$\ln\left(\frac{G_{it}}{1-G_{it}}\right) = \beta_0 + \beta_1 t + \sum_j \beta_{2j} D_j + \sum_j \beta_{3j} t D_j + \varepsilon_{it}, \quad (7)$$

where G_{it} is the Gini coefficient of country i during year t and D_j is a dummy variable for country j defined as $D_j = 1$ if $i = j$, $D_j = 0$ otherwise. Estimates of the Gini coefficient obtained with this model for 2015 were capped at a maximum of 1 percentage point higher or 1 percentage point lower than the latest available observation of the Gini coefficient (G_{last}).

- 3) For each country, the standard deviations of the lognormal distribution of household per capita consumption in 2015 (σ_{2015}) and in the latest year for which data for the Gini coefficient is available (σ_{last}) were estimated using the projected value of Gini coefficient from step 2 through equation (2) above. Based on these estimates, the percentage of growth in inequality in that period ($\Delta\sigma/\sigma$) was calculated for each country as:

$$\frac{\Delta\sigma}{\sigma} = \frac{(\sigma_{2015} - \sigma_{last})}{\sigma_{last}} * 100. \quad (8)$$

- 4) Based on such growth in inequality ($\Delta\sigma/\sigma$) and the estimated semi-elasticity of poverty reduction on distributional changes k_σ calculated from equation (4) above, the associated increase or reduction in the poverty headcount rate owing to changes in inequality (ΔH^σ) was calculated using the following formula:

$$\Delta H^\sigma = k_\sigma * \Delta\sigma/\sigma. \quad (9)$$

- 5) The poverty gap that would need to be closed only by increase in household consumption (ΔH^y) was then calculated as:

$$\Delta H^y = \Delta H^T - \Delta H^\sigma. \quad (10)$$

- 6) Given the semi-elasticity of poverty reduction with respect to household consumption per capita (k_y), the growth rate in average household consumption per capita between 2006 and 2015 ($\Delta y/y$) that would be necessary to close the gap in poverty headcount was calculated as:

$$\Delta y/y = \Delta H^y / k_y. \quad (11)$$

- 7) To estimate the required GDP per capita growth that would support a growth in per capita consumption of $\Delta y/y$ estimated in Step 6, the relationship between the growth rate of average household consumption per capita ($\Delta y/y$) and the growth rate in GDP per capita was estimated, controlling for changes in inequality and for remittances, using the following regression model:

$$\ln(y_{it}) = \beta_0 + \beta_1 \ln(GDPpc_{it}) + \sum_j \beta_{2j} D_j + \sum_j \beta_{3j} \ln(GDPpc_{it}) D_j + \beta_4 R_{it} + \varepsilon_{it} \quad (12)$$

where y_{it} is the mean household consumption per capita of country i in year t , $GDPpc_{it}$ is the GDP per capita of country i in year t , D_j is a dummy variable for country j defined as $D_j = 1$ if $i = j$, $D_j = 0$ otherwise, and R_{it} is remittance as percentage of GDP received by country i in year t . The parameter of interest is $\beta_1 + \beta_{3i}$, which represents the ratio of the rate of growth of average household consumption per capita to the rate of growth of GDP per capita in country i :

$$\frac{\Delta y_i}{y_i} \bigg/ \left(\frac{\Delta GDPpc_i}{GDPpc_i} \right).$$

It should be pointed out that the estimates of this ratio for Georgia, Sri Lanka and Uzbekistan were negative. To prevent these results from distorting the analysis, the estimate of $\beta_1 + \beta_{3i}$ for these three countries was set as the minimum estimate of this parameter amongst the other nine countries.

- 8) Based on the required GDP per capita growth between 2006 and 2015 and on the estimated population growth in the same period, the GDP growth between 2006 and 2015 was estimated. The data source for the GDP and population forecasts is IMF, *World Economic Outlook*, October 2009.
- 9) Subtracting the GDP growth already realized between 2006 and 2009, the required total and annualized GDP growth rates between 2010 and 2015 were calculated.

To estimate the annual rate of growth of GDP required to reach the income poverty target by 2015 as per *scenario 2* (column 5 of Table I.5), steps 6 to 9 were followed as described above after replacing step 5 with the assumption that $\Delta H^y = \Delta H^T$.

In the case of *scenario 3* (column 7 of Table I.5), step 6 was followed as described above after replacing step 5 with the assumption that $\Delta H^y = \Delta H^T$, and steps 7 to 9 were followed as above after adding an additional 1% growth rate to the data on average household consumption per capita used in regression model (12).

(iv) Estimation of the financial costs of selected MDG indicators

To estimate the financial cost of (i) reaching the current projected values in nine MDG indicators (column 1 of Table I.6) and (ii) closing gaps in achieving those indicators (column 2 of Table I.6), the following steps were followed. All the relevant data and programmes to replicate the calculations are available at <http://www.unescap.org/pdd/publications/themestudy2010/index.asp>.

- 1) Express the MDG indicators in a 0 to 1 scale, where a higher value means an increase in deprivation. Letting $I_{i,t}^j$ be indicator j in country i in the Millennium Development Goals database for year t , define $x_{i,t}^j = I_{i,t}^j / 100$ for $j \in \{\text{underweight children and HIV prevalence}\}$, $x_{i,t}^j = I_{i,t}^j / 1000$ for $j = \text{child mortality}$ and $x_{i,t}^j = (100 - I_{i,t}^j) / 100$ for $j \in \{\text{primary enrolment, birth by Skilled Professionals, water urban, water rural, sanitation urban, sanitation rural}\}$. Using the same scale, define the MDG target for indicator j in country i as t_i^j .

- 2) Using data on total costs required to meet nine MDG targets in five countries assessed by the United Nations Millennium Project, the average costs for meeting the MDGs were calculated as:¹

$$A_{it}^j = \frac{TC_{i,t}^j}{(1-t_i^j)P_{i,2015}^j}, \quad (13)$$

where $TC_{i,t}^j$ and $A_{i,t}^j$ are, respectively, the total and average cost of meeting target $j = 1, \dots, 9$ in country i in year $t = 2005, 2010, 2015$ and $P_{i,2015}^j$ is the projected reference population of indicator j in country i for the year 2015. The following regressions were then run to obtain estimates of average costs for all Asia-Developing countries for which data were available:

$$\ln(A_{it}^j) = \beta_0^j + \beta_1 x_{i,last}^j + \beta_2(t - 2005) + \varepsilon_{it}, \quad (14)$$

where $x_{i,last}^j$ is the latest value of indicator j in country i in the Millennium Development Goals Indicators database expressed in a 0 to 1 scale, where a higher value means an increase in deprivation.

- 3) Define P_i^{Tj} , the target population of people that would be covered if the MDG goal for indicator j in country i is met:

$$P_i^{Tj} = (1-t_i^j)P_{i,2015}^j. \quad (15)$$

- 4) The total cost of serving the target population P_i^{Tj} of indicator j in country i and year $t = 2010, \dots, 2015$ is calculated as follows:

$$T_{it}^j = \hat{A}_{it}^j P_i^{Tj}, \quad (16)$$

where \hat{A}_{it}^j is the predicted value of $A_{i,t}^j$ obtained from regression (14).

- 5) To calculate the impact of the crisis, the elasticity of each MDG indicator with respect to the GDP per capita was estimated from the γ_1 parameters of the following regressions, which were run separately for each indicator j :

$$\ln(I_{it}^j) = \gamma_0 + \gamma_1 \ln(GDPpc_{it}) + \varepsilon_{it}, \quad (17)$$

where I_{it}^j is the published value of MDG indicator j for country i in year t .

- 6) The impact of the crisis on GDP growth was calculated as the difference between the IMF GDP growth rate forecasts for the years 2009 to 2015 published before and after the onset of the crisis, denoted respectively as g_{it}^{PRE} and g_{it}^{POST} . These forecasts were published, respectively, in April 2008 and in October 2009.² The log differences in GDP per capita forecasts before and after the crisis for each country i in year t were calculated as:

$$\ln(GDPpc_{it}^{POST}) - \ln(GDPpc_{it}^{PRE}) = \sum_{k=2009}^t \left[\ln\left(\frac{g_{it}^{POST}}{100} + 1\right) - \ln\left(\frac{g_{it}^{PRE}}{100} + 1\right) \right] \quad (18)$$

¹ The data source is Millennium Project (2004). In this publication, we identified nine cost items that were closely associated with the following nine MDG indicators: underweight children (nutrition programme), primary enrollment (primary education), Child mortality (child health), births attended by Skilled Professionals (maternal health), HIV prevalence (HIV), water urban, water rural, sanitation urban and sanitation rural. Millennium Development cost items are in parentheses.

² The April 2008 and October 2009 forecasts end, respectively, in 2013 and 2014. In order to estimate the impact of the lower post-crisis growth rates on the costs of achieving the MDGs, the pre-crisis rates of GDP growth of 2014 and 2015 were assumed to be identical to the 2013 rates of GDP growth. Similarly, the 2015 post-crisis rates of GDP growth were assumed to be identical to the 2014 GDP growth rates.

- 7) The estimated elasticities γ_1 and the projected impact of the crisis on GDPs per capita obtained in the two previous steps were used to calculate the impact of the crisis on the projected values of the MDG indicators:

$$\ln(I_{it}^{POST,j}) = \ln(I_{it}^{PRE,j}) + \hat{\gamma}_1^j [\ln(GDPpc_{it}^{POST}) - \ln(GDPpc_{it}^{PRE})], \quad (19)$$

where $\hat{\gamma}_1^j$ is the elasticity of MDG indicator j with respect to the GDP per capita estimated above. This calculation was undertaken for each country i for the years $t = 2009$ to 2015 . After obtaining the post-crisis projections for the MDG indicators, $I_{it}^{POST,j}$, they were expressed in a 0 to 1 scale, with a higher value meaning an increase in deprivation ($x_{it}^{POST,j}$), as explained in point 1 above.

- 8) The financial gap in the achievement of the MDG target for indicator j in country i and year $t = 2010, \dots, 2015$ is calculated as follows:

$$G_{it}^j = 0 \quad \text{if country } i \text{ is an early achiever or on-track,} \quad (20a)$$

$$G_{it}^j = T_{it}^j \quad \text{if country } i \text{ is off-track/regressing/no progress, and} \quad (20b)$$

$$G_{it}^j = T_{it}^j \left[\frac{x_{it}^{POST,j} - t_i^j}{x_{i,last}^j - t_i^j} \right] \quad \text{if country } i \text{ is off-track/slow,} \quad (20c)$$

where t_i^j is the target for indicator j in country i . The factor in brackets in Equation (20c) represents the projected under-achievement of the target for t .

- 9) The number of people expected to be deprived in country i with regards to indicator j in 2015 before taking into account the impact of the crisis (column 3 of Table I.2) is calculated as:

$$P_{i,2015}^{j,PRE} = P_{i,2015}^j x_{i,2015}^{j,PRE}, \quad (21)$$

where $x_{i,2015}^{j,PRE}$ is the projected value of indicator j for country i in 2015 before factoring in the impact of the crisis. The number of people expected to be deprived in country i with regards to indicator j in 2015 after taking into account the impact of the crisis is calculated as:

$$P_{i,2015}^{j,POST} = P_{i,2015}^j x_{i,2015}^{j,POST}. \quad (22)$$

Therefore, the additional number of people expected to be deprived in country i with regards to indicator j in 2015 as a consequence of the crisis (column 4 of Table I.2) is calculated as: $P_{i,2015}^{j,POST} - P_{i,2015}^{j,PRE}$.



Photo Marie-Ange Sylvain-Holmgren

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The Asia-Pacific region has made considerable progress towards the Millennium Development Goals (MDGs). The rapid economic growth achieved in many countries of the region has helped lift millions of people out of poverty. Governments have made substantial investments in education and health services and in protecting their most vulnerable people. Nevertheless, the region is still off track on many crucial MDG indicators, including child and maternal mortality. In many countries, economic achievements have also had environmental costs. The situation could deteriorate further as countries put greater pressure on their natural resource base, which could undermine many existing MDG achievements. Moreover, the lack of environmental sustainability can increase the economic vulnerability of the region, including in terms of energy and food security, as experienced with the food and fuel crisis in 2008.

Financing an Inclusive and Green Future considers the challenges the region faces for achieving these Goals and shows that they are still within reach, given sufficient determination and financial resources. It starts by estimating the financial needs of the region for closing the gaps in achievement of the MDG targets and identifies potential sources for those funds at national, regional and international levels. It also shows how Asia and the Pacific can take the lead in developing a more inclusive and development friendly financial system that will reach out to the millions of 'unbanked' – providing them with the opportunities and security of a well functioning financial system. Finally, the report discusses challenges -including technology and finance- for promoting growth that is both inclusive and sustainable –green growth- that will help the region achieve the Millennium Development Goals.

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