The Millennium Development Goals
Progress Report for the Lao PDR 2013

Jointly prepared by the Government of the Lao PDR and the United Nations

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Foreword

In line with international commitments made at the Millennium Summit in September 2000, the Lao People's Democratic Republic has streamlined the Millennium Development Goals (MDGs) into its National Development Plans and the previous Progress Reports on the implementation of the Millennium Development Goals have been prepared in 2004 and 2008 respectively. As the implementation of the MDGs is turning the final and crucial stage, this third MDG Progress Report is of particular importance for assessing the progress made and challenges encountered in the Lao PDR.

This Progress Report aims to capture the situation of the Lao PDR with regard to the implementation of the Millennium Development Goals since 1990 up to the present time, insofar as data are available. The Report also pays particular attention to government policies, programmes and strategies, and examines the challenges and opportunities in making headway towards each goal and target.

Today, as a result of the close partnership between the Lao Statistics Bureau, the line Ministries and the development partners, more data are available than ever. This third MDG Progress Report reflects the increased availability and scope of data in its many presentations and analyses of national level and disaggregated data. Therefore, the key messages derived from the new data and this MDG Report are clear.

Overall, the Lao PDR has achieved remarkable economic and social progress over the past two decades or so. The proportion of people living below the poverty line has been reduced by more than 40 percent from the levels recorded in 1992/93. The infant and under-five mortality rates show a steady decline over time. Indeed, the country has already achieved the national MDG target for under-five mortality rate, previously set at 80 per thousand live births. In addition, there is good progress towards universal primary education; and the access to health services has increased steadily. Gender parity has steadily improved in all three levels of education in Lao PDR. Malaria and tuberculosis also show a steady decline.

Yet we recognize that we cannot afford to be complacent and that huge challenges remain.

First, the Lao PDR is a mountainous country and those living in the remote highland areas have fallen behind in socio-economic progress, compared to those living in areas that are more accessible. Reaching these poorest populations with services continues to pose daunting challenges.

Second, many of the poorer and more remote communities will not be able to improve their status without changing certain traditions and behaviours, such as gender roles and perceptions, and the way children are raised. Changing behaviour requires time, more so than expansion of services, but action is needed on both fronts.

Third, we recognize that the need for sustainable and predictable financing continues to be an issue of concern, although the Government has given a high priority in this area and recently increased expenditure in the social sectors.

There are many other challenges that the Report has highlighted. However, along with challenges, there are also opportunities for action. We hope that this Report will serve as a catalyst for accelerating efforts by all to reach the MDGs, and as an important resource material for planning, resource mobilization and public education and awareness raising.

This report is a testament to the sound partnership between the Government, the UN System and development partners in the Lao PDR. On a personal note, I wish to thank the UN Country Team in particular for their significant contributions. I would also like to reaffirm that the Lao Government will continue to work closely with all development partners for the timely achievement of the MDGs.

Dr. Thongloun Sisoulith

Deputy Prime Minister,
Minister of Foreign Affairs

Fewer than 1,000 days remain before the end of 2015 – the target year set by the Lao People's Democratic Republic and other countries for achieving the Millennium Development Goals (MDGs) as part of their commitment to the historic Millennium Declaration.

With such a short time remaining, this third MDG Progress Report provides a firm and robust basis for the Government and development partners to emphasize areas for special attention and make adjustments to accelerate progress toward the 2015 goals. This Progress Report also is a crucial means for Lao PDR to highlight the country's successes and showcase its achievements over the past two decades. In particular, Lao PDR has been able to reduce poverty levels substantially and improve the well-being and living standards of many poor communities by expanding basic services and strengthening rural infrastructure. At the same time, the Report draws attention to the MDGs that are off-track, such as those for nutrition and maternal health, and identifies challenges and opportunities in all MDG areas.

The Report further highlights the situation of vulnerable groups, particularly the stark inequities remaining in many MDG areas, which still need to be addressed to ensure sustainable progress. For example, at the national level Lao PDR is reducing its under-5 mortality rate and making progress toward MDG4. Yet compared to a child born in Vientiane city, a child born in Phongsaly is nearly five times more likely to die by age 5 years and more than four times more likely to die by age 1 year. A woman giving birth in Phongsaly also is 2.5 times less likely than one in Luangnamtha to have a professional health worker in attendance. Phongsaly also has high poverty rates, very high stunting rates (61 percent of children under age 5) and the lowest youth literacy rate among provinces (53 percent for females), all illustrating the interconnectedness of MDGs.

In its examination of both national trends and disaggregated data, the Report has clearly benefited from recent surveys and studies, notably the Lao Social Indicators Survey, the Labour Force and Child Labour Surveys, the Agricultural Census, and other studies.

Meanwhile, the national goal of graduating from Least Developed Country (LDC) status by 2020 is just seven years away. Linkages between the MDGs and the LDC criteria mean that significant progress toward the MDGs also will contribute substantially towards LDC graduation. In the post-2015 period, advancing toward LDC graduation will require consolidating the MDG achievements and tackling the remaining challenges of poverty and vulnerability, with many vital tasks still lying ahead.

Together, the Millennium Declaration and the MDGs are an important step toward sustainable and equitable development for the country. Achieving the MDGs with equity will thus set the stage for further national development. In this regard, the United Nations also anticipates that this Report will be a useful contribution to the Eighth National Socio-Economic Development Plan 2016-2020.

It has been a pleasure and privilege for the United Nations System in Lao PDR to work with the Government on preparation of this Report. The process was a collaborative one, with technical support and inputs from the international community supporting the Government in this endeavour. I would like to express my thanks and appreciation to both the Government and colleagues from the United Nations for their hard work in producing the Report.

The United Nations will continue to strengthen its support for Lao PDR as the country builds on its considerable achievements of the past two decades and develops its own solutions to overcome continuing challenges.

Minh Pham

United Nations
Resident Coordinator

Introduction

Background

The Millennium Declaration and the Millennium Development Goals

The United Nations Millennium Declaration[1] forms the basis for the Millennium Development Goals (MDGs). This Declaration, adopted by the United Nations General Assembly on 8 September 2000, emphasizes the values of freedom, equality, solidarity, tolerance and respect for nature. It also underscores shared responsibility for managing worldwide economic and social development and the threats to international peace and security. The Declaration highlights objectives and strategies for:

- Peace, security and disarmament,
- Development and poverty eradication,
- Protecting the environment,
- Human rights, democracy and good governance,
- Protecting the vulnerable, including in disasters and complex emergencies, and
- Meeting the special needs of Africa.

The Declaration formed the basis for the adoption of MDG targets and indicators that span a twenty-five year timeline from 1990 to 2015. The MDG targets address poverty in its many dimensions, such as income poverty, hunger, disease, ill health and lack of adequate shelter. The targets also promote gender equality, decent work, universal education, and environmental sustainability. The UN Secretary-General reports annually to the General Assembly on the implementation of the Millennium Declaration. Every five years, the Secretary-General's report includes a comprehensive review of progress towards the MDGs.[2]

The Lao People's Democratic Republic (Lao PDR) is actively implementing its MDG commitments and reporting obligations. Lao PDR produced its first and second MDG Progress Reports respectively in 2004 and 2008. The Government has incorporated the MDGs into its Fifth, Sixth and Seventh National Socio-Economic Development Plans (NSEDP) for the respective periods of 2001-2005, 2006-2010 and 2011-2015. Most of the Government's targets are consistent with the MDGs. In 2010, the Government developed the ''2010 Framework''[3] for accelerating progress towards the MDGs, which was based on the findings of the 2008 MDG Progress Report and the Mid Term Review of the Sixth NSEDP.

The 2010 Framework identifies six priority areas for renewed efforts. It calls for:

- Expanding the reach of the enabling infrastructure for MDG achievement, including road construction and maintenance, town planning and sustainable energy services for the poor and vulnerable;
- Improving food security, promoting environmental sustainability and strengthening innovative financing mechanisms, with a focus on the rural poor;
- Ensuring universal access to basic education, improving the quality, equity and efficiency of education services and education sector governance;
- Ensuring women's equal participation and empowerment, promoting gender equality in employment and decision-making, and addressing domestic violence;
- Improving maternal and child health by strengthening community involvement, reducing financial and other barriers for the poor, improving the quality of services, improving the nutrition of women and children and reducing mother-to-child transmission of HIV; and
- Expanding safe water supply and improved sanitation for all rural areas and small towns, by increasing infrastructure investment, promoting community-based initiatives and promoting hygiene awareness.

The 2010 Framework highlights the need to scale up proven innovations and interventions to achieve the MDGs in a sustainable way. It explores approaches such as conditional food and cash transfers, innovative employment schemes, public-private partnerships for social marketing and service delivery, and the production of renewable energy crops. It calls for the use of innovative and locally appropriate investments, community mobilization and participation, and intensive activities that could be implemented by local administrations. The Framework emphasizes the preconditions for development, such as reaching underserved communities with basic infrastructure, rural roads and electrification.

Resource constraints mean that low-cost and high-impact interventions will need to be selected and implemented. The MDG Costing conducted by the Ministry of Planning and Investment and line ministries in 2009 estimated that an annual average of US$ 1.27 billion was required to achieve the MDGs by 2015. This worked out to about $192 per capita per year, or about 53 cents per person per day[4].

Geographic overview

The Lao PDR is a landlocked country; most of it is mountainous and forested. With a land area of 236,800 square kilometres, the country shares borders with six neighbours: People's Republic of China to the north;

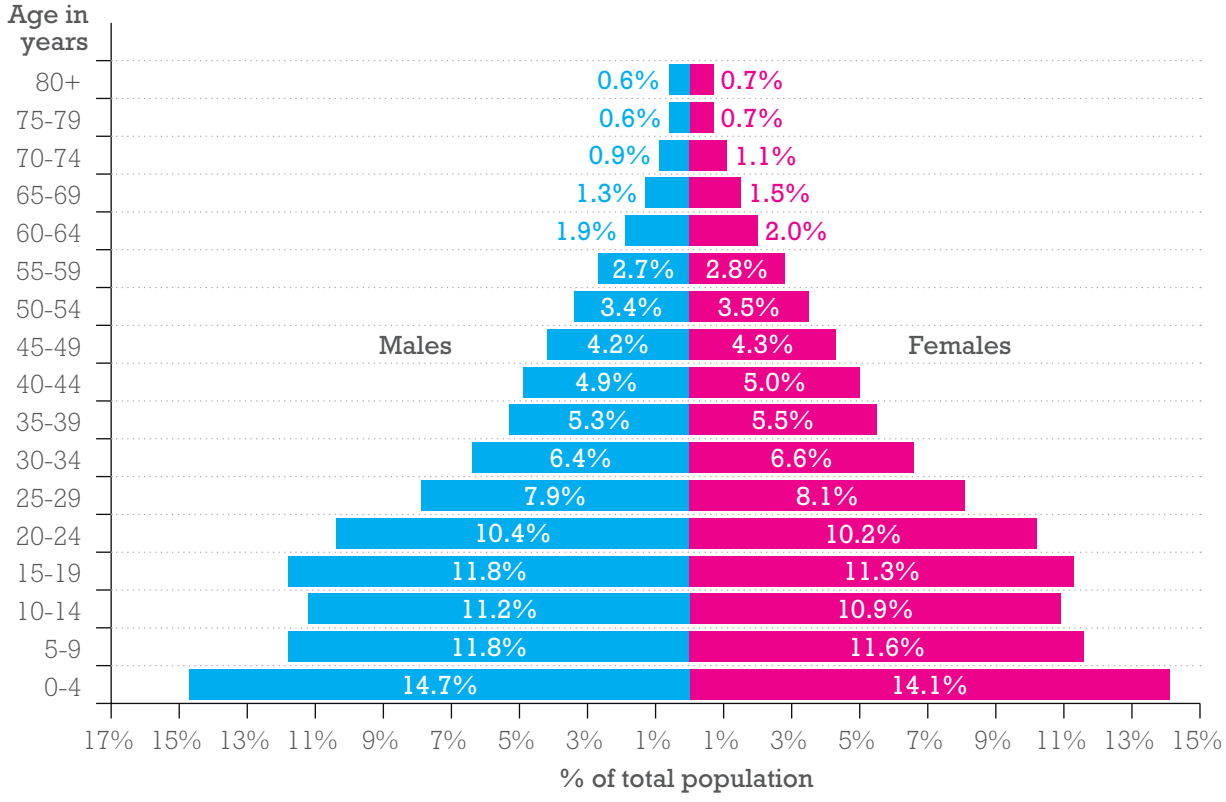
the Republic of the Union of Myanmar to the west; the Kingdom of Cambodia to the south, the Socialist Republic of Vietnam to the east, and the Kingdom of Thailand to the south and west. The Mekong River forms a large part of the western boundary with Thailand and forms a shorter boundary with Myanmar. The Mekong and its tributaries provide an important transportation network. Alluvial plains and narrow river valleys cover 20 per cent of the country's land area; the rest of the country is mountainous. The mountains on the east with Vietnam form the watershed between the Mekong River and Red River systems.

Lao PDR has significant natural resources, notably, forest resources, mineral commodities and hydropower potential. Mineral commodities produced include gold, copper concentrate, silver, tin and industrial minerals such as potash. Other mineral resources in Lao PDR that remain to be developed include zinc, lead, iron and manganese.

In administrative terms, Lao PDR consists of 16 provinces, the capital city of Vientiane, 145 districts and 8,615 villages. Many provinces are in mountainous areas and difficult to access. The country's population of 6.51 million[5] is mainly rural (71 per cent), including 8.9 per cent who live in rural areas without road access. The provinces are grouped into the North, Central and South Regions. The Central Region accounts for an estimated 38 per cent of the population, whilst the North and the South Regions respectively account for 30 per cent and 21 per cent of the population. The capital city of Vientiane accounts for some 11 per cent of the total population.[6]

Most households are so-called "farm households," engaged in agricultural production activities related to crops, livestock or aquaculture. Urbanization and alternative livelihood activities have reduced the proportion of farm households from 84 per cent in 1998-99 to 77 per cent in 2010-11, although this proportion remains high in the North (89 per cent). The last decade has seen a shift from subsistence to market-oriented agriculture; 30 per cent of overall farm households produced their goods for sale in 2010-11. Lao PDR has 1.62 million hectares of agricultural land (or 7 per cent of its total area), including 1.43 million hectares of arable land. Some 86 per cent of arable land was used for cultivation of seasonal crops in 2010-11.[7] The predominant crop is rice, other seasonal crops[8] being cassava, sugar cane, groundnut, tobacco, sesame and vegetables. Perennial crops such as coffee, rubber and fruit constitute 10 per cent of agricultural land. Up to two-thirds of farm households in 2010-11 raised livestock and/or poultry.

Figure 1 - **Population pyramid, Lao PDR, 2012**



Source: Population esimates from 2005 census, Lao Statistics Bureau, Ministry of Planning and Investment

Demographic overview

Lao PDR had an estimated population of 6.5 million in 2012, with a high proportion of young people (Figure 1).[9] Some 59 per cent of the population were children and young people below the age of 25 years. The mean household size was 5.2,[10] and 88 per cent of household heads were male.[11] Compared to its neighbours, Lao PDR is still sparsely populated, with a population density estimated at 28 per square km in 2012. Lao PDR has a total fertility rate of 3.2 per woman (2.2 urban, 3.6 rural).[12] Due to a decline in fertility and in the dependency ratio, the share of working age population is now projected to increase for at least the next 30 years.[13] The annual population growth rate for Lao PDR is around 2.1 per cent.[14] Urban areas have much higher growth rates; one estimate by the UN is as high as 4.7 per cent.[15] However, the rapid urbanization is taking place with insufficient urban planning for land use and urban services.[16]

The country is ethnically diverse, having 49 official ethnic groups that comprise 167 ethnic subgroups[17] ***speaking several dialects and languages***. Within the population, four major ethno-linguistic branches are the Lao-Tai (68 per cent of the total), Mon-Khmer (22 per cent), Hmong-Lu Mien (7 per cent) and Sino-Tibetan (3 per cent of the total population).[18] The ethnic groups are marked by different cultures, traditions and livelihood systems.

Economic overview

In 2011, Lao PDR moved up from its lower income status to a lower-middle income economy, with a gross national income (GNI) per capita of US$ 1,130[19]. Since the introduction of the New Economic Mechanism in 1986, which began the country's transition from a centrally planned to a market-oriented economy, Lao PDR's economic growth has been strong, with an annual average growth in gross domestic product (GDP) of 6.4 per cent in the 1990s and about 7.4 per cent between 2001 and 2011.[20] The Mid Term Review of the Seventh NSEDP found that Lao PDR had achieved the GDP growth target of at least 8 per cent annually from 2011 to 2012.

The share of the natural resources sector in GDP is significant, about 16.1 per cent in 2010. The natural resource sector's contribution to GDP growth increased from about 2.6 percentage points in 2009 to 4.8 percentage points in 2010 and is projected to average 4.0 percentage points between 2011 and 2015. The growth in the natural resources sector (mainly hydropower, gold, copper, wood and wood products) has led to significant increases in revenue, which in turn have translated into poverty reduction. The other major contributors to total GDP are services (35 per cent in 2011), agriculture (31 per cent) and manufacturing (8 per cent), mainly of garments, wood and wood products, construction materials, light manufacturing, handicrafts, food products and beverages.[21]

Lao PDR has set a national goal of graduating from Least Developed Country (LDC) status by 2020. The increasing demand for the country's natural resources and for its energy exports, fuelled by hydropower development, makes the realization of this goal possible. Large investment projects in mining and hydropower together account for the majority of foreign direct investment in the country. As the large hydropower projects in the pipeline come into production, the hydropower sector is expected to become even more significant in GNI and GDP growth. It is recognized that longer-term growth and sustainable development will require improved management of the risks accompanying this resource boom. Unsustainable exploitation of the resource base will increase Laos PDR's economic vulnerability and will eventually have an impact on its economy, especially if natural resources remain a dominant source of growth and other sectors lag behind.[22] Lao PDR has invested in strengthening regional transport links with neighbouring countries, which has attracted foreign investors and increased intraregional trade. From 2001-2009, intraregional trade in the Greater Mekong Sub-Region increased by an average of 22.5 per cent. During the same period, Lao PDR's export to the People's Republic of China increased by 57 per cent.[23]

Development context

The country's rapid economic growth has led to accelerated growth and poverty reduction, but has also increased inequalities, especially between rural and urban areas. The social indicators show that the gains of growth have not been equally distributed. Reallocation of revenues from the resource sector will be needed for more equitable and inclusive growth and for broader economic and social development. The majority of the population continue to rely on the agriculture sector for its livelihood, but productivity in this sector remains poor.

Lao PDR needs to seize the opportunity provided by its demographic dividend. As mentioned previously, Lao PDR is in a first demographic dividend period, estimated to last for about 30 more years when the population is expected to start ageing. To benefit from the demographic dividend, however, Lao PDR will need to equip its young and growing population with the entrepreneurial and technical skills necessary for productive employment, and provide an enabling environment for the private sector to increase the demand for labour.

The pace of social progress has not been able to match that of the rapid economic progress. Areas with the best links to markets and infrastructure have seen the fastest declines in poverty; these are the urban areas and the districts along the border with Thailand. Other areas lag behind, particularly the North, the regions bordering Vietnam and the uplands areas, which are largely inhabited by certain ethnic groups.[24] It will be essential to continue the empowerment of women and girls, especially in ethnic groups that lag behind, given the

potential of gender equality to enhance productivity and accountability and improve the lives of future generations. As the country becomes increasingly open, with regional integration, strong economic growth, expanding transport networks, resettlement, spontaneous migration and the granting of land concessions, it will also need to be more vigilant in protecting vulnerable groups against emerging risks, such as the exploitation and trafficking of children and women, the loss of traditional social structures, and the changing patterns in diseases such as HIV/AIDS and malaria.

The Government's Long Term Strategy of Socio-Economic Development to the Year 2020 provides an overall development vision, including graduation from Least Developed Country status by 2020. The Long Term Strategy is implemented through rolling five-year National Socio-Economic Development Plans, which guide all development interventions and provide the framework for prioritizing Government expenditures.

The Seventh NSEDP has four overarching targets and five outcome areas. The targets aim to:

- Ensure continuation of national economic growth with security, peace and stability, including a GDP growth rate of at least 8 per cent annually and GDP per capita of at least USD 1,700;
- Achieve the MDGs by 2015 and adopt appropriate technology, skills and create favourable conditions for graduating the country from LDC status by 2020;
- Ensure the sustainability of development by emphasizing economic development with cultural and social progress, preserving natural resources and protecting the environment; and
- Ensure political stability, peace and an orderly society.

To achieve these targets, the five priority outcome areas are:

- National economic development, achieved through sustained and inclusive economic growth, poverty reduction, and the modernization of the economy;
- Rural development and poverty eradication, to reduce the gaps between urban and rural areas and between rich and poor;
- Education reforms, human resource development and livelihood promotion, with emphasis on the expansion of educational opportunities, the improvement of health and sanitation, and training to produce skilled workers;
- Effective public administration, including the rule of law and the prevention of corruption; and
- Competitiveness, which will be achieved by optimizing the use of natural resources, increasing regional cooperation and integration, and developing appropriate investment promotion and industrialization policies and strategies.

The Seventh NSEDP's major thrusts are consistent with the Millennium Declaration and the MDGs. The NSEDP aims to support sustainable economic growth and reduce poverty and inequality, based on a long-term development agenda that includes a gradual transformation from a closed and centrally planned economy to a private-sector-led open economy. The NSEDP recognizes that national economic development will not be sustainable or inclusive without addressing the poverty gap. Human resource development and livelihood promotion in the NSEDP are directly linked to the employment targets of MDG 1 and to the health and education MDGs. The NSEDP's focus on effective public administration, the rule of law and on preventing corruption is coherent with the Millennium Declaration, which emphasizes good governance. Good governance is also crucial for optimizing resources deployed for MDGs.

The implementation of the NSEDP is coordinated through ten working groups operating within the framework of the Vientiane Declaration for Aid Effectiveness.[25] These working groups are (i) health; (ii) natural resources and environment; (iii) trade & private sector development; (iv) education; (v) infrastructure; (vi) governance; (vii) macroeconomics; (viii) illicit drug control; (ix) unexploded ordnance (UXO) mine action and (x) agriculture and rural development. Progress in implementing the NSEDP is reported annually to the Lao PDR National Assembly, which provides guidance for the parameters of the next annual plan.

The 2013 Mid Term Review (MTR) of the Seventh NSEDP concluded that macro-economic indicators remained stable and provided a sound basis for the NSEDP's achievement on major targets. It also noted that the country's rapid economic growth had led to poverty reduction, but that inequalities were more evident, including growing income inequality. The MTR underscored the importance of achieving sustainable growth in the non-resource sectors, with increased emphasis on a wide range of supporting sectors and sub-sectors. It highlighted the need to improve the poor business environment and accelerate reforms to this end. It called for strengthening the link between planning and budgeting by installing a multiyear rolling public investment programme that accurately reflects actual and forecast domestic and external funding. The MTR also highlighted the urgent need to strengthen the currently weak NSEDP monitoring and evaluation systems. This would require improving the identification of measurable targets and indicators and integrating these into the NSEDP within a framework of impact, outcomes, outputs and associated activities. The MTR concluded that although mechanisms such as legal and regulatory frameworks were already in place to ensure the effective and efficient implementation of NSEDP, both horizontal and vertical coordination mechanisms required strengthening. For example, improvement was needed in the distribution of functions and responsibilities between government levels, and in the coordination between national and sub-national planning. Such an improvement would enable effective implementation of national development priorities by sub-national governments.

The 2013 Mdg Report

Purpose

The objective of an MDG Progress Report at country level is to trigger action for accelerating progress towards the MDGs.[26] MDG Progress Reports should help to engage political leaders and top decision-makers, as well as mobilize civil society.

With two and a half years remaining before the 2015 deadline, Lao PDR's 2013 MDG Progress Report is intended to highlight areas for action. The Report is meant to be used as a tool to raise awareness amongst local authorities, civil society and communities, strengthen national capacities for monitoring and reporting, build partnerships, and renew political commitments. The process of preparing this Report also helped to integrate globally agreed objectives into specific targets for Lao PDR, thereby focusing attention on nationally defined priorities. A number of surveys, assessments and censuses released over 2012 and 2013, provided new and updated data sets for evaluating progress. A fourth MDG progress report is envisaged in 2016, in order to gauge the country's progress over the entire MDG reporting period from 1990 to 2015.

The 2013 MDG Progress Report is intended to feed into discussions on the post-2015 framework at the UN General Assembly in September 2013. The 2013 MDG Progress Report will also provide useful information for assessing Lao PDR's progress towards its goal of graduating from LDC status by 2020. The Report should, therefore, be a realistic and up-to-date stocktaking of progress, especially towards those MDGs deemed to be off-track.

Consultation processes & structures

The 2013 MDG Progress Report is a government-led process, supported by the UN. The Government's MDG Secretariat led the process for the 2013 MDG Progress Report. The Secretariat is chaired by the Director-General of the Department for International Organisations in the Ministry of Foreign Affairs. The MDG Secretariat includes relevant department representatives from MoFA and the Ministry of Planning and Investment. The Secretariat consults, as needed, with senior officials from all line Ministries and agencies.

An MDG Technical Working Group had the responsibility for providing inputs and reviewing drafts. The group, led by the government, comprised representatives from government entities and UN and other development partners. The government assigned focal points to lead various MDG areas. Within the MDG Technical Working Group, a smaller group on statistics had the responsibility for reviewing and agreeing on the indicators, data sets and trends analysis across MDGs. UN Support teams provided technical support and ensured an integrated cross-sectoral perspective. The UN Support Teams also provided access to UN expertise at their headquarters and regional offices.

Data issues

This MDG Progress Report draws from past data as well as new data from government administrative systems, surveys and assessments. In general, the administrative systems suffer from weak reporting mechanisms and from population denominators that are not always reliable. Household surveys are inappropriate for measuring certain indicators, such as cohort survival rates in education, whilst administrative systems are unsuitable for other indicators, such as maternal and child mortality rates and child labour.

The Report has revised some past data trends following recent findings and revised international definitions. Since trends, by their very nature, comprise a number of data points, changing any data point or revising the definition means that the trend will change. Examples of such changes are found in trends for young child mortality and trends for TB incidence, prevalence and mortality. In some cases, this Report provides two trends for one indicator, since trends should not be drawn from data points calculated with different methodologies. This was the case for child malnutrition trends, which were calculated using two different anthropometric reference data.

New elements in this MDG Progress Report

This MDG Progress Report examines, for the first time, the progress towards a new MDG unique to Lao PDR. This is the goal of reducing the impact of UXO[27] in Lao PDR in accordance with the National Strategic Plan for the UXO sector ''The Safe Path Forward II.'' This new Development Goal, called MDG 9, was adopted at the Vientiane High Level Round Table Meeting on 20 October 2010. On that occasion, it was noted that the new goal merited special prominence because of the long-term negative impact of UXOs on the development potential of affected communities. MDG 9 focuses on three targets:

- UXO clearance from priority / high value agricultural land by 2020;
- Substantial reduction in the number of UXO-related casualties; and
- Survivor assistance: meeting the medical and rehabilitation needs of all UXO survivors in line with treaty obligations under the Convention on Cluster Munitions.

The Round Table recognized that progress towards MDG 9 would enhance access to assets and services and improve livelihoods.

This Report includes, also for the first time, a number of issues raised by the Millennium Declaration. These issues include good governance and the need to protect the most vulnerable, both of which cut across all the MDGs. Some issues are more relevant than others to a certain MDG, and appear as panels in relevant chapters, as well as in the relevant parts of the main text.

The Report examines the links between the MDG areas and the goal of LDC graduation by 2020. The Report introduces the issue in Box 1.1 and subsequently reviews the LDC and MDG links in every MDG chapter. Chapter 10 then provides an overview of LDC issues.

The Millennium Declaration and the most vulnerable groups

''*As leaders we have a duty therefore to all the world's people, especially the most vulnerable and, in particular, the children of the world, to whom the future belongs……We are determined to establish a just and lasting peace all over the world in accordance with the purposes and principles of the Charter. We rededicate ourselves to … respect for the equal rights of all without distinction as to race, sex, language or religion …*''

Extract from:
The Millennium Declaration, 8 September 2000
United Nations, New York

MDG1. Eradicate Extreme Poverty and Hunger

1.1. Summary

Poverty

The national poverty rate in Lao has declined steadily, having dropped by 40 per cent over the period 1992/93 to 2007/08. In terms of the international poverty line, Lao PDR shows a one-third decrease in poverty rate over the same period. The country has also seen a steady reduction in the poverty gap and poverty severity over time. The overall assessment is that Lao PDR is well on track to achieving the poverty target, or has already achieved this target.

Subnational analysis shows that poverty rates have declined across nearly all population groups over the 15-year period. Even so, the poverty rate in rural areas is still almost twice that of the urban areas, with mountainous areas and upland villages showing the highest incidence of poverty. The districts and villages targeted by the government's National Growth and Poverty Eradication Strategy have seen significant reductions in poverty.

On the other hand, the poverty gap analysis shows that the poor in geographically disadvantaged areas are poorer than the poor elsewhere. The severity of poverty has declined amongst most groups but has increased amongst the poorest in the 2002/03-2007/08 five-year period.

Consumption inequality in Lao PDR has increased by 5 percentage points from 1992/93 to 2007/08. Subnational trends indicate that consumption inequality has increased in practically all population groups. The share of consumption attributed to the richest quintile has largely driven the inequality trends. The rate of poverty reduction would have been even higher without adverse distributional changes.

Overall, therefore, the country's rapid economic growth has been beneficial for the majority of the population, decreasing not only poverty headcount ratio but also the poverty gap and the severity of poverty at the national level. However, the growth has not benefited some of the poorer groups, especially those in geographically disadvantaged areas, where the severity of poverty has increased. The rapid growth has also increased inequalities.

More equitable and inclusive growth needs to be promoted by reallocating revenues from the resource sector to broader economic and social development. Tailored interventions are needed for the poorest groups, where the lack of access to infrastructure, markets and services remains a barrier to growth and poverty reduction. Policies for consolidating villages and stabilizing settlements and livelihoods should ensure not only adequate infrastructure provision, but also capacity development and access to productive land for resettled groups.

Employment

Lao PDR has seen its labour productivity (defined by the International Labour Organization (ILO) as GDP per person employed) grow from 1995 to 2010, but largely because its high economic growth has outstripped the growth in employment levels. The GDP growth in recent years is resource-driven and capital intensive, which increasingly limits the creation of livelihoods and jobs for workers, risking a situation of ''jobless growth.'' The high growth rates of GDP per person employed will translate into benefits for the working population only if the economic growth can create a sufficient number of decent employment opportunities with fair and equitable remuneration.

Lao PDR has amongst the highest employment-to-population ratio (ETPR) in the region, which means that the quality of work may be a key concern. The country will be able to reap the benefits of its demographic dividend only if it addresses the issue of low human capital whilst ensuring the availability of decent work employment opportunities for the new ''youth boom.'' The ETPR is highest in the remote rural areas without road access and lowest in urban areas.

The share of vulnerable employment in Lao PDR is very high. Own-account workers and unpaid family workers – defined by the ILO as ''vulnerable employment'' – constitute 84 per cent of total employment. The remaining 16 per cent are employers and paid employees. The country's high levels of vulnerable employment are due to the predominance of the agriculture and fishery sector, and the services sector (shop and market sales workers, and elementary occupations).

The 2010 Child Labour Survey, the first ever undertaken by Lao PDR, highlights the government's commitment to protecting children and implementing the ILO conventions on child labour. The survey findings underscore the inverse relationship between child labour and education. About 15 per cent of children aged 5 to 17 years are working children or children in employment. The proportion of working children rises to 35 per cent for the age group 14-17 years. In Lao PDR, child labour and working children are largely rural phenomena. Because they work in the informal sector and because of their age, child workers are highly vulnerable. Half the working children (49 per cent) work under conditions hazardous to health and well-being.

Overall, rural employment development strategies need to target the working poor and address the issue of vulnerable employment. Strategies to need to start with the agriculture sector because of its predominance in employment.

Nutrition

Stunting in children remains the biggest challenge in Lao PDR, with an estimated 44 per cent of children under five years of age who are stunted. Recent data from the Lao Social Indicators Survey (LSIS) suggest that the rate of decline in undernutrition is too slow (less than 1 percentage point per year) to meet national or international MDG targets. In fact, given an annual reduction in stunting of less than 1 per cent and an annual growth of 1.4 per cent for the population, the number of stunted Lao children is more likely to increase than to decrease. Stunting therefore needs urgent attention.

There are high inequities in stunting and underweight levels between children from the poorest and the richest quintiles. Stunting is more pronounced in rural areas and amongst children from ethnic groups living in remote mountainous areas.

Around one-quarter of the population was living under the food poverty line in 2007/08. Food poverty appears to have increased in both urban and rural areas between 2002/03 to 2007/08, despite the generally declining poverty rates. At least some of Lao PDR's rise in food poverty may be attributed to greater spending on non-food items, such as consumer goods. However, the stunting is not caused solely by food poverty.

The mother's nutrition is crucial. The process of becoming a stunted child begins in utero, and continues up to two years of age, a period that may be called the first 1,000 days of life. After this age, some catching-up might take place, but it is too late to undo the damage of the early years. After birth, poor care and feeding practices are the main culprits that cause the high levels of child stunting in Lao PDR. The interventions to reduce undernutrition amongst young children are complex, must reinforce each other, and must be multi-sectoral in nature. In addition, strategic epidemiologic targeting is needed, particularly to improve women's nutrition and ensure proper care and feeding practices for children under the age of two. The answer is, therefore, not food alone, but also includes maternal nutrition, age-appropriate feeding practices, care and hygiene practices, and the quality of nutrients in the food.

Lao PDR has a number of opportunities to accelerate the progress in reducing malnutrition. First, the country's sustained economic growth provides fiscal space for new allocations to social sectors. Second, the country's health reforms provide an opportunity for prioritizing and rapidly scaling-up a selected package of direct nutrition interventions. Third, the interest from the private sector to support the expansion of nutrition interventions, such as multiple-micronutrient supplementation for young children, is highly promising.

1.2. MDG 1 at a glance

Goal 1. Eradicate extreme poverty and hunger					
Target 1A: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day					
	1992	1997	2002/03	2007/08	Target 2015
1.1 - 1.1 Proportion of population below national poverty line	46.0%	39.1%	33.5%	27.6%	24%
1.2 - 1.2 Poverty gap ratio (% of poverty line)	11.2%	10.3%	8.0%	6.5%	6%
	1992/93	1997/98	2002/03	2007/08	
1.3 - Share of poorest quintile in national consumption	8.8%	7.7%	8.5%	7.9%	
Target 1B: Achieve full and productive employment and decent work for all, including women and young people					
				1995-2005	2005-2010
1.4 - Average annual growth rate of GDP per person employed				3.8%	5.9%
			1995	2005	2010
1.5 - Employment-to-population ratio			84.9%	80.4%	77.7%
					2010
1.6 - Proportion of employed people in two poorest quintiles*					37%
			2005		2010
1.7 - Proportion of own-account and contributing family workers in total employment			91%		84%

Target 1C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger

	1993	1994	2000	2006	2011/12	Target 2015
1.8 - Prevalence of underweight children under-five years of age Calculated with NCHS reference data: Calculated with WHO 2006 reference data:	44%	40%	40%	37% 31%	32% 27%	22%
1.9 - Prevalence of stunting in children under-five years of age Calculated with NCHS reference data: Calculated with WHO 2006 reference data:	48%	47%	41%	40% 48%	38% 44%	34%
			1997/98	2002/03	2007/08	Target 2015
1.10 - Proportion of population below food poverty line**			32.5%	19.8%	24.6%	19%

Notes:
* Indicator 1.6 is a proxy for the international MDG indicator "Proportion of employed people living below $1 (PPP) per day" as consumption data for this indicator is not available at the time of this report (see text).
** Indicator 1.10 is a proxy for the international MDG indicator "Proportion of population below minimum level of dietary energy consumption" as data for this indicator is not available at the time of this report (see text).
Data sources:
Indicators 1.1 to 1.3: Lao Expenditure& Consumption Surveys, 1992/93, 1997/98, 2002/03, 2007/08 (LECS 1-4), Lao Statistics Bureau (LSB), Ministry of Planning & Investment (MPI)
Indicator 1.4: 1995 and 2005 Population and Housing Censuses, LSB; Labour Force Survey (LFS 2010), LSB; and LSB estimates of GDP
Indicator 1.5: LFS 2010, LSB; Censuses 1995 and 2005, LSB; and LSB estimates of population
Indicator 1.6: LFS 2010, LSB
Indicator 1.7: 2005 Census and LFS 2010, LSB
Indicators 1.8 and 1.9: Lao Social Indicators Surveys (LSIS 1993, 2011/12), LSB, and Multiple Indicator Cluster Surveys (MICS 1994, 2000, 2006), LSB.
Indicator 1.10: LECS 2-4, LSB

1.3. Halving poverty

1.3.1. Introduction

Poverty and other MDGs

Poverty is multidimensional, going beyond income poverty to encompass deprivations in education, employment and nutrition.[1] These deprivations are often interconnected. Income and consumption are crucial, but do not sufficiently reflect the other dimensions affecting human well-being and human progress, such as malnutrition, a lack of education, poor health, poor environmental quality, and exclusion from mainstream society. Together, these provide a fuller picture of the nature and magnitude of poverty.[2] Empirical studies show the links between monetary and non-monetary dimensions of poverty:

Remoteness, exclusion, and lack of education are likely to characterize those living on less than 50 cents a day. These poorest groups often live in remote rural areas, are more likely to be ethnic minorities and have less education, fewer assets, and less access to markets. The lack of education perpetuates the intergenerational cycle of poverty, since education has a significant positive impact on agricultural productivity, employment, access to credit, use of government services, health outcomes and can provide the poor with the means to move out of poverty.[3]

Poverty is also a determinant of health risks, health-seeking behaviour, health care access and health outcomes. Poorer communities are more likely to suffer from malaria than are non-poor or less poor communities, because of geography, housing and environment, and because of the costs associated with preventive and curative treatment.[4] Significant proportions of poor people suffer from conditions that cause fatigue and poor health. Anaemia saps the strength of two-fifths of women in developing countries.[5] Hookworm – closely linked to environmental sanitation and hygiene - afflicts entire communities in some countries.

Poverty is closely linked to gender. Gender analyses of labour markets suggest that it is more difficult for women than men to escape poverty through paid work and higher incomes, since women face constraints related to social norms and values that govern the gender division of labour. Female-maintained households, which rely solely or primarily on female earnings, are overrepresented in the ranks of the poor. The female heads of these households work longer hours and earn less on average than do heads of households largely reliant on male incomes.[6]

In Lao PDR, poverty reduction is linked to reducing the impact of UXOs (MDG 9). The legacy of devastation and bombing from the Indo-China War contributes to poverty, with one in six rural villages having agricultural land contaminated by UXOs. In such areas, the land has to be cleared before any agriculture can take place and before infrastructure can be built or expanded.

Box 1.1: The LDC criteria[a]

The United Nations Committee for Development Policy and Department of Economic and Social Affairs uses three criteria in determining whether to apply the Least Developed Country (LDC) label.

- The first is gross national income (GNI) per capita, in current United States dollars calculated according to the World Bank Atlas method.
- The second is the human assets index (HAI), a composite index comprising four equally weighted indicators: adult literacy rate, under-five mortality rate, secondary education gross enrolment ratio and the percentage of population that is malnourished.
- The third LDC criterion is the economic vulnerability index (EVI), which attempts to capture the relative risk posed to a country's development by exogenous shocks. The EVI is another composite index composed of a weighted average of eight indicators. These indicators are grouped into two components: vulnerability to shock (share of population living in low-elevated coastal zones, the share of the population that has been victim of natural disasters, the instability of agricultural production), and an exposure index (population size, remoteness, merchandise export concentration, and the share of agriculture, forestry and fisheries in GDP). The share of population living in low-elevated coastal zones is not applicable to Lao PDR. Hence EVI for Lao PDR is calculated on the basis of seven indicators.

To graduate, a country must cease to meet two out of the three LDC inclusion criteria (except in cases where GNI per capita is at least twice the graduation threshold level), to be observed over two consecutive triennial reviews.

[a] The United Nations Committee for Development Policy and United Nations Department of Economic and Social Affairs (UN-CDP/UN-DESA) (2008, 2012)

Linkages with LDC graduation

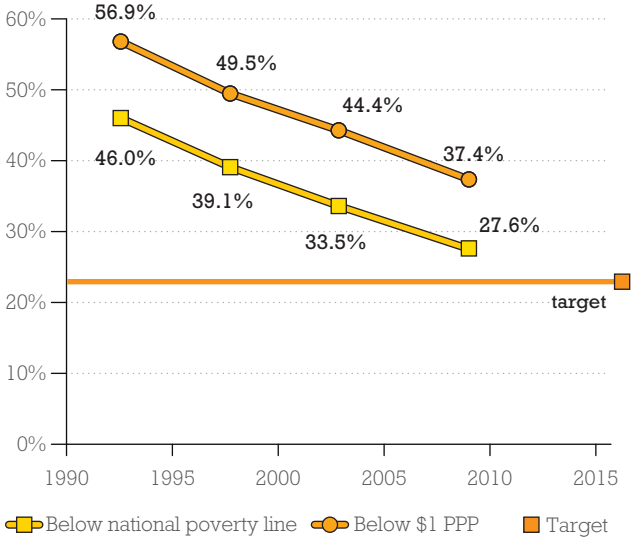
The income target under MDG 1 is directly related to GNI per capita, one of the three criteria for graduating from the LDC category (Box 1.1). If the economic growth translates to greater investments in education and health, progress in MDG 1 will also have a long-term and indirect beneficial impact on the country's performance in the human assets index (HAI). In addition, the UN Committee may consider a country eligible for graduation if its GNI increases to a sufficiently high level — defined as at least twice the graduation threshold level — even if that country has not satisfied the graduation thresholds for both the HAI and the economic vulnerability index (EVI).

1.3.2. Assessment and analysis

National poverty trends

The national poverty rate in Lao has declined steadily, having dropped by 40 per cent over a 15-year period. The proportion of population living below the national poverty line shrank from 46 per cent in 1992/93 to 28 per cent in 2007/08. Lao PDR is therefore well on track to achieving the MDG target of halving the poverty rate between 1990 and 2015 (figure 1.1). In terms of absolute numbers, about half a million people have been lifted out of poverty since 1992. The national poverty line is the appropriate measure for setting national policies for poverty reduction and for monitoring results, since it is consistent with a country's specific economic and social circumstances, and reflects local perceptions of the level of consumption or income needed to avoid poverty. However, national poverty lines cannot be used to provide a uniform measure for comparing poverty rates across countries because the boundary set between poor and non-poor differs varies by countries. Instead, the international poverty line of $1.25 a day, measured at 2005 international prices adjusted for purchasing power parity (PPP), is used for comparing poverty rates across countries.

Figure 1.1.
Percentage of population below national poverty line and below $1 PPP*



Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Box 1.2. Poverty indicators and data sources

This Report uses the poverty rate, the poverty gap ratio, the poverty severity index and the Gini index. The poverty rate is also known as the poverty headcount index or poverty headcount ratio.

- The poverty headcount ratio is useful for targeting development policies to the poor, but does not capture the depth of poverty or income inequality amongst the poor, since it does not differentiate between people living just below the poverty line (the least poor) with others who live far below the poverty line (the poorest). The poverty gap ratio and the poverty severity index address this weakness.
- The poverty gap ratio is the mean shortfall of the total population from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. It measures the "poverty deficit" of the entire population, where the poverty deficit is the per capita amount of resources needed to bring all poor people above the poverty line through perfectly targeted cash transfers.
- The poverty severity index applies an increasing weight to greater distances below the poverty line and is therefore sensitive to the severity of poverty.
- A Gini index of zero represents perfect equality, while an index of 100 implies perfect inequality.

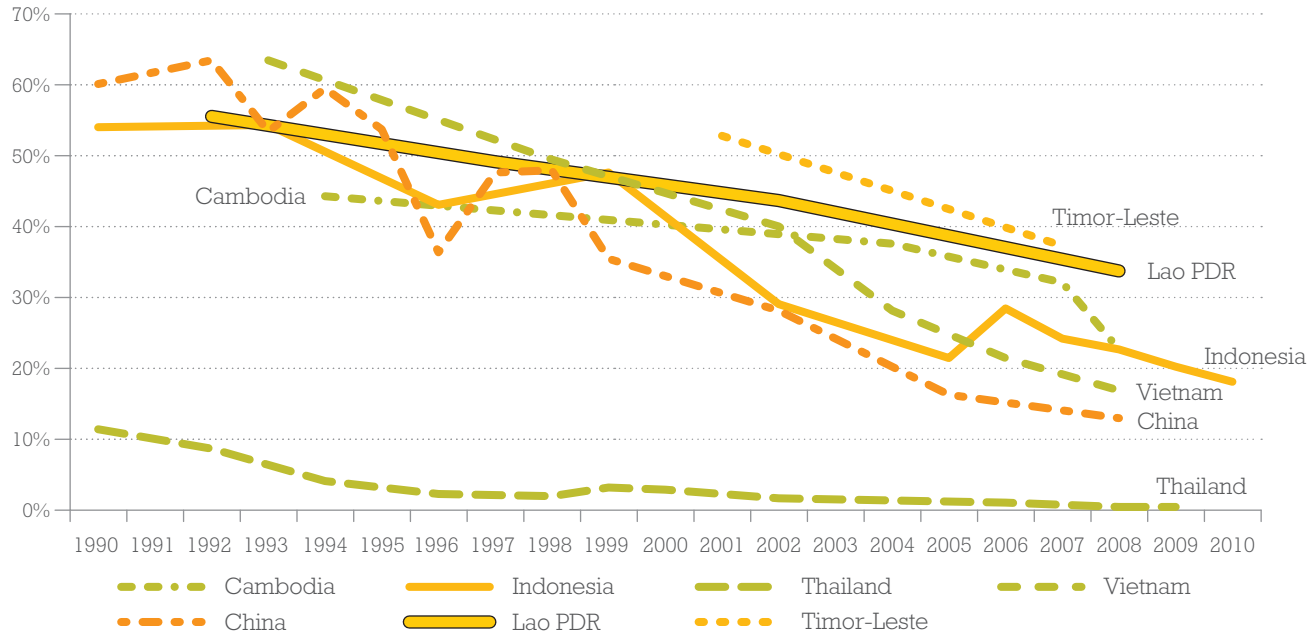
The four Lao Expenditure and Consumption Surveys (LECS) provided most of the data for the analysis of poverty. These were conducted at five-year intervals by the Lao Statistics Bureau (LSB) in 1992/93 (LECS 1), 1997/98 (LECS 2), 2002/03 (LECS 3) and 2007/08 (LECS 4).

In terms of the international poverty line, Lao PDR shows a one-third decrease in poverty rate over the same period[7] (figure 1.1). Using this international standard shows that Lao PDR's progress in reducing poverty has lagged behind that of China, Vietnam and Indonesia. All three countries started at poverty headcount ratios above 50 per cent in the early 1990s, at levels similar to or higher than Lao PDR (figure 1.2)

Indonesia. All three countries started at poverty headcount ratios above 50% in the early 1990s, at levels similar to or higher than Lao PDR (figure 1.2).

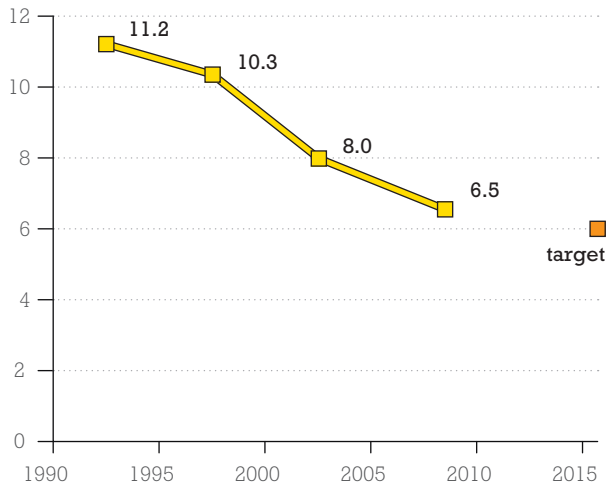
Lao PDR has also seen a steady reduction in the poverty gap and poverty severity over time (Table 1.1). Thus, the depth of poverty has lessened amongst the poor from 11 per cent of the poverty line in 1992/93 to 7 per cent in 2007/08 (Figure 1.3), meaning that the poverty gap has decreased by about 40 per cent over the 15-year period. The severity of poverty has also decreased (Figure 1.4), implying that for the country as a whole, the drop in poverty benefitted the neediest over the past decade. However, at subnational level, the poverty gap and poverty severity index present a more complex picture.

Figure 1.2.
Poverty headcount ratio at $1.25 a day (PPP) (Percentage of population)



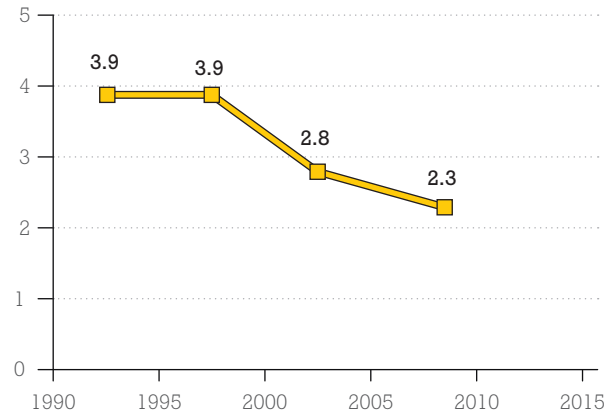
Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.3.
Poverty gap ratio calculated with national poverty line



Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.4.
Poverty Severity Index x 100



Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table 1.1. Poverty head count, poverty gap ratio and poverty severity index

	1992 /93	1997 /98	2002 /03	2007 /08
Poverty head count per cent	46.0	39.0	33.5	27.6
Poverty gap ratio per cent	11.2	10.3	8.0	6.5
Poverty Severity Index (x 100)	3.9	3.9	2.8	2.3

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment.

Note: This table uses the national poverty line and is therefore not comparable with Figure 1.2, which uses the international poverty line to compare countries.

Subnational poverty trends

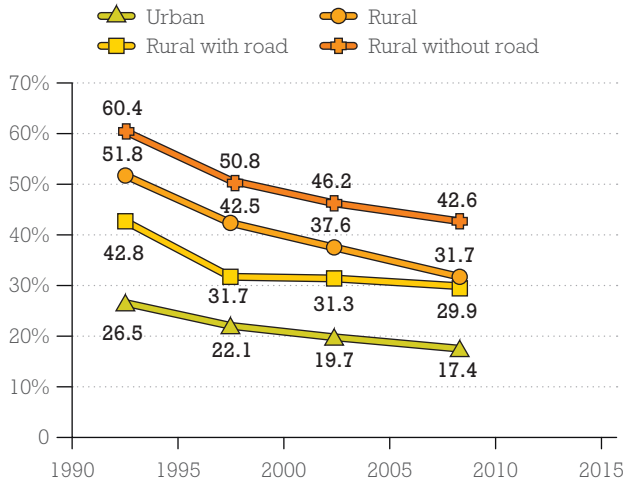
Subnational analysis shows that poverty rates have declined across nearly all population groups over the 15-year period. Despite the increase in urban population, the proportion of urban households living in poverty has fallen from 27 per cent in 1992/93 to 17 per cent in 2007/08. Over the same period, the poverty rate in rural areas declined by 20 percentage points. However, challenges remain.

The poverty in rural areas is still almost twice that of the urban areas (figure 1.5). In 2007/08, rural areas, with 71 per cent of the country's population, accounted for 82 per cent of the poor. In particular, rural areas without road access lagged behind, having a poverty rate over 40 per cent. Yet these areas, too, have shown significant reductions in poverty headcount ratio (by 18 percentage points from 1992/93).

Mountainous areas and upland villages show the highest incidence of poverty. (figure 1.6). In 2007/08, upland villages accounted for 25 per cent of the total population, but represented 39 per cent of the poor, whilst the districts in mountainous terrain, accounting for 28 per cent of the population, represented 39 per cent of the poor. Livelihood opportunities in these areas appear to be more restricted than in the lowland and plain areas, which are irrigable, have fertile soils and have lower poverty rates. All areas, however, show a general decline in poverty over the 15 years' period. In recent years, the upland villages and mountainous districts show a slowing down of poverty reduction, with a decrease of only 1 to 2 percentage points in poverty rates between 2002/03 to 2007/08 (figure 1.6). This suggests that some groups have not fully benefitted from the strong economic growth during this period. The highland areas, which are the poorest, are also where certain ethnic groups live. Despite intensive targeting efforts by the government, poverty rates amongst such ethnic groups remain high. This is largely due to the remote locations of their villages, the lack of road access and the scarcity of livelihood options. Most ethnic groups have seen declining poverty rates, except for the Sino-Tibetan group, which show a slight increase in poverty. The Lao-Tai group has lower poverty rates, a consequence of living in lowland and easily accessible areas with more livelihood options.

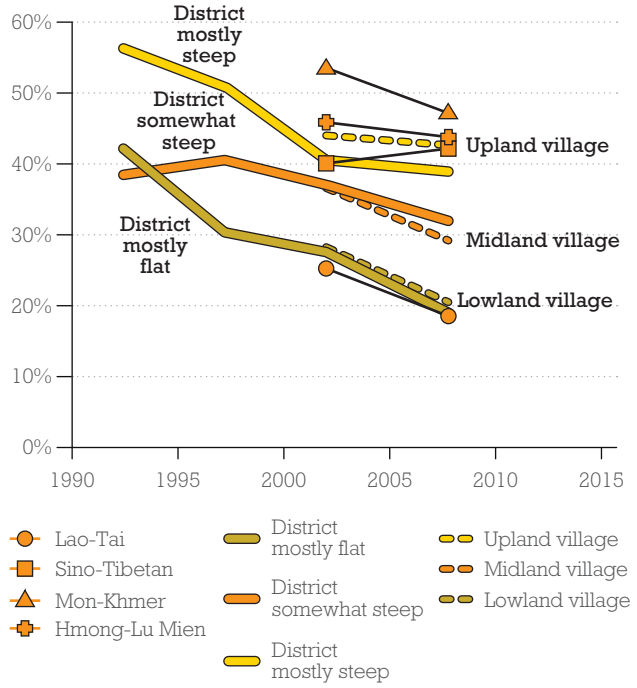
The first priority districts and second priority districts targeted by the government have seen significant reductions in poverty rates. The initial rise of poverty between 1992/93 and 1997/98 has been subsequently reversed. Progress has been greatest in the second priority districts, which have seen their poverty rate reduced by 22 percentage points between 1992/93 and 2008. Nonetheless, these districts still lag behind the 71 non-priority districts in the country, despite the government's efforts. Indeed, the disparity between the first priority districts and the non-priority districts has widened over time from 16 percentage points in 1992/93 to 24 percentage points in 2007/08 (figure 1.7). These first

Figure 1.5. **Percentage of population below national poverty line, by residence**



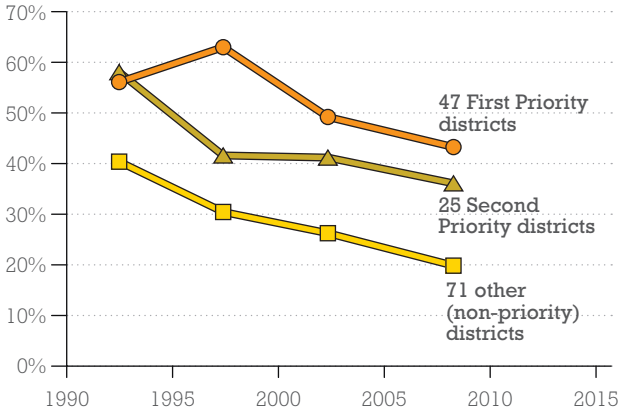
Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.6.
Percentage of population below national poverty line, by altitude, terrain and ethnic group



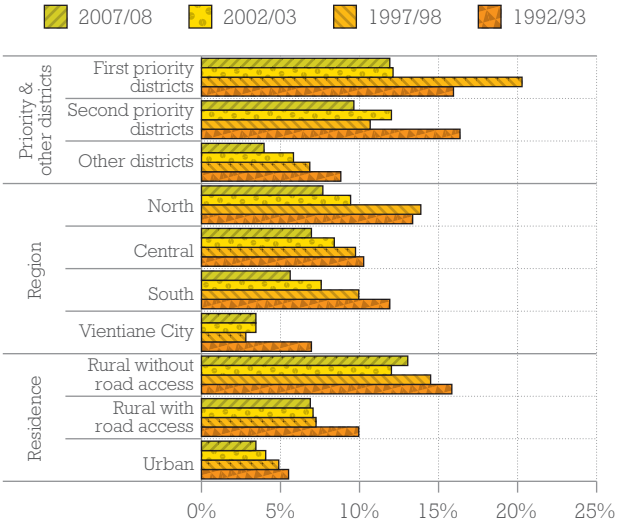
Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.7.
Percentage of population below national poverty line, by first priority, second priority and other districts



Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.8. **Poverty gap ratio over time, by socio-economic characteristics**



Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

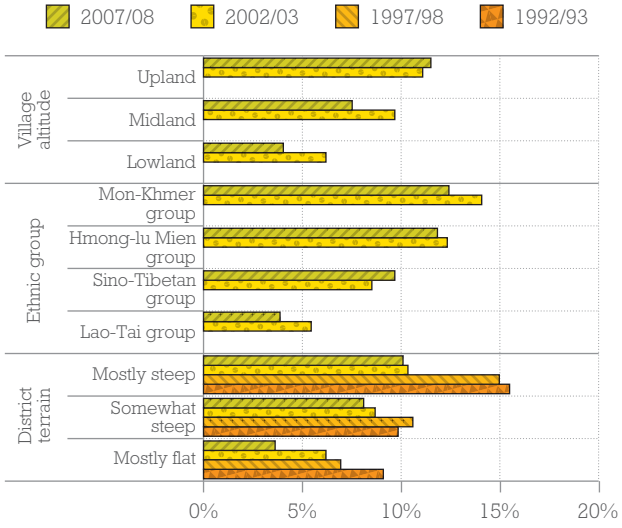
and second priority districts represent just 36 per cent of the total population, since many are sparsely populated highland areas, but account for 54 per cent of Lao PDR's total poor.

The poverty gap analysis shows that the poor in geographically disadvantaged areas are poorer than the poor elsewhere. The population living in rural areas without road access, steep mountainous districts or upland villages all have a poverty gap three times that of the other parts of the country. The decline in the poverty gap ratio shows stagnation or a slight reversal amongst these poorest groups between 1992/93 and 2007/08. A reversal means that the poor have become poorer. In contrast, the poor elsewhere in the country (such as the poor amongst the lowland ethnic groups) have become less poor, especially in rural areas with road access (Figures 1.8 and 1.9).

The severity of poverty has declined amongst most groups but has increased amongst the poorest in between 1992/93 and 2008 (Figures 1.10 and 1.11). Again, these are the groups living in rural areas without road access, steep mountainous districts and upland villages, the 47 first priority districts, and the ethnic groups living in these hard to access areas. The severity of poverty in rural areas without road access is 2.5 times the national average.

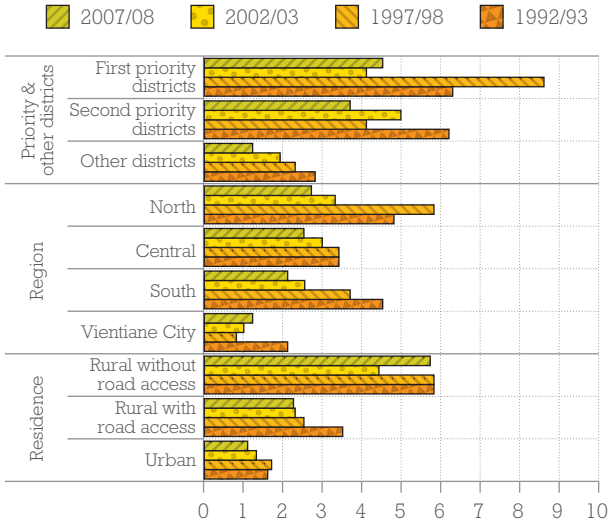
All administrative Regions have progressed in reducing poverty, although at variable rates. Poverty remains higher in the North Region, with a 33 per cent poverty rate and the highest poverty gap, despite its significant progress in reducing poverty by 19 percentage points from 52 per cent in 1992/93. The South has shown the greatest progress: a drop of 23 percentage points over the 15 years period. Vientiane city, the least poor throughout the three 5-year periods, showed an initial sharp reduction in poverty, but followed by a reversal of progress in 2002/03. Thereafter, poverty dropped only slightly (15.2 per cent in 2007/08), indicating that urban poverty is an emerging issue. This concern is echoed in the poverty gap ratio: Vientiane city shows no improvement over the last five-year period in this regard. The poverty severity in Vientiane City has also increased during the same period (Figures 1.8 and 1.10).

Figure 1.9. **Poverty gap ratio over time, by socio-economic characteristics**



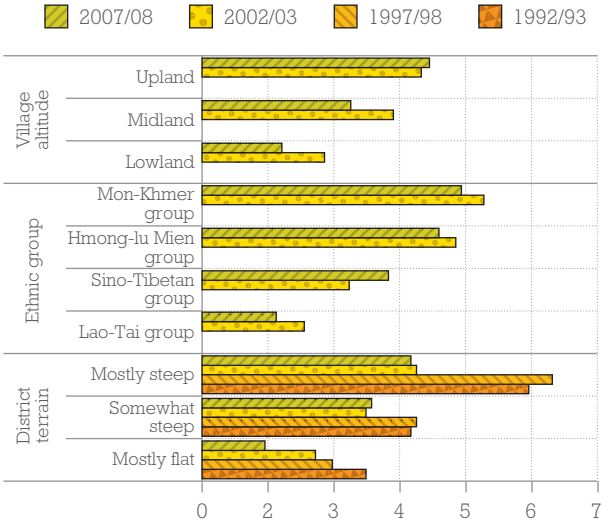
Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.10. **Poverty severity index over time, by socio-economic characteristics**



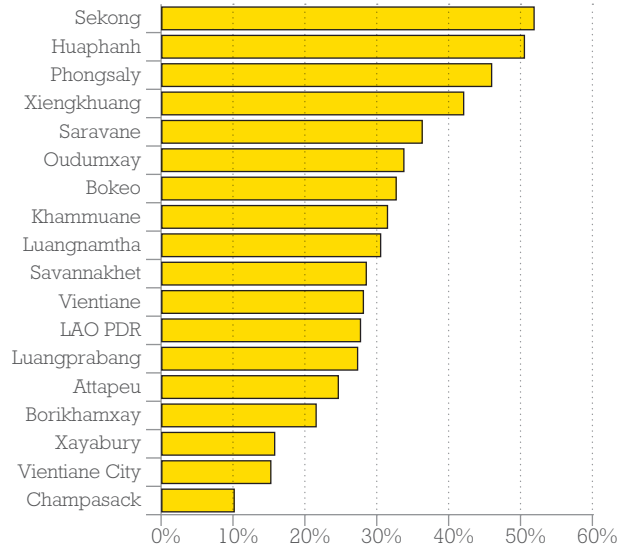
Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.11. **Poverty severity index over time, by socio-economic characteristics**



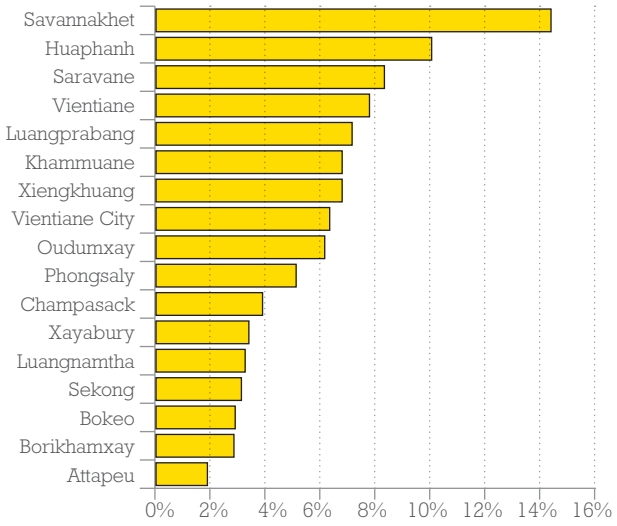
Source: Lao Expenditure& Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.12.
Poverty head count ratio by province, 2007/08



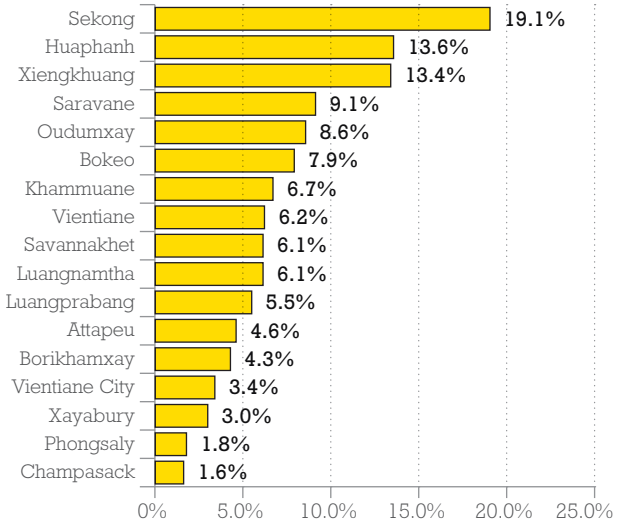
Source: Lao Expenditure& Consumption Surveys(LECS 4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.13. **Each province's share in total poor population, 2007/08**



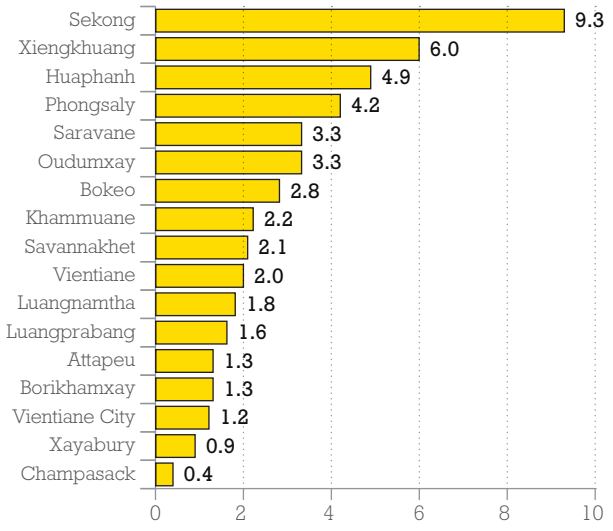
Source: Lao Expenditure& Consumption Survey (LECS 4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.14. **Poverty gap ratio by province, 2007/08**



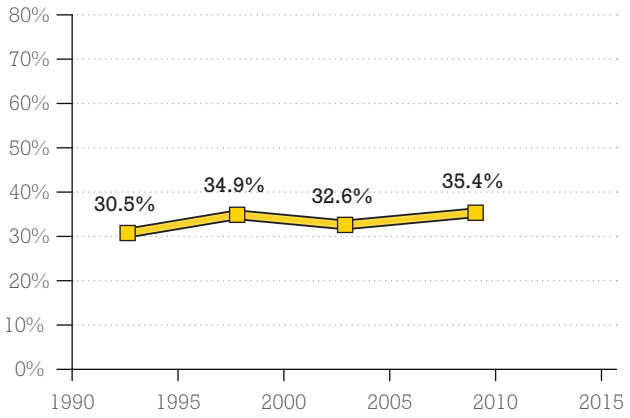
Source: Lao Expenditure& Consumption Surveys (LECS 4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.15. **Poverty severity index by province, 2007/08**



Source: LECS 4

Figure 1.16. **Gini index 1992/03 - 2007/08**



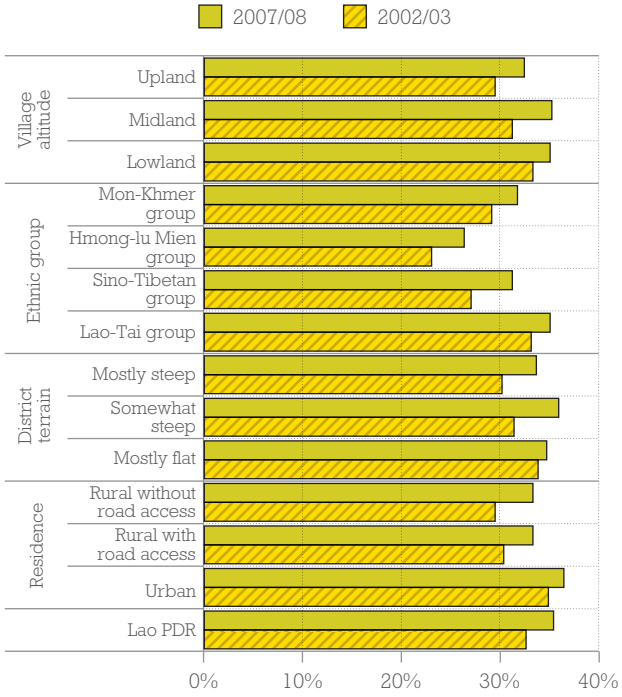
Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

The provinces with the highest poverty rates in 2007/08 were Sekong, Huaphanh and Phongsaly (figure 1.12). However, in terms of percentage share of total poor, Savannakhet, Huaphanh and Saravane top the list. Savannakhet accounts for the largest share of poor (14 per cent), although its poverty rate is close to the national average (Figure 1.13). Sekong, Huaphanh and Xiengkhuang top the list of provinces in terms of the depth of poverty, having poverty gaps of 19, 14 and 13 per cent respectively of the poverty line in 2007/08. These same three provinces, together with Phongsaly, also have the most severe poverty amongst the 17 provinces, with poverty severity index twice or nearly twice the national average (figures 1.14 and 1.15).

Consumption inequality

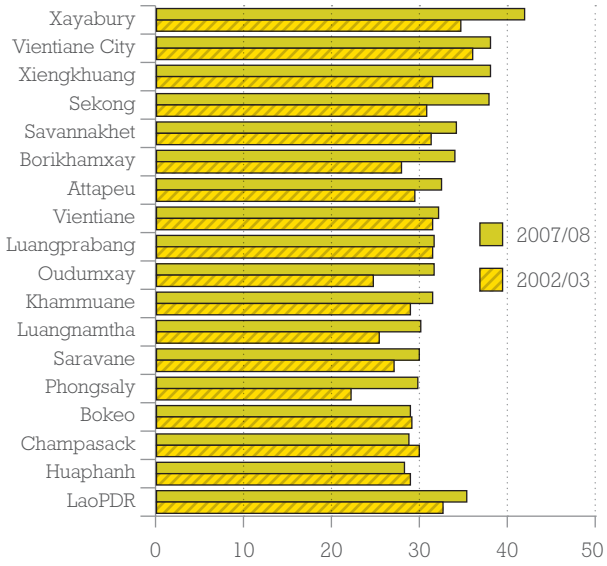
Consumption inequality in Lao PDR has increased by 5 percentage points from 1992/93 to 2007/08 (figure 1.16). Lao PDR's Gini coefficient is still low compared to some other countries in the Association of South East Asian Nations (ASEAN), but Lao PDR is also one of the two ASEAN countries with available data where inequality is rising. Some of the inequality could be due to wage decompression, which occurs in the transition to market economies as the state loosens its controls over wages, leading to wages being increasingly determined by the market rather than administratively.

Figure 1.17. **Gini index over time by socio-economic characteristics**



Source: Lao Expenditure & Consumption Surveys (LECS 3-4), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.18. **Gini index over time by province**



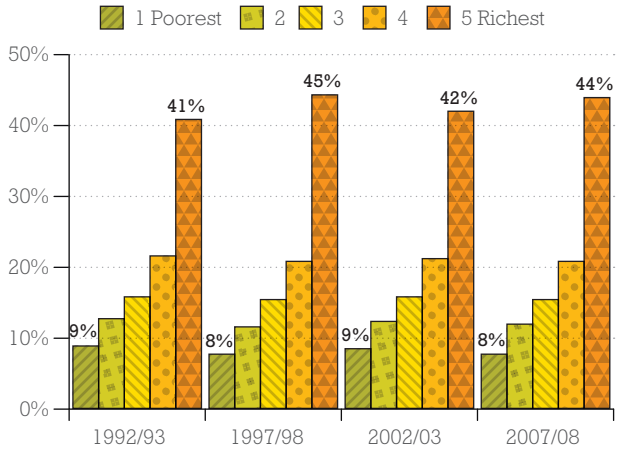
Source: Lao Expenditure & Consumption Surveys (LECS 3-4), Lao Statistics Bureau, Ministry of Planning & Investment

Subnational trends indicate that consumption inequality has increased in practically all population groups. The highest Gini indices are found amongst those in urban areas, those living in midland villages, districts with "somewhat steep" terrain and amongst the ethnic groups living in the lowlands. The higher levels of inequality in urban areas indicate greater variation in income livelihoods and consumption levels[9] (figure 1.17).

Amongst the provinces, Xayabury, Vientiane City, Xiengkhuang and Sekong have the highest consumption inequality, with Gini index higher than the national value. Most provinces have become more unequal over the period 2002/03 to 2007/08. Only Huaphanh, Champasack and Bokeo have seen a reduction in inequality. These three provinces also have the lowest Gini indices (figure 1.18).

The share of consumption attributed to the richest quintile has largely driven the inequality trends. In comparison, the consumption shares attributed to the other quintiles have changed only slightly (figure 1.19). In 2007/08, the richest 20 per cent of the population accounted for 44 per cent of total consumption whilst the poorest 20 per cent accounted for only 8 per cent of consumption. Breaking down the consumption quintiles into deciles shows that the top 10 per cent of the population accounts for 29 per cent of the total national consumption. The share of the poorest quintile in national consumption, an MDG indicator, has shown no improvement since 1992/93, declining instead by one percentage point.

Figure 1.19. **Share of national consumption by quintile, 1992/93-2007/08**



Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Calculations show that the rate of poverty alleviation would have been even higher without adverse distributional changes. Between 2002/03 and 2007/08, strong growth pushed down poverty rates, but increasing inequality held back the potential impact of growth on poverty. Overall, consumption growth amongst households below the poverty line has been slower than growth for the rest of the population. However, despite increases in inequality, most of the population experienced an improvement in material welfare.[10]

Table 1.2. Growth-Inequality Decomposition of Changes to Poverty Headcount, Lao PDR

	1992/3 1997/8	1997/8 2002/3	2002/3 2007/8	1992/3 2007/8
Poverty Headcount:				
Beginning of period	46.0	39.1	33.5	46.0
End of period	39.1	33.5	27.6	27.6
Annual change to poverty headcount	-3.2%	-3.0%	-3.8%	-3.4%
Growth component	-5.0%	-1.7%	-6.1%	-4.7%
Redistribution component	1.8%	-1.3%	2.3%	1.3%

Source: Ministry of Planning and Investment, Department of Statistics, 2010: Poverty in Lao PDR, 2008: Lao Expenditure and Consumption Survey 1992/93-2007/08

Key determinants

At the national level, the country's rapid economic growth has largely benefited the poor, decreasing not only the national poverty headcount ratio, but also the poverty gap and the severity of poverty. However, the growth has not benefited some of the poorer groups, especially those in geographically disadvantaged areas, where the severity of poverty has increased. The rapid growth has also increased inequalities, especially between rural and urban areas.

The variation in poverty across Lao PDR is due to many interconnecting factors. These include geography, ethnicity, livelihoods, farming productivity, the presence of water and irrigation for agriculture, the ownership of land and livestock, transport, infrastructure, access to markets and credit, the extent of contamination by UXOs, the size of family, relocation and migration patterns, and urbanization. Some of these factors are discussed further below. The relative importance of each factor varies. Land allocation and soil depletion problems are more common in the northern and eastern parts of the country, while for the southern parts, natural disasters are a major concern. Large family size is a high concern for people in the central region. Opium addiction is a contributing factor in the north. The lack of roads, and the problems associated with pests and livestock diseases are problems common to all regions.[11] Corruption is a crosscutting factor that impedes poverty alleviation efforts (Box 1.3).

Geography and livelihoods are important determinants of poverty distribution. Over half the country's population lives in steep mountainous districts or upland areas that are difficult to access and are remote from markets. Rural areas lag behind urban areas largely because of having less livelihood options, although pockets of urban poverty are emerging. Amongst the rural areas, those suited to growing rice and other crops and easier to access are less poor than the more remote areas, which are cut off from infrastructure and markets. Thus the North, with its mountainous and rugged land, remains poorer than the other regions, despite its wealth of natural resources. Ensuring viable livelihoods in these areas remains a priority (Box 1.4). In contrast, Vientiane City and Champasack Province in the south, with adequate infrastructure and numerous livelihood opportunities, have the lowest poverty rates.

Poverty is higher amongst certain ethnic groups. Different ethnic groups tend to have distinct livelihoods and live in different locations, and are therefore subject to different factors of geography, altitude and land productivity. The ethnic groups such as Lao-Tai, who traditionally live in fertile, lowland areas with higher agricultural productivity, tend to have more livelihood options and lower

Box 1.3. Corruption and poverty

The Millennium Declaration highlights governance and corruption as key issues. The United Nations Secretary General, in his message on the International Anti-Corruption Day 2012, stressed the importance of addressing and preventing corruption. He said that addressing the problem of corruption had become "all the more urgent" as the international community strived to "achieve the Millennium Development Goals by 2015 and forge an agenda for economic and social progress in the years beyond." He pointed out that the cost of corruption is measured "most poignantly in the absence of the hospitals, schools, clean water, roads and bridges that might have been built with that money and would have certainly changed the fortunes of families and communities."

Corruption affects the poor most, since it increases the price for public services, lowers the quality and often restricts poor people's access to essential services. Corruption impedes poverty alleviation efforts by reinforcing inequality and distorting public expenditure allocation.

Corruption is not a problem peculiar to Lao PDR. It can be seen anywhere in the world. However, corruption is not inevitable. The Lao PDR enacted the Anti-Corruption Law in 2006 and ratified the United Nations Convention against Corruption in 2009. The government is trying to mobilize a society-wide effort against corruption by raising awareness and by strengthening capacity. Supporting the government in the fight against corruption is crucial to realizing the MDGs and the commitments in the Millennium Declaration.

Box 1.4. Alternative Development

The Government of the Lao PDR has done its utmost to reduce illicit opium poppy cultivation. In 1998, at the UN General Special Session on Drugs, Lao PDR committed to significantly reducing illicit opium poppy crop production. By 2006, intensive efforts by the country had led to a reduction in illicit opium poppy cultivation by some 94 per cent.

However, from 2007 to 2012, the situation reversed and opium poppy cultivation has more than doubled. Lao PDR is now the third largest producer of illicit opium in the world. Much of this cultivation is due to the lack of food security and the extreme poverty amongst many farmers.

Expanded and intensified efforts are needed to reduce poverty amongst these communities. Where such communities were able to benefit from programmes for alternative development, the illicit cultivation of opium poppy has been successfully stopped. However, the coverage of such programmes remains limited and requires urgent scaling-up.

poverty rates. Other ethnic groups, who live in plateau or mountainous terrain, engage in agricultural practices adapted to these less productive lands. These groups often rely on forest products as an income source and have fewer livelihood options. In certain ethnic groups, women and girls lag behind men and boys in many respects, and the impact of poverty on women in these groups is often more severe.

At the national level, the major drivers of poverty reduction include the liberalization of the private sector, increased electrification, expansion of the road network, and increased access to markets for trade and employment. Lao PDR's increased integration with regional neighbours has led to benefits for a significant part of the population. Thus, urban areas and districts along the Thai border have experienced rapid growth and accelerated poverty reduction, with poverty rates at 16 per cent in 2007/08. The China-Myanmar and Cambodian border regions have also seen impressive declines in poverty, overtaking inland districts in the process. However, the areas bordering Vietnam have been slow to show progress, with less than 4 percentage point decrease since 1992/93 and a still-high poverty head count of 55 per cent. Limited cross-border infrastructure has been attributed as the main cause.[12] As the Lao economy becomes more open to global markets and increasingly marketized, new forms of vulnerability, such as exposure to external shocks, will inevitably arise.

Infrastructure development and improvement in access have contributed significantly to poverty alleviation. Urban areas and lowland areas have benefitted from rapid improvements in infrastructure alongside economic development. By 2011, 96 per cent of urban areas and 70 per cent of all rural villages with road access had electricity; 87 per cent of all villages in Lao PDR were within one hour's walking distance to a primary school; and 62 per cent were within two-hour' walking distance to a dispensary or hospital. However, infrastructure development has lagged behind in upland and plateau areas. Some 55 per cent of upland villages do not have a year-round motor road to the village. In 2011, only 39 per cent of rural villages without road access had electricity whilst two-thirds of these villages were more than two hour's walk away from a dispensary or hospital. Nonetheless, 69 per cent of these rural remote villages were within an hour's walk of a primary school, a significant achievement.[13]

Overall, provinces with high poverty rates also have poor infrastructure. Sekong, Phongsaly and Huaphanh, which have the highest poverty rates, also rank among the most deprived in terms of year round road access, access to health facilities, and connection to the electricity grid. In Phongsaly, only 11 per cent of villages are connected to the electricity grid and 34 per cent of villages have year-round road access. Two thirds of villages in that province are more than two hours' walk from a dispensary or hospital.[14]

Access to credit depends on household capital and banking infrastructure. Therefore, wealthier households can obtain agricultural credit more easily. The credit is used to buy crop inputs, farm machinery, farm animals and livestock. Credit is easier to obtain in rural areas that are more accessible: 47 per cent of villages in rural areas with road access have access to credit, as opposed to 31 per cent of villages in areas without road access. Credit is also easier to obtain when the farm size is bigger: 16 per cent of farms with 3.0 hectares of land or more have credit, compared with 8 per cent of those with less than 0.5 hectare of land. Large holdings are more likely to receive credit from banks whilst small holdings are more likely to receive credit from Village Development Funds.[15]

1.3.3. Government policies, programmes and strategies strategies

The Seventh NSEDP (2011-2015) has a strong focus on sustainable economic growth and poverty reduction. The Introduction Chapter provides the targets and expected outcomes of the NSEDP. The NSEDP explicitly mentions poverty reduction, the reduction of disparities between urban and rural areas and between rich and poor in two of its five outcome areas.

The government is making special efforts to tackle disparities and reduce the remoteness of villages. Strategies include providing basic infrastructure and services in remote areas, improving the skills of local populations and providing incentives such as compensations and allowances for government workers serving in remote areas.[16] In addition, the government is promoting measures to improve food security and nutrition in the uplands, support Farmer Organizations, and increase the commercialization of the agriculture sector and production of cash crops. All these will go a long way towards alleviating poverty in the areas currently lagging behind. In addition, the recently launched National Governance and Public Administration Reform Programme 2011-2015 is expected to address weaknesses in management and public service delivery.

The National Committee for Rural Development and Poverty Eradication (NCRDPE) monitors poverty regularly. It was established in 2006 under the Prime Minister's Office. The mandate of the NCRDPE is to coordinate poverty reduction efforts amongst line Ministries and between central and local authorities, improve the effectiveness of efforts in poverty reduction and in addressing UXO issues, and monitor and evaluate changes in poverty levels. From 2006 to 2010, 20 Ministries were in its Steering Committee, each represented by a focal point for the Committee's work. The role and responsibilities of the Committee were re-defined by Prime Ministerial decree 20/PM in 2012.[17]

To better target the poorest, the government has refined its poverty and development criteria in accordance with Prime Ministerial Decree 201/PM (2012). Previously, in 2004, the government's National Growth and Poverty Eradication Strategy[18] had defined 47 priority districts and 25 second priority districts. A set of criteria were used to identify these priority districts. As mentioned in the previous section on subnational poverty trends, the targeted districts have seen significant reductions in poverty rates. In 2010, the focus of poverty eradication changed from poor districts to the poorest villages and households, in order to make interventions more effective and inclusive. The NCRDPE uses the government's new guidelines on poverty and development criteria for evaluating the poverty and development status at each level every year.

The NCRDPE is in charge of coordinating the Rural Development and Poverty Eradication Five-Year Plan. The Five-Year Plan targets 64 priority areas for rural development, which are selected based on (i) the high poverty and remoteness of the area; (ii) the suitability of a given area to become a learning model for the investment and creation of new jobs in the country, or for the stabilization of shifting cultivation, especially in the north. The geographic spread amongst provinces is also a consideration in the selection of these priority areas. In addition, the Five-Year Plan has targeted 167 areas for the establishment of stable settlements. The land allocation scheme promotes resettlement from poor and remote villages on a voluntary basis together with alternative livelihoods. However, the government still requires support in implementing such policies, which aim to consolidate villages and stabilize settlements and livelihoods.

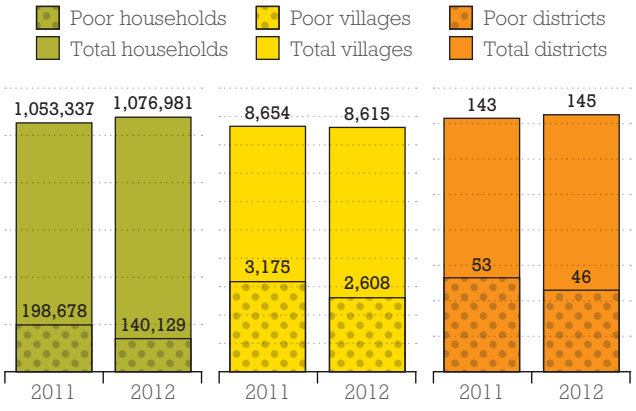
For the Committee's work in the regular monitoring of poverty, the poverty definition is based on income and access to basic services, and not on consumption. The household is the smallest unit. In 2013, households are considered poor when they have an income (or the equivalent in kind) less than the defined threshold: this is around LAK 192,000 per person per month (LAK 240,000 for urban and LAK 180,000 for rural households). Villages are considered poor when one of the following five criteria is not met:

- Income: 50 per cent of households in the village have an income less than the defined threshold above,
- Education access: within one hour's walking distance from a complete primary school,
- Health access: with two hours' walking distance from a health clinic,
- Easy access to water: the water source must be in the village or very close by,
- All-weather road access: it is possible to reach the village safely by car during all seasons.

Poor districts are those where 50 per cent or more of the villages in that district are poor, according to the above criteria.

The Committee's work in poverty monitoring confirms that the decline in poverty has continued steadily. From 2011 to 2012, the number of poor households declined from 198,678 to 140,129 households (18.9 to 13 per cent of all households); the number of poor villages declined from 3,175 to 2,608 (36.7 to 30.3 per cent of all villages); and the proportion of poor districts declined from 53 to 46 districts (37.1 to 31.7 per cent of all districts) (Figure 1.20). By looking at poverty from the perspectives of

Figure 1.20.
Number of households, villages and districts that are poor by NCRDPE criteria compared to total households, villages and districts in Lao PDR, 2011 and 2012



Source: National Committee for Rural Development and Poverty Eradication (NCRDPE) 2013

income and access to basic services, the Committee's monitoring work usefully complements the results from LECS, which are available only once every five years. ***The government is also taking special measures to address concerns about the threat facing rural livelihoods as agricultural lands are converted into land used for foreign direct investments***. For example, the government has established special revenue-sharing arrangements for the Nam Theun 2 Hydroelectric Project, with funds flowing to health, education, rural infrastructure and environment. In addition, there are special schemes for direct intervention, including a village poverty eradication fund and a fund for small entrepreneurs in the poorest districts.

1.3.4. Challenges and Opportunities

The work of the NCRDPE needs stronger support. The NCRDPE is the only body coordinating and regularly monitoring poverty reduction efforts. The challenges that it faces are formidable. These include a limited budget relative to its mandate to address a range of issues across several sectors, limitations in the number of qualified technical personnel, and challenges in encouraging stakeholder participation in poverty reduction and development efforts.[19] The last is particularly difficult. Most stakeholders live in remote mountainous areas without road access and are ethnic groups with different languages and different cultural norms and perceptions. Most are poorly educated and are heavily dependent on natural resources for their livelihoods. Any attempt to consolidate villages or stabilize settlements and livelihoods therefore becomes a challenge.

To sustain high growth and benefit from the demographic dividend, Lao PDR needs to address the issue of low human capital, which impedes growth and constrains competitiveness in non-resource sectors. The country needs to equip young people with the necessary entrepreneurial and technical skills for private sector growth and economic diversification. It also needs to provide an enabling environment for the private sector, so that demand for labour increases and the opportunities for better employment increase for the young and growing population. Reform of education and training systems are necessary to develop well-functioning labour markets that meet the needs of investors and the country's long-term economic goals. Additionally, strategies to increase worker productivity require actions to improve the nutrition and health of the workforce.

More equitable and inclusive growth needs to be promoted by reallocating revenues from the resource sector to broader economic and social development. Improved environmental and natural resource management will be required to reduce risks to the resource based sectors and to ensure that current and future generations can benefit from economic growth. At the same time, growth in the agriculture sector also needs to be accelerated, as the majority of the population continues to rely on the agriculture sector for its livelihood. The growth should be ecologically and socially sustainable. It should support domestic priorities and generate just and equitable employment. Institutional governance mechanisms will need to be strengthened.[20 21]

Tailored interventions are needed for the poorest groups, where the lack of access to infrastructure, markets and services remain barriers to growth and poverty reduction. These groups, as seen in previous sections, lag behind in poverty alleviation and economic development, despite government efforts to improve their situation. Together with the government's on-going efforts to improve access and infrastructure, the interventions for these groups should include specific strategies for increasing their access to resources and markets, preventing child malnutrition, protecting against health shocks, and ensuring long-term investments in education and skills training. A regression study of household per capita consumption[22] indicates that the underlying models of living standards, human development and gender relations are structurally different across the different ethnic groups. To be successful, therefore, policies aimed at raising welfare and reducing poverty levels must be tailored to each ethnic group's specific needs, capabilities and gender gaps.

Policies for consolidating villages and stabilizing settlements and livelihoods should ensure not only adequate infrastructure provision, but also capacity development and access to productive land for resettled groups. Existing government policies focus on access to basic services, land tenure and agriculture. The policies promote the resettlement of highland households in areas where it is easier to access and provide public services, and where the people can engage in more productive cultivation, rather than shifting agriculture. Nearly 900 villages in Lao PDR have been resettled in the last ten years, including one in every five upland villages.[23] However, the implementation has not always worked out as planned. For the resettled groups to benefit, the infrastructure provided should be adequate, and accompanied by programmatic activities such as agricultural extension, training and public health outreach. The last is especially important since highland ethnic groups face health problems in the new environment, such as malaria, which are not common in the highlands.[24] The selection of the relocation areas is also important in preventing tension and additional pressure on resources. The process should avoid selecting relocation areas where much of the productive land has already been claimed by lowland groups.

1.4. Ensuring full and productive employment

1.4.1. Introduction

Employment and other MDGs

Full and productive employment is essential to improve life prospects and reduce poverty. Employment is a means to ensure more equitable distribution of wealth. It narrows the income gap between urban and rural areas by widening the country's productive base through diversification and investments in human capital. There is empirical evidence that the link between productivity growth and poverty reduction is strong when productivity growth and employment growth go hand in hand. Employment also has close links with education and gender. Young people will fully benefit from economic growth only when their education and skills are in line with labour market needs. Women's empowerment and gender equality are essential to improve the quality of the labour force, since women constitute half the labour force in Lao PDR. Conversely, having decent work is one of the avenues for women to become more empowered. The quality of the labour force is crucial for improving natural resource management, particularly in extractive industries. Such linkages mean that integrated approaches to employment are essential for effective national and subnational development planning.

Employment and LDC graduation

The MDG target on employment is closely linked to two of the three LDC criteria (Box 1.1). Progress towards full and productive employment and decent work will have a long-term beneficial impact on improving performance in GNI per capita, one of the criteria for LDC graduation. Employment is also indirectly linked to EVI, a country's capacity to react to shocks (i.e., its resilience), the second criteria used in categorizing a country as LDC. A country with a productive workforce is likely to be more resilient to shocks and have a more productive economy than one that does not. Indirectly, employment is also linked to HAI: sound employment policies that are well-implemented will raise incomes and make it more likely for the country to improve adult literacy and secondary school enrolment, and reduce malnutrition and the under-five mortality rates.

1.4.2. Assessment and analysis

Labour productivity growth

Labour productivity is useful in assessing the likelihood of a country's economic environment to create and sustain decent employment opportunities with fair and equitable remuneration. However, data on labour productivity should be interpreted with caution. Labour productivity growth is not always associated with employment growth; nor does it guarantee progress toward full and productive employment and decent work for all. Nonetheless, improvements in employment opportunities and conditions of work are less likely to occur without productivity improvements. Labour productivity growth relies on a number of factors, including increased efficiency in the use of labour; increased use of physical or human capital or intermediate inputs; and shifts in the mix of activities in the economy. An economy might shift from sectors or activities with low levels of productivity to those with higher levels of productivity. In such cases, it is important that labour productivity growth be accompanied by improvements in education and training systems, so that the workforce is prepared to work in the new sectors or in the new type and pace of activities in the same sectors. Hence, encouraging the mobility of workers into high-productivity activities or sectors requires a responsive training system that is linked to the relevant enterprise or sector.

Lao PDR has seen its labour productivity (defined as GDP per person employed) grow from 1995 to 2010, but largely because of high economic growth. The GDP growth rates are about three times the growth in employment levels. The MDG indicator defined by the ILO as annual growth in labour productivity (the GDP growth per person employed) over the same 15 year-period has remained positive throughout (Figures 1.21 and 1.22). Interpreting the high labour productivity growth requires examining the employment to population ratio (see next section), the nature and quality of employment generated by the economy and the nature of GDP growth. The GDP growth in recent years has been resource-driven and capital intensive, which increasingly limits the creation of livelihoods and jobs for workers, risking a situation of "jobless growth." The high growth rates of GDP per person employed will translate into benefits for the working population only if the economic growth can create a sufficient number of decent employment opportunities with fair and equitable remuneration. Data on productivity in terms of output per worker by sector are not available and would have been more indicative. The 2009 National Human Development Report estimates labour productivity in agriculture to be 4-10 times less than that in non-agriculture sectors.[25]

Box 1.5. Calculating labour productivity growth for Lao PDR

The growth of labour productivity is defined as the growth rate of gross domestic product (GDP) per person employed – in other words, the growth rate in the output per person employed, whether in the formal or informal sectors.[a] In Lao PDR, statistics on the number of self-employed and family workers in agricultural and informal activities can only be obtained through labour force surveys and censuses. Since self-employment and informal activities account for a substantial part of labour input in Lao PDR (see sections on employment to population ratio and vulnerable employment), labour statistics in the formal sector (which are available) cannot provide sound proxy indicators.

The 2010 Labour Force and Child Labour Survey was the first one of its kind in Lao PDR. This survey and the 1995 and 2005 censuses, conducted by the Lao Statistics Bureau, provide statistics on the number of employed people in both formal and informal sectors.

This MDG Progress Report adopted the following method recommended by the International Labour Organization (ILO) to calculate labour productivity growth for Lao PDR. The total number of employed people in 1995 and 2005 (Figure 1.21) was obtained from the 1995 and 2005 censuses by applying the definitions of employment comparable to those used by the 2010 Labour Force survey. The definitions of employed in the censuses included the categories of government employee, parastatal employee, state enterprise employee, employer, own account worker, and unpaid family worker. This produced three data points (1995, 2005, and 2010) for the number of people employed over a 15-year period. The standard formula for Compound Annual Growth Rates was applied to these three data points, yielding average annual growth rates in labour productivity for the periods 1995-2005 and 2005-2010:

$$LP19952005_{growth} = \left(\frac{GDP_{2005}/Employed_{2005}}{GDP_{1995}/Employed_{1995}}\right)^{\frac{1}{2005-1995}} - 1$$

$$LP20052010_{growth} = \left(\frac{GDP_{2010}/Employed_{2010}}{GDP_{2005}/Employed_{2005}}\right)^{\frac{1}{2010-2005}} - 1$$

[a] Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/

Employment-to-population ratio

The ETPR in Lao PDR has declined from that in 1995, but is still amongst the highest in the region. The employment-to-population ratio for Lao PDR was 78 per cent in 2010 (Figure 1.21). A high ratio indicates that a large proportion of the working-age population is employed. A low ratio indicates that a large share of the population is not involved directly in economic activities.[26] Cambodia, Myanmar and Vietnam have comparable ETPRs, at 81, 76 and 75 per cent respectively, whilst Philippines and Thailand have lower ratios (60 and 71 per cent respectively).[27]

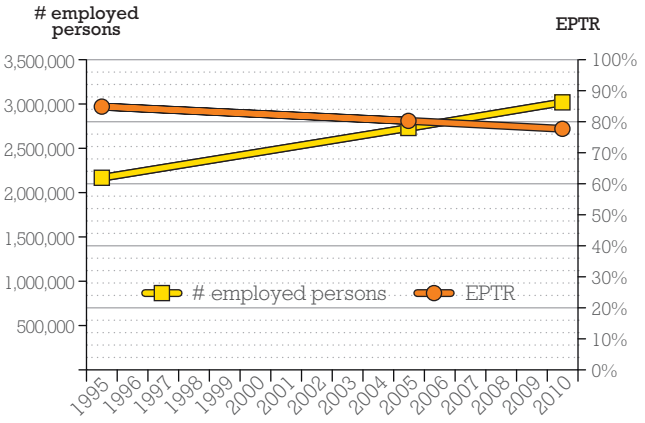
The high ETPR means that the quality of work may be a key concern. This is because relatively high ratios in poor countries (e.g., above 80 per cent) usually means an abundance of poor quality jobs. During the development process, employment-to-population ratios and poverty rates can both be high because people simply have to work to survive.[28] In Lao PDR, a large percentage of employed people work in semi-subsistence agriculture (see below), which is the main driver of the high ETPR.

The country's demographic dividend presents the challenge of increasing decent work opportunities for the new "youth boom." Taking into account the demographic trends and the declining dependency ratio of the country, the ILO predicts that Lao PDR will have a projected labour force of some 4 million by 2020.[29] The proportion of the working-age population is expected to rise from 57 per cent in 2005 to some 62 per cent by 2020.[30] Creating decent work employment opportunities will be even more challenging given that the young people will be predominantly from rural areas, and often with limited education.

The ETPR is highest in the remote rural areas without road access and lowest in urban areas (Figure 1.23). This appears to be linked to three factors, which support the statement above on poor quality jobs. First, the urban population is generally more affluent and is under less pressure to work. Second, the poverty rates are highest in the remote rural areas; combined with these high poverty rates, the high ETPR indicates that the jobs in these areas are likely to be poor quality jobs at which people work to survive. Third, in urban areas and in better-off rural areas, a larger proportion of young people are pursuing educational opportunities.

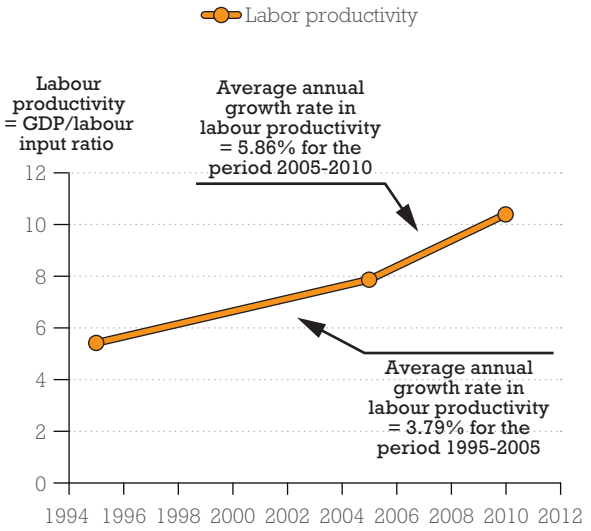
A comparison of the ETPR across provinces shows considerable variation (Figure 1.24). This ranges from 68 per cent in Vientiane city to over 80 per cent in Phongsaly, Attapeu, Savannakhet, Bokeo, Saravane and Khammuane. The pattern is hard to interpret: there appears to be no association with the 2008 poverty rates by province, largely because the provinces contain a mixture of rural and urban, poor and non-poor. The exception is Vientiane city, which has a lower ETPR than the average urban population. The city represents the better-off urban population, who are generally under less pressure to work and more able to engage in educational or leisure pursuits.

Figure 1.21.
Number of employed persons and Employment to Population Ratio (EPTR), 1995-2010



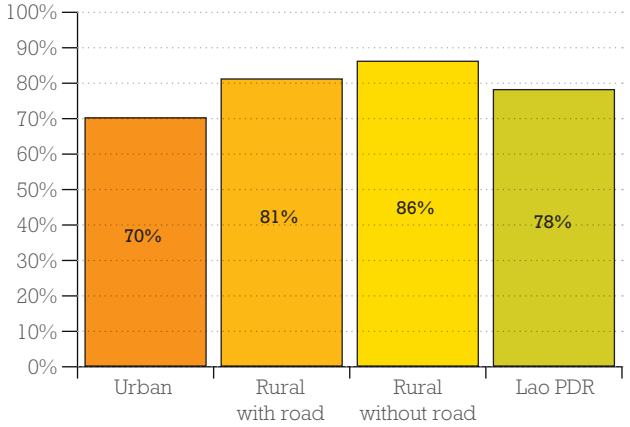
Source: 1995 & 2005 censuses, 2010 Labour Force Survey. Lao Statistics Bureau (LSB), Ministry of Planning & Investment

Figure 1.22.
Labour productivity and labour productivity growth 1995-2010 (growth rate of GDP per person employed)



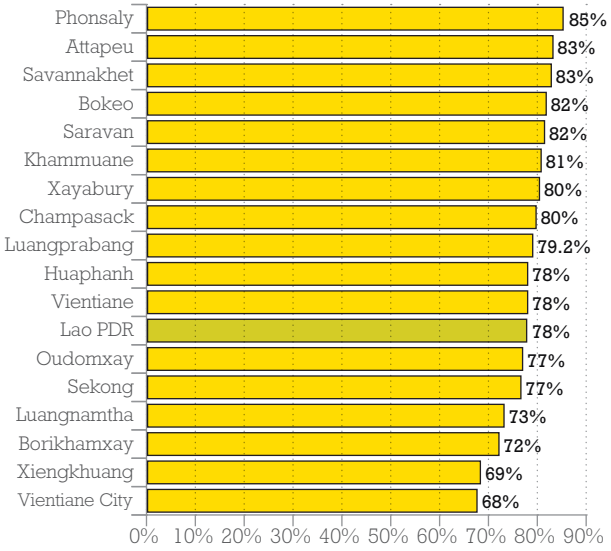
Source: 1995, 2005 censuses, 2010 Labour Force Survey. Lao Statistics Bureau (LSB), Ministry of Planning & Investment

Figure 1.23.
Employment to population ratio by residence



Source: Lao PDR Labour Force Survey, 2010

Figure 1.24. **Employment to population ratio by province**



Source: 2010 Labour Force Survey. Lao Statistics Bureau (LSB), Ministry of Planning & Investment.

The share of working poor

The proportion of poor people amongst those employed gives an indication of the lack of decent work in a country. On this indicator, the UN notes, "Jobs that do not provide incomes high enough to lift individuals and their families out of poverty, at the very least, do not fulfil the income component of the definition of decent work. Within the development process, the share of working poor should decrease, and in turn, further foster development."[31] Since data for the official MDG indicator was not available (Box 1.6), this Report uses a proxy indicator.

The proxy indicator is the percentage of employed population from households in the two poorest quintiles, as defined by the wealth index. The Lao Statistics Bureau computed the wealth index for the Labour Force Survey using the wealth index methodology of the global Demographic and Health Surveys,[32] a methodology also followed by multiple indicator cluster surveys (MICS) in the Lao PDR. The wealth index method uses factor analysis to allot a combined score to each household based on their assets and amenities. Using the combination score, households are divided into five classes, poorest to richest.

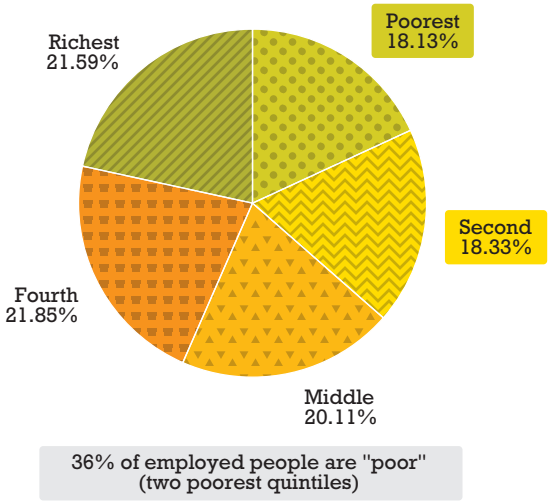
The survey's wealth index shows that 36 per cent of employed people belong to the two poorest quintiles of the household population (Figure 1.25). This is a rough estimate of the proportion of employed people who are classified as poor. Clearly, this proportion is not the same as the proportion of employed people living

Box 1.6. Calculating the share of working poor

Ideally, the share of working poor is given by the proportion of employed people living below the national poverty line or below the international poverty line (US$ 1.25 per person per day measured at 2005 international prices adjusted for PPP). This calculation requires knowing the percentage of employed population that come from households deemed poor by the country (in other words, households that fall below the national poverty line). LECS produced consumption data to determine the proportion of households that are deemed poor. However, these surveys did not collect data on employment status. The Labour Force Survey in 2010 collected data for the first time on the employment status of people in both formal and informal sectors, but it did not collect expenditure or consumption data. Therefore, this indicator cannot be calculated even if cross-tabulation is done at household level between the two surveys. If data on this indicator are desired, future LECS will need to incorporate an employment module. Conversely, future labour force surveys will need to incorporate consumption or income modules.

Instead, this Report uses a proxy indicator to gauge the proportion of employed people who are poor (see text).

Figure 1.25.
Proportion of employed people by wealth index: poorest, second, middle, fourth and richest quintiles of the household population, 2010



Source: 2010 Labour Force Survey. Lao Statistics Bureau (LSB),

below the national poverty line. Nonetheless, with currently available data, this proxy indicator provides the closest indication of the quality of work and remuneration. The Labour Force Survey shows that the household population in these bottom wealth quintiles are less likely to have various amenities, services (such as clean water and toilets), and are more likely to be affected by droughts, disasters, and catastrophic health expenditure. The poorer quintiles of the household population also show the highest employment to population ratio. The poorest quintile of the household population has an ETPR of 85 per cent whilst the richest quintile has an ETPR of 71 per cent. This is consistent with the assumption in the previous section that the more affluent groups are under less pressure to work and may engage in educational and leisure pursuits.

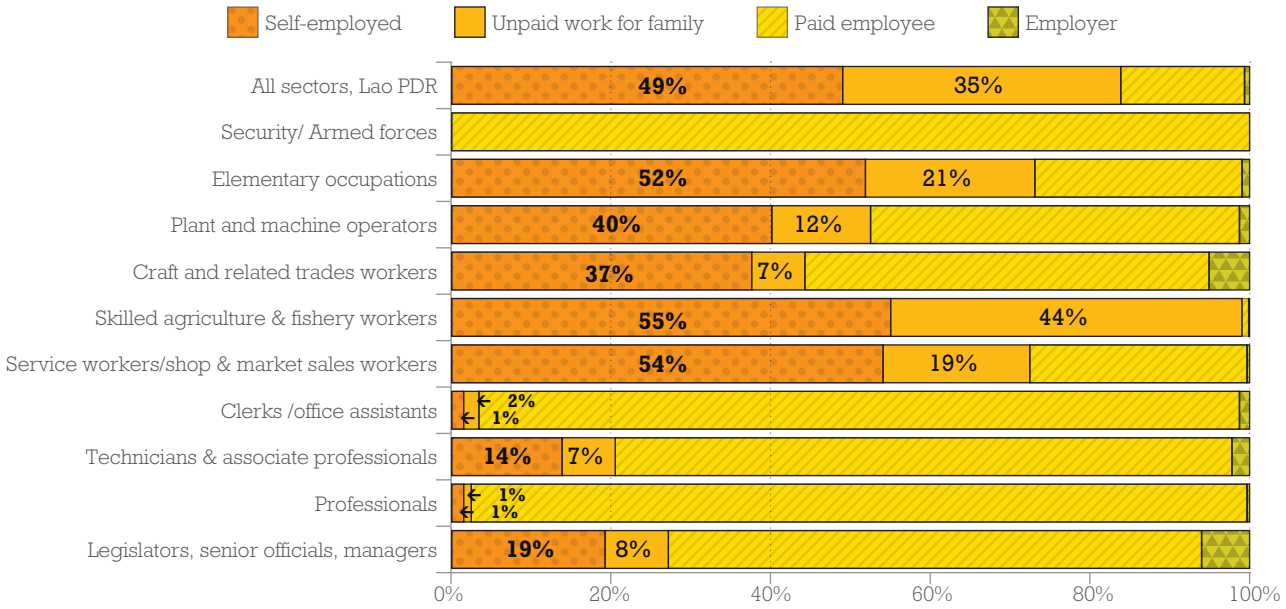
The share of vulnerable employment

The share of vulnerable employment in Lao PDR is very high. Own-account workers and unpaid family workers – defined by the ILO as ''vulnerable employment'' (Box 1.7) – constitute 84 per cent of the total labour force (Figure 1.26). The rest (employers and paid employees) account for 16 per cent. The country's high levels of vulnerable employment are due to the predominance of the agriculture and fishery sector, and the services sector (shop and market sales workers, and elementary occupations).[33] The workers in these sectors of employment account for 70, 9 and 6 per cent respectively of the overall Lao PDR labour force (Figure 1.27). Within these three areas, respectively 99, 73 and 73 per cent of workers are in vulnerable employment, i.e., either self-employed (but not employer) and in unpaid work for the family. Almost all the persons engaged in agriculture and fishery are either self-employed (55 per cent) or are unpaid family workers (44 per cent) (Figure 1.26). These are the workers who are often unable to generate sufficient savings for themselves and their families to offset declines in income during economic downturns. The category called ''paid employees'' comprises largely the security or armed forces, professionals, clerks, and office assistants. Chapter 3 provides a gender analysis of vulnerable employment.

Unemployment

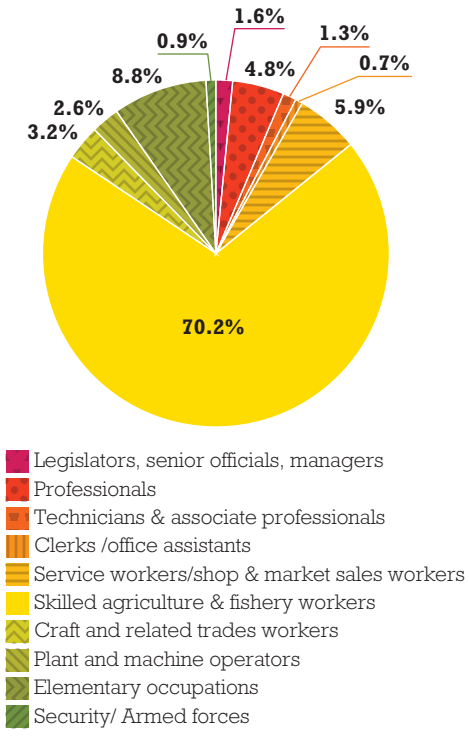
The unemployment rate is low, at only 1.9 per cent in 2010. The unemployment rate for males, at 1.8 per cent, is marginally lower than that for females (2.0 per cent). The estimated total number of currently unemployed females (30,000) is also higher than that of the males (28,000). The unemployment rate is highest in urban areas (3.2 per cent), and lowest in rural areas without road access (0.7 per cent). Those from the poorest quintile of the household population have the lowest unemployment rate (0.8 per cent), whilst the unemployment rate in the richest quintile of the household population is 3.8 per cent. Unemployment is highest in the younger

Figure 1.26. **Total employment by type of employment (Percentage)***



*Does not include "Not Recorded" category
Source: Lao PDR Labour Force Survey, 2010

Figure 1.27. **Employment by sector (Percentage of total employed)**



* Does not include " Not Recorded" category.
Source: 2010 Labour Force Survey. Lao Statistics Bureau (LSB), Ministry of Planning & Investment

age groups (15 to 24 years), it then declines until age 60 when it rises again. Although the survey tried to find out the reasons for unemployment, answers were not obtained from the majority of respondents. The survey results merely showed that the poor (from remote rural areas and from the poorest quintiles of the household population) have the lowest unemployment rates, because these groups cannot afford to remain without working. In other words, they simply have to work to survive, whatever the quality of work. On the other hand, urban and more affluent groups can afford to be more selective about the nature of work.

Child labour

The 2010 Child Labour Survey, the first ever undertaken by Lao PDR, highlights the government's commitment to protecting children and implementing the ILO conventions on child labour. Lao PDR's Labour Law 2006 sets the minimum age for working children at 14 years (Box 1.9). However, as in many other developing countries, Lao PDR's enforcement and monitoring systems still need strengthening. The Child Labour Survey provides a useful baseline and insights, which will assist Lao PDR in strengthening the implementation of the national law on child protection and the National Plan of Action on the elimination of the worst form of child labour.

The survey underscored the inverse relationship between child labour and education:

• Almost 94 per cent of children in child labour had either discontinued or dropped out of school or college (71.5 per cent) or had never attended school or college (24.2 per cent).

Box 1.7. Definition of vulnerable employment

Vulnerable employment is defined by the International Labour Organization (ILO) and the United Nations as a measure of "persons who are employed under relatively precarious circumstances as determined by their status in employment."[a] It is the sum of own-account workers and contributing family workers.

- Own-account workers are those workers who, working on their own account or with one or more partners, hold self-employment jobs and who have not engaged on a continuous basis any employees to work for them.
- Contributing family workers, also known as unpaid family workers, are those workers who are self-employed in a market-oriented establishment operated by a related person living in the same household, but who cannot be regarded as partners because their degree of commitment to the operation of the establishment (in terms of factors to be determined by national circumstances), is not at a level comparable to that of the head of the establishment.

The Lao PDR Labour Force Survey differentiated between paid employment and self-employment. Persons working in paid employment are employees who earn wages, salaries, commission, tips, etc. in cash or kind. Persons working on their own (or in household enterprises for profit or family gain) are in self-employment, and they may be employers, own-account workers, members of producers' cooperatives, or contributing family workers. For Lao PDR, own-account workers and contributing family workers (which is unpaid family work) together constitute the workers in "vulnerable employment" as defined by international standards.

[a] Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/

Box 1.8. Definition of "Currently Unemployed"

The strict international standard definition of unemployment is based on three criteria to be satisfied simultaneously. These criteria are 'without work', 'currently available for work', and 'seeking work'. However, the 'seeking work' criterion is usually considered too restrictive and is often relaxed for countries in which the labour market is not well developed.[a]

The Lao PDR Labour Force Survey defines the "currently unemployed" as those persons who did not have a job or business, or were not employed, and who either looked for work in the last 7 days preceding the survey, or were available for work, even though they did not look for work in those 7 days. The reason the last group did not look for work was that they thought no work was available, or they were waiting for the results of previous enquiries, or they were waiting to start work, or they considered that it was the off-season for fishing or agriculture.

[a] International Labour Organization http://www.ilo.org/ilostat/

- More than two-thirds of child labourers had attended school/ college at one point or another, although at the time of the survey, only 6.5 per cent of child labourers reported currently attending school or college.
- More than a third (38.7 per cent) of child labourers who had never attended school gave their reason of "not interested in school." Another 16.2 per cent of these children reported that they were "too young" to attend school, although this did not deter them from working. Around 10 per cent gave the reason that they could not afford schooling and 11 per cent stated that their families did not allow schooling. A significant proportion of child labourers cited financial reasons for never having gone to school: they could not afford school, they had to work for pay, or they had to work in the family business.
- Amongst the child labourers who dropped out of school, the predominant reason was "not interested in school" (32 per cent), followed by "cannot afford schooling" (21 per cent) and "study finished" (18.6 per cent).
- To the question of why they were working, 35 per cent of child labourers responded that it was to supplement family income; 8.2 per cent gave the reason of being not interested in school; 4 per cent reported not being able to afford school fees. The rest did not give any reason.

About 15 per cent of children aged 5 to 17 years are working children or children in employment[34]. A slightly higher proportion of girls aged 5-17 years are engaged in employment (17 per cent) than are boys (13 per cent). Some 10 per cent of this age group are deemed to be in child labour (in other words, two-thirds of working children). Most of these working children are above the legal age of 14 years, but over one-quarter (28 per cent) of working children is below the legal age, although this is against the Labour Law (Figures 1.28 and 1.29).

Box 1.9. Definition of Child Labour in Lao PDR

Lao PDR's Labour Law 2006 sets the minimum age for working children at 14 years. The Law does not allow children between 14 and 18 years to work under hazardous working conditions or for longer than 48 hours per week. The Labour Law provides a detailed specification of activities harmful to children's physical and psychological health. These comprise any work that is more than 48 hours a week (6 days a week; 8 hours a day) and any of the following work, all of which is classified as hazardous work:

- All types of mining
- Production activities that use chemicals, explosives or toxic substances
- Work involving the handling of human corpses
- Overtime work
- Work in environments with excessive noise
- Work in places serving alcohol or with gambling
- Work at night from 10 pm to 5 am the next day
- Work that is specified in Article 16 (direct exposure to radiation or to dangerous communicable diseases; direct exposure to vapour or smoke that is dangerous to health; direct exposure to dangerous chemicals, such as explosives; working in pits, or in underground tunnels, underwater or in the air; working in an abnormally hot or cold place; and working directly with constantly vibrating equipment)

The 2010 Labour Force and Child Labour survey applied the term ''child labour'' to the following:

- All children of aged 5-17 years who are working for more than 48 hours in a week, whatever the sector or type of work
- All children aged 5-17 years working in the mining and construction industries
- All children aged 5-17 years working in specified hazardous occupations (see above) and
- Children aged 5-13 years who are working for any number of hours.

Other working children are not considered ''child labour.'' They are called ''working children other than child labour.'' Child labour is thus one component of working children. For the survey, hazardous child labour is defined as children engaged in hazardous industries or hazardous occupations, as above, or children who work for more than 48 hours per week.

The proportion of working children rises to 35 per cent for the age group 14-17 years. Whilst Lao PDR's Labour Law allows this age group to be legally employed, it also means that the majority of these children are not in school. Indeed, the survey shows that nearly 37 per cent of children in the age group 14-17 years are not in school, comprising 29 per cent who had dropped out and 7 per cent who had never gone to school.

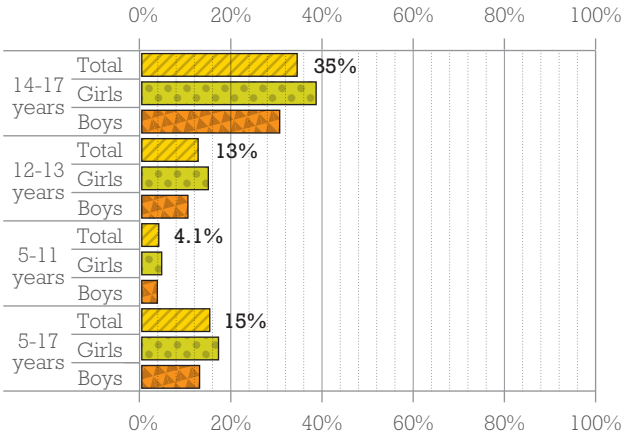
In Lao PDR, child labour and working children are largely rural phenomena (Figure 1.30). The majority (74 per cent) of working children live in rural areas with road access; 15 per cent live in rural areas without road access; and only 11 per cent in urban areas. Some 90 per cent of working children are employed in the agriculture, forestry and fishing sectors, whilst the rest are spread amongst many sectors – the most notable being manufacturing (2.9 per cent) and wholesale and retail trade and repair businesses (2.9 per cent).

Because they work in the informal sector and because of their age, child workers are highly vulnerable. 67 per cent of working children aged 5 – 17 years are in unpaid family work, and 25 per cent are self-employed or own-account workers. Some 7 per cent work as employees and less than 0.5 per cent of working children are employers (Figure 1.31). However, unlike adult workers, working children who are ''employees'' are no less vulnerable than own-account or unpaid family workers. Children who work as employees are vulnerable to abuse and may be forced to work long hours. Domestic work is prominent amongst children who are paid employees: 27 per cent of children who are paid employees are domestic workers (18.8 per cent for girls and 34.8 per cent for boys). Private businesses employ 90 per cent of children who work as employees, whilst government agencies (state enterprises and/or civil servants) employ the remaining 10 per cent of employees in the age groups 12-13 and 14-17 years. The representation of females among the paid employees is at 52.5 per cent and is slightly lower than their overall representation in the working children (55.2 per cent).

Half the working children (49 per cent) work under conditions hazardous to health and well-being. Two per cent of all working children received work-related injuries or illnesses attributed to their work; this proportion is slightly higher amongst boys (2.3 per cent) than amongst girls (1.8 per cent). The reported effects include injuries, fever, extreme fatigue and breathing problems, eye problems, skin and stomach problems. The hazardous conditions cited by working children include lifting heavy loads, operating heavy equipment, verbal or physical abuse, exposure at the workplace to dust, fumes, gas, flames, loud noises, vibrations, insufficient ventilation, underground work, work at heights and work with explosives. Both mining and construction industries are hazardous for child workers. The survey

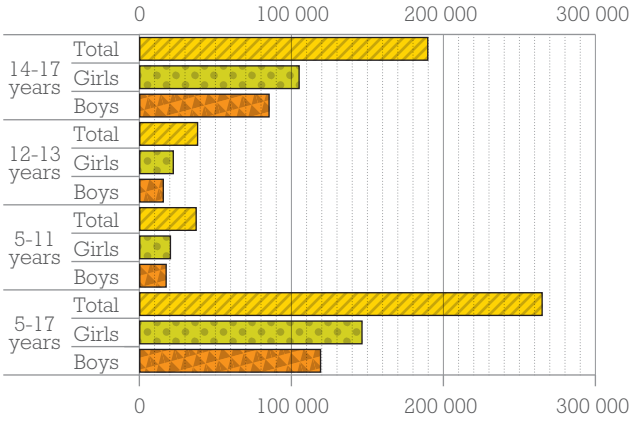
found that nearly all of the working children in the mining/ quarrying industry were female, whereas 80 per cent of the child workers engaged in construction were male. The exposure to adverse working conditions is even more common amongst child labourers aged 14-17 years. Nearly half (47 per cent) the working children aged 5 to 17 years work longer than 48 hours a week, although the law does not permit this. In addition to this work, child workers spend an average of nine hours a week at household chores, mainly laundry, cleaning and cooking (89 per cent of boys and 93 per cent of girls). In comparison, only 70 per cent of children who are not economically active do household chores, showing little difference between girls and boys.

Figure 1.28. **Percentage of children who are in employment, by age and sex, 2010**



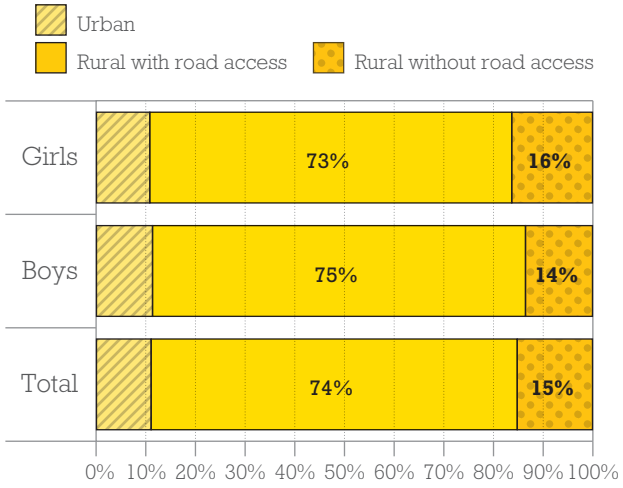
Source: Child Labour Survey 2010, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.29. **Number of children in employment (working children) by age and sex, 20109**



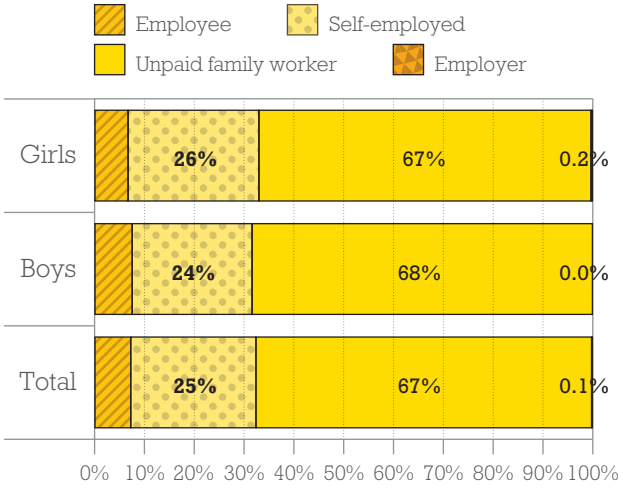
Source: Child Labour Survey 2010, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.30. **Percentage of working children by residence, 2010**



Source: Child Labour Survey 2010, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.31. **Percentage of working children by status of employment, 2010**



Source: Child Labour Survey 2010, Lao Statistics Bureau, Ministry of Planning & Investment

1.4.3. Government policies, programmes and strategies

Since joining the ILO in 1964, Lao PDR has ratified eight ILO Conventions. These include five of the eight ILO Core Conventions, covering forced labour, equality, discrimination and child labour. The child labour Conventions ratified by Lao PDR are Convention No. 138 concerning Minimum Age for Admission to Employment, and Convention No. 182 on the Worst Forms of Child Labour. Lao PDR is now stepping up the implementation of these child labour Conventions. As part of this commitment, the government successfully conducted the national child labour survey in 2010 and drafted a National Plan of Action in 2012 on the elimination of the worst form of child labour in Lao PDR. Both steps are crucial in implementing these two Conventions ratified by Lao PDR. Greater effort is now needed to strengthen national capacity and systems to respond to child labour issues, build inter-sectoral alliances, particularly between the agriculture and education sectors, and finance the implementation of the National Plan of Action.

Lao PDR has also ratified the Conventions to promote gender equality and advance decent work for women. These were the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) ratified in 1981, and the 1958 Discrimination (Employment and Occupation) Convention (No. 111) and the 1951 Equal Remuneration Convention (No. 100), both of which were ratified in 2008. Gender equality principles are also affirmed by the Constitution of the Lao PDR, the 2004 Law on the Development and Protection of Women, and the Labour Law amended in 2006. Extensive awareness raising and capacity building are required to apply these principles into labour market practices amongst employers and workers, governmental agencies and mass organizations.

The current regulations set out in the Labour Law are inadequate to meet the changing context of employment and the industrial landscape in Lao PDR. The Lao Federation of Trade Unions (LFTU) has raised concerns that the labour law is not implemented and enforced at the workplace level. In addition, legal mechanisms are inadequate to protect union officials with regard to union activities. Relative to the growing number of enterprises, the number of labour inspectors is insufficient and the training provided to these inspectors needs to be improved. The LFTU has proposed a partial revision of the labour law to give better protection to workers, including training on worker rights. In 2011, the Ministry of Labour and Social Welfare, together with the LFTU and the Lao National Chamber of Industry and Commerce, developed a draft Labour Protection Law in line with international labour standards. The draft Labour Protection Law was submitted to the Government in March 2013. The government is now revising the 2006 Labour Law in its entirety, and the revised Law is expected to be submitted for endorsement by the National Assembly in 2013.

Lao PDR has two main social security schemes. It also has a community-based health insurance scheme and a number of health equity funds. However, social security coverage is still low and implementation has been fragmented. The first social security scheme, the Social Security Organisation (SSO), is a contributory social-insurance based scheme that applies to private and state-owned enterprises with 10 or more employees. However, it is implemented in only 10 provinces (Bokeo, Borikhamxay, Champasack, Khammuane, Saravane, Savannakhet, Vientiane city, Vientiane province, Xayabury and Xiengkhuang). A law specific to social security is expected to expand the target population for the SSO scheme. The second social security scheme, the State Authority for Social Security (SASS), is a contributory scheme covering civil servants, who pay 8 per cent of their monthly pay to receive its benefits. Contingencies covered by the SSO and SASS are similar: employment injury, health, maternity, sickness, death, retirement, and invalidity.

1.4.4. Challenges and opportunities

Rural employment development strategies need to target the working poor and address the issue of vulnerable employment. The low unemployment rate and foregoing analysis show that most of the poor are employed, albeit in vulnerable employment, and possibly underemployed, perhaps seasonally. Providing families with income support through social safety nets and appropriate rural employment strategies could contribute to lifting these working poor above the poverty line. The government is piloting a rural employment strategy in Sekong province, one of the poorest in Lao PDR.

Strategies to reduce the vulnerability of employment need to start with the agriculture sector. The agriculture sector dominates Lao PDR's labour market. However, agricultural activities in Lao PDR tend to be labour-intensive and with limited margins, such that household incomes are low. Agricultural work is conducted on small plots of land, but small plots are not intrinsically problematic. Indeed, smallholder agriculture is important for sustainable food security.[35] Rather, reforms in agriculture are needed to expand output through productivity gains rather than greater land use.

Specific strategies are required to address the vulnerability in agricultural households.

• The first is improving market access. Strengthening market information systems, transport infrastructure, and making agricultural inputs (fertilizer, seed, machinery, etc.) more affordable are all parts of the solution.

• Second, as the rural economy of Laos shifts from a pre-market (that is, non-cash based) to a cash based market system, there is increasing need for paid income to cover household expenditure. Rural employment, both on- and off-farm, is going to be increasingly important, even if Lao PDR remains on a primary agricultural footing for the next ten years. There is, therefore, a need to generate employment in the community. In turn, this will require interventions to upgrade education and skill-bases, especially for women and girls.

• Third, access to credit and banking is partial and uneven for rural households across Lao PDR. Financial stability is a key element in reducing vulnerability, and microfinance and conventional banks should address this.

• Finally, any strategy to address rural vulnerability must improve the nutritional status of children and their families. Clearly, the health, water, sanitation and education sectors should come together to address this issue.

Vulnerable employment also extends to the informal economy. As in other developing countries in Asia, informal employment[3637] is widespread and often absorbs a greater proportion of ex-agricultural workers than the formal sector. Thus, the movement out of agriculture seldom leads to movement out of ''vulnerable employment,'' since the jobs these workers take up are often characterised by similarly low income and equally poor working conditions.

The constraints holding back the growth of decent work opportunities need to be addressed. Among the reported constraints to establishing and expanding micro, small and medium enterprises are excessive bureaucracy and regulation, the poor access to finance, underdeveloped value chains, and poor infrastructure.[38] For micro, small and medium enterprises, investment and technical assistance are required to better equip Lao youth with skills, competencies and access to resources. In addition, as mentioned above, reforms in agriculture are needed to expand output through productivity gains.

For a well-functioning labour market, Lao PDR will need not only appropriate labour market policies and programmes, such as employment services, but also changes in education and other parts of the economy. Recent economic growth in Lao PDR has yet to translate into sufficient employment opportunities for decent work. The country's narrow economic base, low secondary education enrolment and poor learning outcomes of the education system[39] risk trapping it in a vicious cycle of low-skilled, low value-added and low-wage employment. If skills are not improved, foreign direct investment (FDI) projects will be unable to find the labour they need and will recruit regionally, reducing the potential benefit of FDI-led investments. Furthermore, if jobs are not created to absorb the growing numbers of young people entering the workforce, these young people will tend to look abroad for economic opportunities, becoming migrant workers.

Lao migrants usually perform low paid and labour-intensive work. The majority are in neighbouring Thailand, where some 200,000 migrant workers are of Lao origin. These workers send remittances home worth around 7 per cent of GDP,[40] thus representing a critical financial lifeline for thousands of rural households. However, work conditions are poor for these migrants.

Low skills and employability are linked to the weakness in the education and training systems. The poor quality of technical and vocational education and training (TVET) means that young people do not receive adequate preparation for technical and managerial positions in the private sector. Recent TVET enrolment rates have been in decline. The current TVET system also lacks accepted national skill standards as a basis for establishing competency-based courses and curricula. This leads to an inconsistent quality and coverage of TVET programmes. The government recognizes the importance of developing an effective framework for national skills standards in conjunction with the private sector. To this end, it has already launched the first national skills standards for the construction and automotive sectors. More national skills standards will be developed. The challenge lies in applying the standards to curricula and implementation.

1.5. Halving hunger and malnutrition

1.5.1. Introduction

Nutrition and other MDGs

Child malnutrition, especially stunting, is damaging to the future earning capability of the nation. It not only affects a young child's development and education, but also persists into later life. Studies show that stunting in young children is closely associated with poor educational performance, reduced years of schooling and lower incomes as adults. Children affected by stunting are more likely to grow into adults who are less educated, poorer, less healthy and more prone to non-communicable diseases. Stunting is, therefore, a widely accepted predictor of the poor quality of human capital of a nation[41] and child growth is recognized as an important indicator of nutritional status and health in populations. Studies indicate that the economic costs of undernutrition, in terms of lost national productivity and economic growth, are significant, ranging from 2 to 3 per cent of a country's GDP[42] Malnutrition is also strongly associated with poverty.

Malnutrition is associated with high child mortality: progress in reducing malnutrition will help to reduce child mortality. Low birth weight, underweight status

and micronutrient deficiencies, particularly in vitamin A and zinc, are underlying causes of child death. Globally, underweight status is a contributing factor in some 53 per cent of all child deaths.[43] Yet three-quarters of children who die from causes related to malnutrition show no outward sign of their vulnerability. This is the danger of malnutrition – that it is often not recognized, not understood or not addressed, because the child is thought to be receiving sufficient food.

Poor nutrition amongst women causes poor health and contributes to high maternal mortality. Obstructed labour is more likely to occur among women who were stunted in childhood. Anaemia may be responsible for an estimated 20 per cent of maternal mortality, particularly those deaths from haemorrhage and infection. It also increases the risk of dying from any major surgical intervention, including Caesarean section. Women who are vitamin A-deficient are more prone to infections in pregnancy. Zinc deficiency, widespread among women in developing countries, is associated with long labour, which increases the risk of death. Severe zinc deficiency in the mother impairs foetal development and increases the likelihood of complications in pregnancy. Iodine deficiency in women increases the risk of stillbirths and miscarriages, and when severe, increases the possibility of maternal death through severe hypothyroidism. Folate deficiency in women induces neural-tube birth defects in their babies and increases the risks of maternal morbidity and mortality and low birth weight.[44]

Women's empowerment in education and income contribute to better nutrition for children. Improvements in child welfare depend not only on higher family income, but also on how household spending is allotted. Women tend to spend a higher proportion of their income on food for the family than do men.[45]

Linkages with LDC graduation

Progress in reducing hunger and malnutrition will contribute directly and indirectly to improving the HAI, one of the three LDC criteria (Box 1.1). This is because the HAI is a composite of the percentage of population that are malnourished, the under-five mortality rate, adult literacy rate and gross secondary education rate. Improvements in nutrition are linked to reduced under-five mortality rate, enhanced educational performance and ultimately, to improvements in secondary education and literacy rates. A more educated and healthier population, less prone to non-communicable diseases, also means improved productivity of the work force, all of which are linked to EVI and GNI per capita, albeit indirectly. A study has found that better nutrition of the workforce raises national productivity rates. Malnutrition in the workforce was found to cause up to 20 per cent of loss of productivity globally, and in Southeast Asia, the same study found that iron deficiency accounted for a $5 billion loss in productivity. In the developing world, a 1 per cent kilocalorie increase results in a 2.27 per cent increase in general labour productivity.[46]

1.5.2. Assessment and analysis

National trends

Comparisons with the stunting trends of other countries in the region[47] show that Lao PDR is lagging behind in reducing stunting. Among the countries compared, Lao PDR has the second highest rate of stunting, next only to Timor-Leste. Lao PDR's rate of wasting is lower than that of Cambodia, Indonesia and Timor-Leste. Since underweight is a composite of stunting and wasting, Lao PDR lags behind most other countries in the region primarily because of stunting, which has been persistently higher than most countries (figures 1.32 and 1.33).

Stunting in children remains the biggest challenge in Lao PDR, with an estimated 44 per cent of children under five years of age who are stunted. This translates to some 400,000 young children affected by stunting.[48] Recent data from LSIS suggest that the rate of decline in undernutrition is too slow (less than 1 percentage point per year) to meet national or international MDG targets. In fact, given an annual population growth of 1.4 per cent and an annual reduction in stunting of less than 1 per cent, the number of stunted Lao children is more likely to increase than to decrease. The country will need to have more than 2 per cent annual reduction in stunting to ensure a decline in the absolute number of undernourished children. The WHO global target for stunting is set at 40 per cent reduction in the total number of stunted children between 2012 and 2025, and 3.9 per cent relative reduction per year.[49]

One-quarter of the population (24.6 per cent) was living under the food poverty line in 2007/08.[50] Over the years, the food poverty rate has shown a variable trend, declining from 33 per cent in 1997/98 to 20 per cent in 2002/03 - a dramatic drop in just five years – but rising again to around 25 per cent in 2007/08 (figure 1.34). This rise is not necessarily due to the inability to buy food. Other reasons are examined below.

The Food and Agricultural Organization of the United Nations (FAO) estimates that the percentage of population whose food intake falls below the minimum level of dietary energy requirements has steadily declined to around 22 per cent in recent years. This represents the population at risk of caloric inadequacy.[51] This is not equivalent to the proportion of population below the food poverty line, as explained in Box 1.10.

Subnational trends

There are high inequities in stunting and underweight levels between children from the poorest and the richest quintiles. Moreover, there are signs of a widening gap between the poor and rich between 2006 and 2011/12. Most of the improvements in under-nutrition since 2006 were among children from wealthier quintiles, perhaps due to overall economic development and

Box 1.10. Nutrition indicators and data sources

Previous reports from the 1994, 2000 and 2006 Multiple Indicator Cluster Surveys (MICS) as well as the 1993 and 2011/12 Lao Social Indicators Surveys (LSIS) provide much of the data for the analysis of malnutrition and hunger. In addition, United Nations databases provided the re-calculated data according to new reference standards for child malnutrition.

Indicators for child malnutrition.
Underweight alone may be difficult to interpret since it is a composite indicator of wasting and stunting.[a] It is therefore important to examine both stunting and wasting. Stunting is the result of the cumulative effects of undernutrition and infections since and before birth (see text for other implications). Wasting indicates acute weight loss, the result of insufficient food intake or repeated infectious diseases, especially diarrhoea. Wasting impairs the functioning of the immune system and can lead to an increased risk for death. Lao PDR adopted the indicator on stunting in the 2008 MDG Progress Report. The 2013 MDG Progress Report examines both underweight and stunting but also looks at wasting to obtain a full picture of child malnutrition in Lao PDR. Table 1.3 indicates the World Health Organization (WHO) standards for the different levels of child malnutrition prevalence from the perspective of public health significance. [b]

The international reference population used
In April 2006, the WHO released the WHO Child Growth Standards (WHO Standards) to replace the previously used standards that measured child malnutrition against the 1977 National Center for Health Statistics (NCHS)/WHO reference population (NCHS Standards). There are important differences between these two reference populations. The WHO standards are generally regarded as a better tool to monitor the rapid and changing rate of growth in early infancy and more useful for the assessment of lactation performance and the adequacy of infant feeding. [c] Using the WHO Standards gives higher values for stunting and wasting, but lower values for underweight, compared to the NCHS Standards. Experts recommend using both during the transition between the former reference and the new standards.[d] This MDG Progress Report uses both standards in comparing the trends over time to ensure comparability with previous Reports, but uses the WHO standards in analysing subnational disparities, especially since the use of NCHS standards is being discontinued.

The MDG indicator for undernourished population
The proportion of people who are undernourished is measured by the following indicator: the percentage of the population whose food intake falls below the minimum level of dietary energy requirements. This indicator is based on calculations by the Food and Agricultural Organization of the United Nations (FAO) derived from three parameters: (i) the average amount of food available for human consumption per person, calculated from Food Balance Sheets (ii) the level of inequality in access to that food (based on the LECS consumption data and the sex-age population structure) and (iii) the minimum number of calories required for an average person. However, Lao PDR does not have viable Food Balance Sheets to properly calculate the dietary energy supply and FAO has calculated this indicator at national level only. FAO estimates that 22 per cent of the population consumed less than their minimum dietary energy requirements in 2006-2008.[e]

This MDG Progress Report uses a proxy indicator for undernourishment: this is the proportion of population below the food poverty line. This is derived by relating the monetary value of households' food consumption to a food poverty line representing the cost to buy sufficient food for providing 2,100 calories per day per person. The selection of food poverty as a proxy for undernourishment is that it has the benefit of being well documented in official reports. On the other hand, the proxy indicator substitutes a measurement based on kilocalories with one based on a monetary equivalent because of very weak or non-existent food balance sheets.

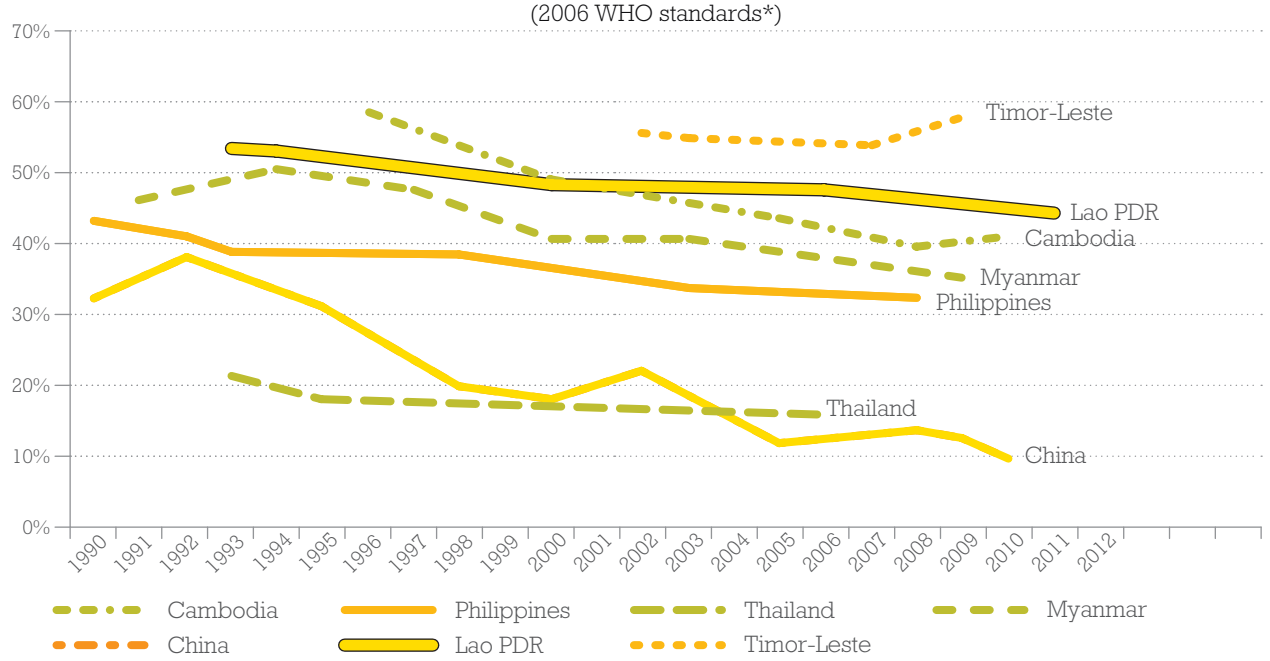
Table 1.3. Cut-off values in child nutrition indicators for public health significance

Indicator	Prevalence cut-off values for public health significance
Underweight (low weight for age)	< 10% : Low prevalence 10-19% : Medium prevalence 20-29% : High prevalence = 30% : Very high prevalence
Stunting (low weight for age)	< 20% : Low prevalence 20-29% : Medium prevalence 30-39% : High prevalence = 40% : Very high prevalence
Wasting (low weight for age)	< 5% : Acceptable 5-9% : Poor 10-14% : Serious = 15% : Critical

Reference: WHO (2010), Nutrition Landscape Information System (NLIS) Country Profile Indicators: Interpretation

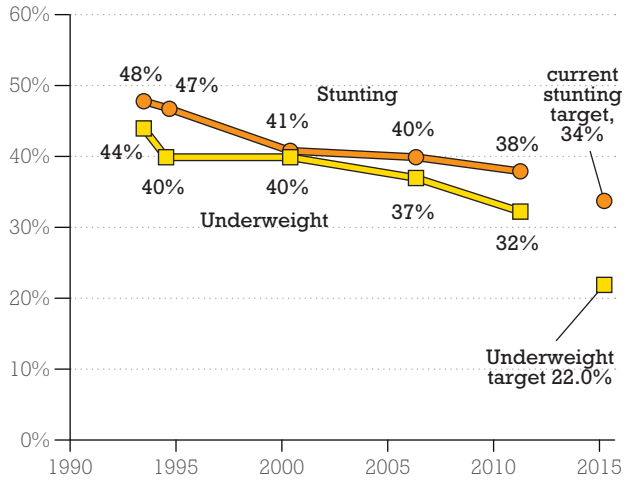
[a] WHO. http://apps.who.int/nutrition/landscape/help.aspx?menu=0&helpid=391&lang=EN
[b] WHO (2010);
[c] de Onis et al. (2006);
[d] Kothari et al (2009);
[e] Lao Statistics Bureau (2012a)

Figure 1.33.
Percentage of children under age 5 suffering from stunting countries
(2006 WHO standards*)



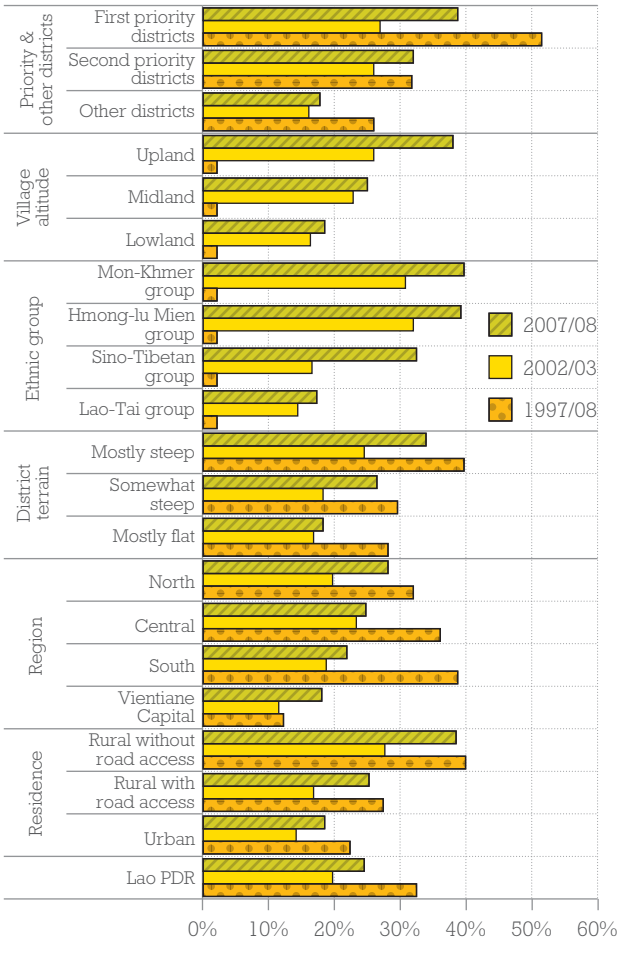
** Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards.*
Source: WDI for all countries. Lao PDR trend with LSIS 2012 data, WHO standards. Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.32.
Percentage of children under age 5 who are underweight & stunted, 1993-2012
(NCHS reference*)



** Expressed in percent below minus 2 standard deviation units from the median of the 1977 NCHS reference.*
Source: LSIS 1993 & 2011-12; MICS 1994, 2000 & 2006.
Lao Statistics Bureau, Ministry of Planning & Investment

Figure 1.34. **Percentage population below food poverty line by selected socio-economic characteristics over time**



Source: Lao Expenditure & Consumption Surveys (LECS 2-4),
Lao Statistics Bureau, Ministry of Planning & Investment

increased uptake of general health services. There was little progress among the poorest children (Figures 1.35 and 1.36).

Overall, the prevalence of malnutrition in boys is slightly higher than that in girls. This is to be expected, as in studies elsewhere in the world. Boys seem to be more vulnerable to health inequalities than are girls in the same age groups.[5253] (Figure 1.37).

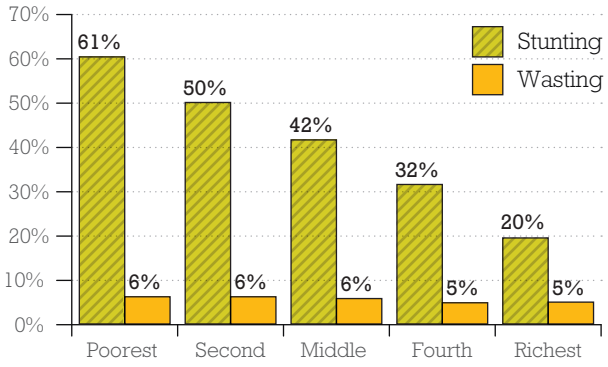
Child malnutrition is more pronounced in rural areas (Figure 1.37). Around half of all children in rural areas suffer from stunting (extremely high prevalence). Stunting prevalence in rural areas without road access is two times higher than that in urban areas. Wasting rates are highest in rural areas with road access and lowest in urban areas. Underweight, as mentioned previously, is a composite of stunting and wasting and repeats the patterns seen in stunting: children in rural areas without road access have high prevalence of underweight (32 per cent).

Children from ethnic groups living in remote mountainous areas are more malnourished than those from other groups (Figure 1.37). The higher stunting amongst ethnic groups living in high remote areas is associated with higher poverty rates amongst there groups. Wasting patterns are markedly different between ethnic groups. The Hmong-Lu Mien show the lowest rate of wasting amongst all groups, even lower than that in urban areas. The Sino-Tibetan group show the highest wasting rate. Underweight patterns reflect a mixture of stunting and wasting: a relatively low wasting rate means that the Hmong-Lu Mien have underweight prevalence lower than that in some other groups.

Amongst the regions, the North shows the highest prevalence of stunting. Although not as poor as the North, the South Region shows the highest prevalence of wasting, and therefore, the highest rates of underweight. The Central Region shows the lowest rates of stunting and underweight. Data disaggregated by province explains some of these trends. The northern provinces of Phongsaly, Huaphanh, Oudomxay and Luangnamtha and two southern provinces of Sekong and Saravane show the highest levels of stunting in Lao PDR. The contribution of Attapeu, Sekong and Saravane explains why the South has the highest prevalence of wasting (Figure 1.38).

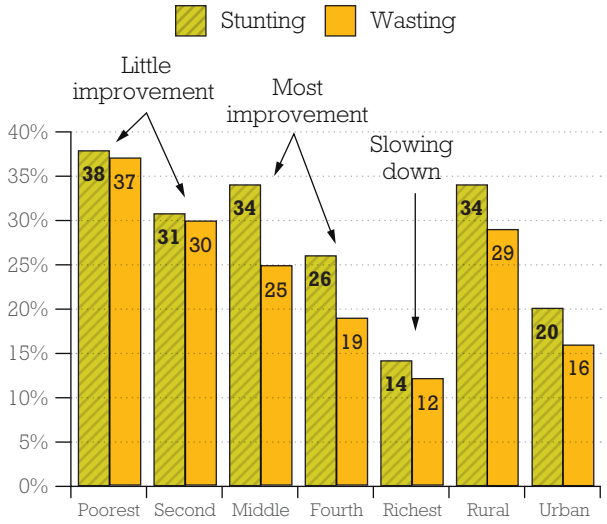
Food poverty appears to have increased in both urban and rural areas between 2003 and 2008, despite the generally declining poverty rates. Food poverty has also increased in poor districts (priority and second priority districts), amongst the four major ethnic groups and across all types of villages (figure 1.34). Comparisons between stunting and food poverty rates by province show that the three provinces with the highest levels of stunting (above 60 per cent, Sekong, Phongsaly and Huaphanh) have also food poverty rates higher than the national average. Five provinces with the highest food poverty rates also have very high rates of stunting (above 50 per cent). However, the relationship between food poverty and stunting is by no means clear-cut.

Figure 1.35.
Percentage of children under age 5 who are stunted & wasted by wealth quintiles, 2011-12
(2006 WHO standards*)



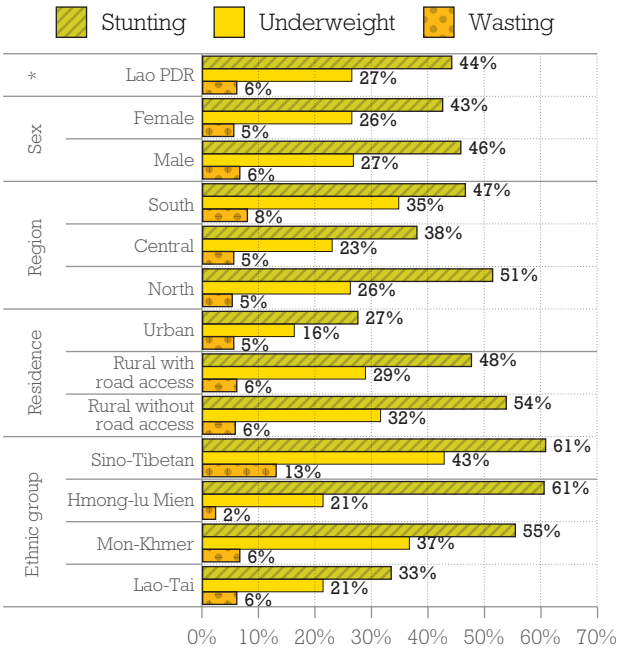
** Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards. Source: LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment*

Figure 1.36.
Trend in percentage of children under age 5 who are underweight, by wealth quintile and residence, 2006 and 2011 (2006 WHO standards*)



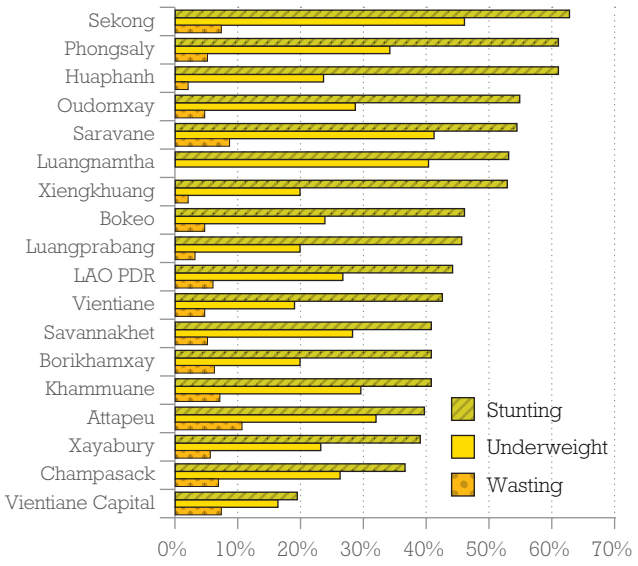
** Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards. Source: MICS 2006 recalculated with WHO standards & LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment*

Figure 1.37. **Percentage of children under age 5 who are stunted, underweight and wasted by sex and socio-economic characteristics 2011-12** (2006 WHO standards*)



** Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards. Source: LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment*

Figure 1.38. **Percentage of children under age 5 who are stunted, underweight and wasted by province, 2011-12** (2006 WHO standards*)



** Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards. Note: wasting data for Luangnamtha was removed due to data quality issues. Source: LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment*

Key determinants

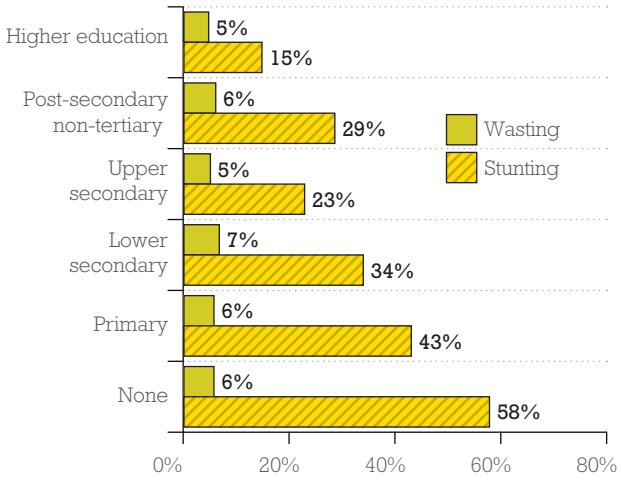
The main contributor to Lao PDR's high stunting prevalence is the stunting that takes place before the child's second birthday. When disaggregated by age, the data show that around 20 per cent[54] of Lao children below the age of six months already suffer from stunting. From 6 months to 2 years, the proportion of children who are stunted increases sharply to over 40 per cent, and thereafter increases only slightly, remaining at high to very high levels. The onset of wasting is also early, affecting around 6 per cent of children under six months and increasing thereafter. However, the prevalence of wasting goes down amongst children older than three years of age.

The importance of women's nutrition is often not realized. The process of becoming a stunted child begins in utero, and continues up to two years of age,[55] that is, the first 1,000 days of life. After this age, some catching-up might take place, but it is too late to undo the damage of the early years. Most stunted young children remain stunted through to adulthood.[56] The mother's health and nutrition status before and during pregnancy largely determines whether the unborn children will suffer from *in utero* length growth faltering. After birth, the stunting is due to poor infant and young child feeding practices, including diets deficient in micronutrients, frequent illnesses and infections and poor hygiene conditions. The mother's health and nutrition status before and during pregnancy also determines the weight of the child at birth.[57] In Lao PDR, some 15 per cent of infants have low weight at birth (below 2,500 grams), but the proportion goes up to 20 per cent in the South region, and 23 per cent in Saravane province. The very high levels of low-birth weight in Saravane province may be associated with the highest prevalence of open defecation (77 per cent), which is an indication of poor hygiene and health in general.

Child malnutrition in Lao PDR is strongly associated with poverty and lack of education amongst mothers. The poorest quintiles of the population have the highest rates of stunting and wasting (figure 1.35). In general, children of mothers with no education or only primary education have higher levels of stunting and wasting than those of mothers with secondary or tertiary education (figure 1.39).

Wasting amongst children is associated with severe decrease in food intake and diarrhoeal disease. In Lao PDR, the decrease in food intake is usually the result of natural disasters, damage to crops and poor harvests. The affected households do not have adequate food to consume or sell until the next harvest. In Lao PDR, some 10 per cent of children under the age of five years suffer from diarrhoeal diseases. The rates differ by region and locality (e.g., 5 per cent in Vientiane city, 15 per cent in the North, and 24 per cent in Bokeo)[58] and also depend upon the season.

Figure 1.39.
Percentage of children under age 5 who are stunted and wasted, by mother's education, 2011-12
(2006 WHO standards*)



** Expressed in percent below minus 2 standard deviation units from the medianof the 2006 WHO standards. Source: LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment*

After birth, poor care and feeding practices are the main causes of child stunting in Lao PDR. According to the 2011 Nutrition tag-on survey to LSIS conducted in four provinces (Saravane, Sekong, Attapeu and Luangnamtha), the rates of timely introduction and age-appropriate frequency of infant and child feeding are extremely low, at 31 and 17 per cent respectively. Amongst children under age five in these four provinces, 5 per cent or less receive a minimum acceptable diet. Sekong has less than 1 per cent of children under the age of five who received a minimum acceptable diet.

Breastfeeding practices are not optimal. Between 2006 and 2011/12, the exclusive breastfeeding rate increased by nearly 3 percentage points each year and the rate of early initiation of breastfeeding rose by 2 percentage points each year. Whilst this is encouraging, the rate in 2011/12 is still too low: only 40 per cent of children under the age of 6 months were breastfed exclusively in line with UNICEF and WHO recommendations.[59] Giving water and formula (breastmilk substitutes) and the early introduction of food remain the main barriers to exclusive breastfeeding. Continued breastfeeding show a steady decline,[60] which is worrying, because this affects the growth of children under two years of age, part of the critical period for addressing stunting. In 2011/12, 73 per cent of children were still breastfeeding at 1 year, down from 82 per cent in 2006, whilst 40 per cent of children were still breastfeeding at 2 years; down from 48 per cent in 2006. Between 2006 and 2011/12, the use of formula has more than tripled. Increased formula use is likely to be related to significant declines in continued breastfeeding, which appear to be too high to be accounted for by an increase in the number women entering the workforce away from home. Between 2006 and 2011/12, mothers in all groups increased their use of formula. Formula is now reaching even remote areas. The increases in formula use are particularly alarming, as formula-fed babies in Lao PDR are two times more likely to have diarrhoea. A study in urban areas found that exclusively breastfed Lao children tended to be taller than were those receiving early glutinous rice supplementation.[61]

LSIS data indicate that poor sanitation and unsafe water are strongly associated with diarrhoea and undernutrition. Thus, young children living in households without access to improved water and sanitation and those using surface water (as opposed to piped water) have higher prevalence of diarrhoea, underweight and stunting (Table 1.4).

Table 1.4. Prevalence of diarrhoea, underweight, and stunting in children under 5 years of age by access to improved water and sanitation

Status	Had diarrhoea in previous 2 months	Underweight	Stunting
Access to improved water sources and sanitation	7.6%	18.7%	33.7%
No access to improved water sources and sanitation	11.6%	31.6%	50.9%
Uses only piped water	5.5%	15.5%	29.2%
Uses only surface water	10.9%	28.8%	47.2%

Source: LSIS 2011/12,
Lao Statistics Bureau, Ministry of Planning & Investment

Lao PDR has high levels of micronutrient deficiencies amongst children and women. Young children are particularly vulnerable to key deficiencies in iron, vitamin A, zinc and iodine. Major damage can result from such deficiencies, especially during the first two years of life, and this damage can be irreversible. Iron deficiency anaemia (IDA) is classed as a severe public health problem in Lao PDR. Survey data from 2006 showed 41 per cent of children under the age of five, and 63 per cent of children under the age of two suffering from IDA.[62] More recent assessments in 2010 of children in nine provinces[63] reconfirmed high levels of IDA, as high as 55 per cent in Attapeu and 46 per cent in Saravane and Savannakhet. Some 80 per cent of households in Lao PDR use iodized salt,[64] but this still leaves 20 per cent of households at risk from iodine deficiency. An estimated 45 per cent of children under five years of age and 23 per cent of women of reproductive age suffer from cli-

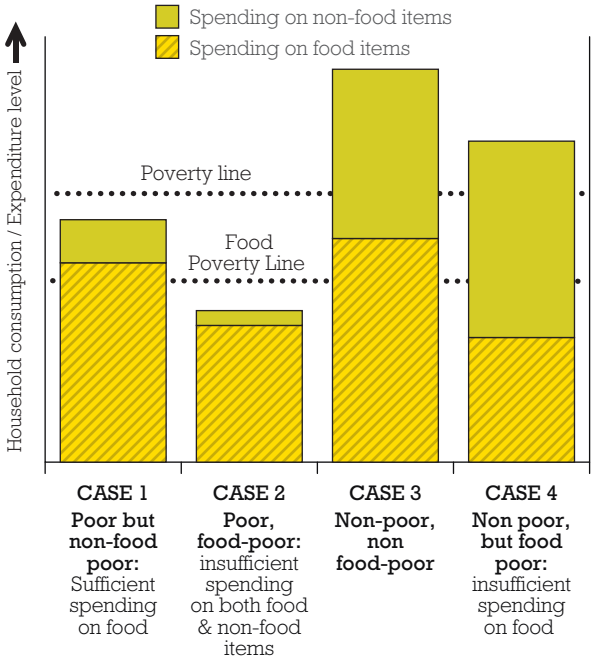
nical Vitamin A deficiency.[65] Vitamin A distribution still does not reach some 41 per cent of children age 6-59 months.[66] The extent of zinc deficiency in Lao PDR is unknown but is assessed by UNICEF to be a major problem, as in other countries of the region.

The food consumption patterns vary amongst households; the amounts are not always sufficient. Some 13 per cent of the rural households assessed at harvest time have poor food consumption, and this proportion is likely to increase during the lean season. Nutrient intake, such as fat, is often insufficient. Use of vegetable oil in the diet is rare, and most of the fat comes from animal sources. The main component differentiating households with acceptable food consumption from households with poor or borderline food consumption is animal protein intake, mostly from wild fish, other aquatic animals and wild meats. Managing the availability of and access to these food sources is therefore paramount in order to ensure acceptable food consumption and hence, nutrient intake. Seasonal scarcities exist among parts of the population. The Sino-Tibetan ethnic groups are the most disadvantaged and food insecure, followed by the Hmong-Lu Mien and Mon-Khmer. Most of these groups live in the Northern Highlands and in the Central and Southern Highlands. Two thirds of the rural households in the country have insecure livelihoods that put them at risk of becoming food insecure should one or more shocks occur in a given year.[67] The new villages established by the government require particular support and attention, because the cooperation between families from different backgrounds and the access to fertile land may both be limited.

Certain beliefs and practices are associated with poor maternal and child nutritional status. A study in Phongsaly and Huaphanh provinces show that nutrition behaviours, including food taboos, may contribute to the high prevalence of child malnutrition and micronutrient deficiencies in these provinces. Taboos in relation to wild animals and plants were found to be significant because foods obtained from the forest made an important contribution to nutrition in these areas. Eating less in pregnancy to avoid obstructed labour was also common.[68] Cultural preferences play a role in diet diversity. The Sino-Tibetan ethnic groups consume fats and oils more than three times a week, while the Mon-Khmer group have fats and oils only once – although they are necessary for absorbing key micronutrients. The Hmong-Lu Mien tend not to consume insects, an important source of protein and calcium for other ethnic groups.[69] On the other hand, some traditional beliefs were found to be beneficial and should be reinforced: for example, the Phunoi's belief that children with measles should eat mango and papaya, both good sources of vitamin A.[70] A study found lactating women in urban areas were consuming a low diversity diet excessively based on glutinous rice, which resulted in insufficient intakes of lipids, proteins and micronutrients, and put infants at risk of vitamins A, C and thiamine deficiencies. The study found the common practice of early infant food supplementation with chewed glutinous rice (in the first and second month) to be associated with infant stunting. The study noted that early feeding of infants with chewed glutinous rice may cause protein deficiency, because the calories from rice tend to replace the calories from breast milk.[71]

The relationship between nutrition and spending on food has many dimensions. The poorest groups are not able to spend or consume sufficient amounts of food and are most likely to go hungry in times of shortages. Spending less on food also means that families select cheaper forms of food, leading to inadequate dietary intakes of protein and energy, especially if they do not understand the importance of dietary requirements. On the other hand, spending more on food does not necessarily translate to better nutrition on its own. As previously mentioned, the type of food consumed and the care and feeding practices of young children are extremely important. Spending less on food is not necessarily due to poverty alone – households may decide to spend on non-food items. The persistent child malnutrition, despite the steady decline of poverty in Lao PDR and the rise in living standards (some 85 per cent of rural households reported having experienced a rise in living standards[72]), could mean that factors other than spending play important roles. Figure 1.40 shows the schematic relationships between the poor, food-poor, non-poor and non-food-poor.

Figure 1.40.
Schematic relationship between poor, non-poor, food-poor and non-food-poor



Significant segments of the urban population are food-poor but are non-poor. The food poverty headcount ratio exceeds the poverty headcount ratio in urban areas, including in Vientiane city. Since the proportion of food-poor exceeds the proportion of the poor in the

same population group, this means that the spending of certain segments of this group on food is insufficient to meet the nationally defined requirements in term of dietary energy.

At least some of Lao PDR's rise in food poverty may be attributed to greater spending on non-food items. The share of food in total consumption in Lao PDR fell from 75 to 72 per cent between 2002/03 and 2007/08. These trends are especially pronounced in urban areas and Vientiane city, where inhabitants spend more on consumer goods and other non-food items, probably at the expense of spending on food. LECS show that, even among those under the poverty line, the ownership of motorbikes, mobile phones and televisions have increased dramatically over the past decade. Between 2002/03 and 2007/08, the proportion of poor households owning motorbikes rose from 7 to 35 per cent, those owning mobile phones rose from 1 to 21 per cent and those owning televisions rose from 21 to 35 per cent. Likewise, ownership of electrical appliances has risen steeply amongst the poor, with increasing electrification and affordability. The ownership of such consumer goods amongst the non-poor households is about twice that of poor households.

An increase in food prices may also play a role in the rise in food poverty, but the relationship is made more complex by decisions on household spending. The average daily food expenditure in Lao PDR increased more than twofold, from LAK 2,959 in 2002/03 to LAK 6,134 in 2007/08 while food prices increased by about 39 per cent during the same period. Overall, food expenditure increased by 49 per cent at the national level, by 62 per cent in rural areas, and by 26 per cent in urban regions. Increases in household expenditure among the rural population may also reflect greater market access over the review period. Increased food expenditure may also be a result of increased household incomes overall. Food costs dropped as a share of household expenditure from 52 per cent in 2002/03 to 41 per cent in 2007/08.

Availability of food per se is not a problem for the country as a whole. At national level, Lao PDR is self-sufficient in a wide variety of crops. There are, however, important variations from province to province, and seasonality and weather are important factors at the community level, as is land tenure. The domestic food availability is contingent on a number of critical factors. These include limited plot sizes, increased population pressures, access to productive land, UXO contamination, lack of secure land tenure, rainfall-dependent agricultural practices, limited access to irrigation, frequent incidence of volatile weather conditions, including droughts and floods, high input costs, high post-harvest losses as a result of poor storage and processing infrastructure, limited marketing options, in terms of both transport and purchasing power, and poor access to market information, credit and rural insurance.

1.5.3. Government policies, programmes and strategies

The 2008 National Nutrition Policy provides the framework for engaging government agencies and development partners around nutrition issues. It recognizes the high prevalence of protein energy malnutrition as well as micronutrient deficiencies in the country. It sets out a causal analysis of malnutrition, mapping out the immediate, underlying and basic causes of the problem. Recognizing the multisectoral nature of malnutrition, it defines the roles and responsibilities of several ministries in improving nutrition, with the Ministry of Health as the lead Ministry.

The 2010-2015 National Nutrition Strategy, issued in 2009, provides the strategic direction for all stakeholders. It forms the basis for the National Plan of Action on Nutrition and the MDG costing for nutrition. Together, these three elements provide the nutrition and food security component of the Seventh NSEDP. The National Nutrition Strategy has four Principles:

- Define a realistic but bold strategy,
- Promote good governance,
- Achieve short term measurable impact (within 2-5 years) and sustainability, and
- Maximize impact and cost effectiveness.

The National Nutrition Strategy has three Strategic Directions, addressing respectively the immediate causes, underlying causes and basic causes of malnutrition and food security. The first Strategic Direction focuses on improving nutrient intake whilst preventing food-, water-vector-borne and infectious diseases that undermine nutritional status. The second Strategic Direction aims to increase and diversify domestic food production, improve access to food, improve mother and childcare practices, improve environmental health and food safety, and improve the access to nutrition and health services. The third Strategic Direction aims to improve institutions and coordination, improve human capacity, increase the quantity and quality of information and increase investments in nutrition and food security. On-going programmes to reduce the levels of stunting in the country include the nation-wide implementation of Vitamin A supplementation, de-worming and exclusive breastfeeding for children, and iron folic acid supplementation of pregnant women. The Northern and Southern provinces are implementing culturally tailored nutrition education, and providing ready-to-use foods to help meet the dietary requirements in energy, fats and protein for children under 2 years of age.

Lao PDR joined the global Scaling Up Nutrition (SUN) movement in April 2011. The two main recommendations from the SUN road map include (i) the scaling-up of 13 direct nutrition interventions focused on the first 1,000 days of life (Box 1.11), and (ii) the promotion of broader multi-sectoral approaches to nutrition, such as nutrition-sensitive interventions in agriculture, food se-

curity, social protection, education, water, sanitation and public health.

The Agriculture Development Strategy (2011-2020) for Lao PDR aims to ensure a successful transition from subsistence to commercial smallholder production. It has two complementary long-term objectives: (i) conserving upland ecosystems, ensuring food and nutrition security and improving the livelihoods of rural communities and (ii) gradually introducing modernized lowland market-oriented agricultural production. Improving rural livelihoods through agriculture and livestock activities also addresses the high priority of ensuring food and nutrition security and defines the role of the Ministry of Agriculture and Forestry (MoAF) in the implementation of the National Nutrition Strategy and Action Plan. In particular, the Agricultural Development Strategy aims to diversify agriculture production in the Northern and Southern uplands and highlands to meet local food and nutrition security needs. It also prioritizes livestock production, especially small livestock and fish, to meet protein needs.

1.5.4. Challenges and opportunities

Unclear accountabilities and the limited awareness of nutrition outside of the health sector translate into low levels of investment in appropriate interventions for nutrition. One challenge is that child stunting and maternal malnutrition are not easily visible. Unless the child is severely wasted, people are generally unaware that there is a malnutrition problem. Micronutrient deficiencies, called "hidden hunger" for a good reason, are not visible.

Malnutrition is a cross-sectoral issue that involves many non-health factors. These include education, poverty, water, sanitation, employment, agriculture, UXO, gender and culture. However, the lack of institutional mechanisms for multi-sectoral collaboration up to the time of this Report makes it difficult to implement nutrition policies and strategies. Accordingly, the Government is taking steps to establish a comprehensive cross-sectoral coordination mechanism to tackle malnutrition.

Access to the right types of food is required, not just food availability. Even children from the two highest wealth quintiles show high to medium prevalence of stunting and significant levels of wasting, so food provision alone is not the solution. Diets must have sufficient macro- and micronutrients, as discussed above. Initially, this dietary transition will require increased investments in critical infrastructure for successful agriculture and market access, all-weather roads, electrification and public education.

Budget allocations to the health sector need to be increased. Currently, the health sector is supported by external funds for delivery of direct nutrition interventions. These include supplies for Vitamin A, deworming tablets, iron folic acid and zinc supplementation, ready-to-use therapeutic foods and breastfeeding promotion. External funds are also used for covering the costs of health outreach, which is the main delivery channel for nutrition services. The health sector will need to strengthen its supply and logistics management systems to avoid disruptions in service delivery. Equally, the health sector needs to scale up health and nutrition education activities to counter community norms and practices that have a negative impact on maternal and child nutrition.

Box 1.11. What are the SUN interventions?

The following are 13 direct nutrition interventions endorsed by SUN. Most of them are relevant to Lao PDR except for intervention 9. Interventions 11-13 require specific preconditions (e.g., a food industry developed for fortification) and will need substantial amounts of resources. These three interventions, therefore, cannot be scaled-up in the short term. Other interventions can and should be prioritised for nation-wide expansion, which is not yet the case in Lao PDR.

1. Breastfeeding

2. Complementary feeding for infants after the age of six months

3. Improved hygiene practices including hand washing

4. Vitamin A supplementation of children under-5

5. Therapeutic zinc supplements for diarrhoea management

6. Multiple micronutrient powders

7. De-worming drugs for children and pregnant women

8. Iron-folic acid supplements for pregnant women to prevent and treat anaemia

9. Iodized oil capsules, where iodized salt is unavailable

10. Salt iodization

11. Iron fortification of staple foods

12. Prevention or treatment for moderate undernutrition

13. Treatment of severe undernutrition ("severe acute malnutrition") with ready-to-use therapeutic foods (RUTF).

Nutrition counselling of pregnant women and mothers of young children is necessary for interventions 1, 2 and 3, as well as for ensuring compliance with other interventions.other interventions.

The lack of knowledge is a barrier in efforts to improve nutrition. Communities often do not realize the importance of maternal nutrition before and during pregnancy or of the importance of good feeding practices in the first two years of the child's life. Awareness is also lacking on the association between stunting in childhood and poorer education performance, poorer adult health and ultimately, the quality of the workforce. Data on maternal nutritional practice is extremely limited.

To address stunting and wasting, preventive systems are needed. Mechanisms are needed to reach women and prevent under-nutrition, including micronutrient deficiencies, before they become pregnant. This would not only help reduce maternal mortality but would also reduce the prevalence of low birth weight, the risk of birth defects and the rates of stillbirths and early infant mortality. Community and health workers need to understand the importance of exclusive breastfeeding and appropriate infant and young child feeding practices, and provide nutrition counselling to mothers accordingly. Evidence is not sufficient to support the use of growth monitoring alone, without adequate nutrition counselling and referrals, for reducing malnutrition.[73]

The implementation of existing policies and programmes needs to improve. The priority must be on preventing stunting amongst children under two years of age. Existing programmes still have gaps in geographic coverage. The government has identified poverty districts and villages, but these represent only the areas most in need. As the above analysis has shown, stunting is high to very high in nearly all geographic areas. In addressing wasting, the focus should be on supplementary and therapeutic feeding. To date, the national response has emphasized the provision of rice rations in emergencies, which are needed to provide adequate dietary energy intake. However, systems to respond to moderate wasting are also required, in order to prevent this from developing into severe wasting.

Lao PDR has a number of opportunities to accelerate the progress in reducing malnutrition. First, the country's sustained economic growth provides fiscal space for new allocations to social sectors. Second, health sector reforms provide an opportunity for the government to prioritize and rapidly scale-up a selected package of direct nutrition interventions, and increase the budget allocation to the health sector in general and to nutrition in particular. The establishment of a multi-sectoral coordination mechanism to tackle malnutrition will do much to ensure that multi-sector interventions are effective and converge on vulnerable groups. Third, the interest from the private sector to support the expansion of nutrition interventions, such as multiple micronutrient supplementation for young children, is highly promising.

MDG2. Achieve Universal Primary Education

2.1. Summary

Lao PDR has made steady progress towards universal primary education and has nearly achieved the national target of 98 per cent net enrolment ratio (NER) for both girls and boys. However, the efficiency of the education system is quite low: the primary schools have significant numbers of over-aged and under-aged pupils, because of early or late entrants and grade repetition. The survival rate to grade 5 has improved from just 48 per cent in 1992 to 70 per cent in 2012, but is still low compared to other countries in the region. The analysis of the administrative data by grade shows that the first year of school is the most critical. This is when the dropout rate is highest: most children drop out or do not progress to the next class.

Significant disparities lie in school attendance and survival rates. Survival rate to grade 5 is lowest in rural areas without road access, amongst children in the poorest quintile and children of mothers with no education.

The learning outcomes of primary grade 5 pupils vary strongly by subject, with students scoring least in mathematics. Learning assessments in 2006 and 2009 show that the factors associated with teacher characteristics appear to influence student learning outcomes more than classroom factors do.

The transition rate from primary to secondary education has steadily increased. The secondary gross enrolment ratio (GER) has increased from just above 20 per cent in the early 1990s to 46 per cent in 2012 (65 per cent for lower secondary). However, this is still too low to enable Lao PDR to graduate from LDC status if the current trends continue. One reason for the low secondary enrolment, although not the only one, is the high loss and non-retention in primary school (around 30 per cent), especially in the first year. Other reasons relate to difficulties in access to and low demand for secondary education.

The education system is currently unable to fully meet the demands of society and the labour market. Both the relevance and quality of education need to be addressed. This is highlighted by the findings of the learning outcomes assessment, the high repetition and drop-out rates, and the low completion rates at both primary and lower secondary level. The transition to and retention in secondary education is an increasing priority, especially for LDC graduation.

Literacy rates amongst young people do not seem to have progressed in recent years, possibly because of the large proportion of children not continuing to secondary education. Adult literacy rate and gross secondary education rate are two of the components in the criteria for LDC graduation and both are dependent on primary education.

Overall, there has been steady and significant progress in Lao PDR's progress towards Universal Primary Education, although the low survival rates mean that Lao PDR risks not achieving this target by 2015. Slow progress in secondary education enrolment is another constraint to the country's progress towards LDC graduation if the present trends continue. Finally, despite the increases to the government education budget, financing continues to be a major concern, as there is still heavy reliance on external funding.

2.2. MDG 2 at a glance

Goal 2. Achieve universal primary education						
Target 2A: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling						
	1992	1995	2000	2005	2012	Target 2015
2.1. Net enrolment ratio in primary education	58.8%	65.2%	77.3%	84.0%	95.2%	98%
	1992	1998	2007	2009	2011	
2.2. Gross enrolment ratio in secondary education*	20.6%	29.6%	44.1%	45.7%	45.8%	
	1992	1998	2007	2009	2012	
Lower secondary education	28.9%	39.3%	53.3%	62.7%	64.7%	75%
Upper secondary education	11.0%	17.4%	34.6%	36.8%	34.7%	43%
	1992	2000	2005	2009	2012	
2.3. Proportion of pupils starting grade 1 who reach last grade of primary	47.7%	52.3%	62.0%	68.4%	70.0%	95%

	1995	2000	2001	2005	2011	
2.4. Literacy rate of 15-24 year-olds, women and men	71.1%	80.6%	78.5%	83.9%	73.1%	99%

Notes:
*Indicator 2.2 was adopted by the Ministry of Education and Sports (MoES) and UN partners at the MDG Workshop on 17 December 2012, Vientiane, in view of the importance of secondary education to the goal of graduating from LDC status by 2020.
Data sources:
Indicators 2.1 and 2.2: Ministry of Education and Sports, Education Management Information System (MoES-EMIS) and UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES.
Indicator 2.3: MoES-EMIS
Indicator 2.4: Multiple Indicator Cluster Surveys (MICS 2000), Lao Statistics Bureau (LSB), Ministry of Planning & Investment (MPI); Population and Housing Censuses, 1995 & 2005, LSB; and Lao Social Indicators Survey (LSIS 2011/12), LSB. Lao National Literacy Survey (LNLS 2001), MoES.

2.3. Introduction

Education and other MDGs

Education is fundamental to all other MDGs and to the future earning capability of a country. Better educated mothers raise better nourished and healthier children, with less likelihood of children dying before their fifth birthday. Studies in several countries show that mothers' education is one of the most critical variables affecting the outcomes for children. A woman's education promotes her empowerment, her health knowledge and health-seeking behaviour, thus reducing her risk of dying of pregnancy or birth-related causes. Amongst young people, education makes it much more likely that they will take action to improve and maintain their health.

The nation benefits from investment in early childhood development and education (ECD/ECE). Investing in early childhood education enhances the cognitive development of children, their readiness for school and improves educational outcomes such as school achievement, leading to a higher quality of the country's workforce. Investments in sound early child development programmes make sense economically: the benefits to society of sound ECD programmes outweigh the costs by five to seven times.[1] The children in greatest need benefit the most, showing the greatest response to ECD/ECE programmes.[2 3] Young children who are prepared for school are better equipped to learn, more likely to stay in school and more likely to succeed, with higher future earning capability. ECD/ECE reduces education costs by improving the internal efficiency of primary education, as fewer children repeat grades.

Education contributes to reducing poverty and inequalities. Education offers a way out of the intergenerational cycle of poverty and improves the economic and social development of a society. Every added grade achieved in school leads to higher eventual earnings. Various studies show the return on investment in education. Education also contributes to promoting human rights, protecting the environment, influencing population growth, and protecting children from hazardous and exploitative labour and sexual exploitation.

Children derive the greatest benefits when ECD/ECE programmes combine nutrition interventions with psychosocial interventions that promote psychological development.[4] ECD/ECE is also more effective when more than one type of intervention or delivery channel is used: for example, a centre-based approach (such as childcare centres, nurseries and kindergartens), complemented by a parent- or home-based approach, such as parental skills education on child development milestones and cognitive stimulation activities. Whilst interventions before the child turns two years old have the greatest impact in nutrition,[5] ECD/ECE interventions to support psychological development after this critical period are also effective.[6]

Linkages with LDC graduation

Progress towards achieving universal education will contribute directly to improving the HAI (see Box 1.1 on LDC criteria). Adult literacy rate and gross secondary education rate are two of the components in the HAI. Both are dependent on primary education. Under-five mortality rates (another HAI component) are lower amongst children with educated mothers. An educated population means a more productive, innovative and resilient work force. MDG 2 therefore contributes indirectly to the GNI per capita, helps lessen the country's exposure to economic shocks and increases the resilience of communities to natural disaster. The last two factors also relate to the EVI.

2.4. Universalizing primary education

The school education system in Lao PDR comprises 5 years at the primary level, 4 years at lower secondary and 3 years at the upper secondary levels. Ideally, children enter primary school at age 6, lower secondary school at age 11, and upper secondary school at age 15. The school year runs from September of a given year to June of the following year. In the school year 2011/12, Lao PDR had 8,912 primary schools of which 70 per cent were complete primary schools, 883,900[7] students

Box 2.1. Education indicators[a] and data sources

Much of the recent data used in this report is from Lao PDR's Ministry of Education and Sports (MoES). MoES data for some earlier years were accessed from the database at the United Nations Educational, Scientific and Cultural Organization (UNESCO), which is based on MoES reports. Recent household data from the Lao Social Indicators Survey (LSIS) provide a useful perspective from the household level, complementing the school-based data from MoES and UIS.

The primary net enrolment ratio (NER) is useful in gauging the access to the education system. The NER also provides information on whether children are enrolled at the appropriate age. However, it does not provide information on children who are enrolled in school but not at the appropriate age. Comparing the NER with the gross enrolment ratio (GER) is, therefore, useful as the difference highlights the extent of under-aged and over-aged enrolment. The primary adjusted net attendance ratio from household survey data complements the NER, as it is the percentage of children of primary school age who are attending primary or secondary school.

The survival rate to grade 5, or the proportion of pupils starting grade 1 who reach the last grade of primary education, measures the retention capacity and internal efficiency of the primary education system. It also reflects the magnitude of dropout and predicts the pattern of progression through the education system (promotion, repetition and drop out), and the retention to the last grade of primary school, assuming there are no changes in the current pattern. The cumulative dropout rate in primary education is calculated by subtracting the survival rate from 100 at a given grade. The distinction between survival rate with and without repetition is necessary to compare the extent of wastage due to dropout and repetition. A high survival rate does not necessarily imply high learning achievement. The analysis of survival rate should be complemented by additional analysis of learning achievement, the intake rate to grade 1 and the primary completion rate. Together, these provide a better overall picture of the primary education completion and learning outcomes.

Because of the importance of secondary education to national literacy goals, the national economy and Lao PDR's 2020 goal of graduating from LDC status, this MDG Progress Report also looks at selected secondary education indicators and the transition from primary to lower secondary education.

[a] UNESCO (United Nations Educational, Scientific and Cultural Organization), 2009: ''Education Indicators: Technical guidelines.'' Paris: UNESCO Institute for Statistics.

(48 per cent girls, and 52 per cent boys) and 34,500 teachers, including administrative staff (53 per cent women).[8] The country has an average pupil-teacher ratio in primary education of 26:1, but the deployment of teachers is uneven, with some areas suffering from shortages and others having a surplus of teachers. Saravane has a ratio of 32:1 and Luangnamtha has a ratio of 19:1 but these province figures mask teacher shortages at district and village level: Toumlan district in Saravane has a ratio of 46:1.[9] The significant proportion (30 per cent) of primary schools that are incomplete means that in these places, a full cycle of primary education is not locally available and that many children will not be able to complete the primary level.

2.4.1. Access and survival

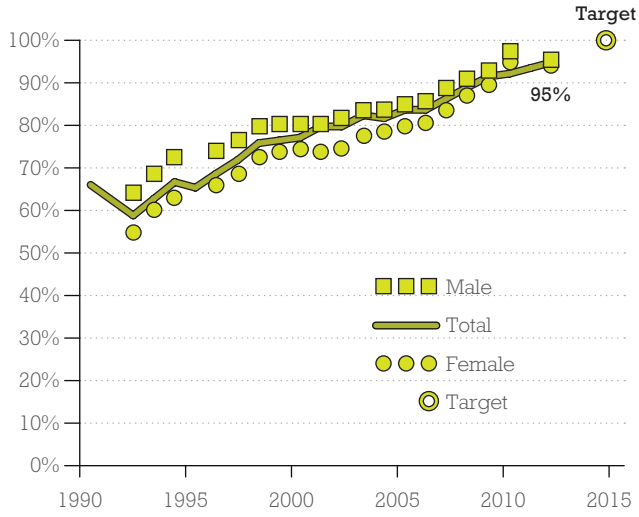
National trends

Lao PDR has made steady progress towards universal primary education and is close to achieving the 98 per cent NER national target for both girls and boys (figure 2.1). The NER increased from 94 per cent in 2010/11 to 95 per cent in 2011/12.[10]

The GER exceeds 100 per cent and is higher by 27 percentage points than the NER. The GER has exceeded 100 per cent since the early 1990s (figure 2.2), indicating that Lao PDR has had a high degree of participation in primary education since then and that the country is able to accommodate all of its school-age population. It also indicates that primary schools have significant numbers of over-aged and under-aged pupils because of early or late entrants and grade repetition. The difference of 27 percentage points (29 percentage points for boys and 24 for girls) between NER and GER is a measure of the incidence of under-aged and over-aged enrolments in primary school. Comparing NER and GER disaggregated by sex shows that the system has a greater proportion of over-aged and/or under-aged boys than that for girls.

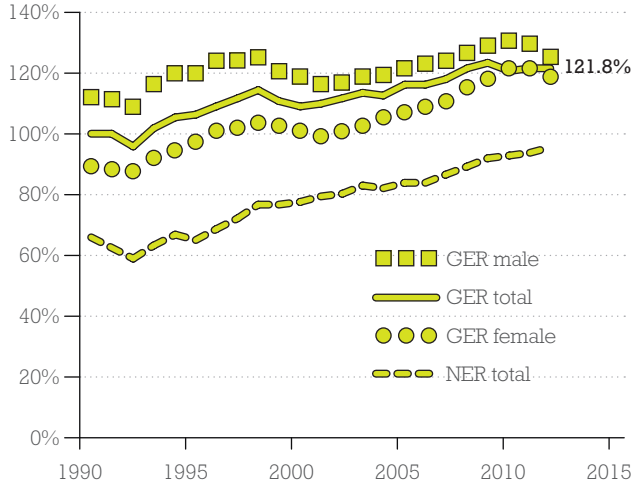
The GER shows inefficiency within the education system. The presence of over-aged pupils is a result of late entrance or grade repetitions. The Ministry of Education and Sports reports a repetition rate of 10 per cent for the whole cycle, and as high as 23 per cent in Grade 1. In future, with the growing young population, the education system will need to free up places and teachers for pupils from the expected age group by reducing the numbers of repeaters and late entrants.

Figure 2.1.
Net enrolment ratio in primary education



Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS); UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES.

Figure 2.2.
Gross enrolment ratio in primary education compared with NER



Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS); UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES.

The net admission rate into grade one is 90.6 per cent.[11] There is, however, some discrepancy with LSIS data, which indicates that 64 per cent of children who are of primary school-entrance age enter the first grade of primary school. This needs to be further analyzed. Inaccurate reporting of age by children or parents could be an issue.

Keeping children in school is still a challenge. The adjusted primary school net attendance ratio (NAR) shows that 85 per cent of children of primary school age are currently attending primary or secondary school and 15 per cent are out of school. A comparison with the NER indicates that although 95 per cent of children of primary school age are enrolled in primary school, around 10 per cent of this age group are enrolled but not attending school, whilst about 5 per cent never enrolled and never went to school.

The survival rate to grade 5 has improved from just 48 per cent in 1992 to 70 per cent in 2012 (figure 2.3). Nonetheless, this rate is still amongst the lowest in the region. Examining the survival rate by grade (figure 2.4) shows the retention and, conversely, the magnitude of loss through dropout or repetition at each level. The greatest proportion of children is not retained in the transition from grade 1 to grade 2. Some 15 per cent of children who attended grade 1 are not in grade 2 in the following year, because of dropout or repetition. In subsequent grades, the non-retention is less: 4 to 5 per cent of children are lost each year between successive grades. The first year of school is therefore the most critical: this is when most children drop out or do not progress to the next class. The primary cohort completion rate[12] is 67 per cent, slightly lower than the survival rate to grade 5. This means that a small proportion of the pupils who reached grade 5 of primary do not graduate from that grade.

High losses in the first year of schooling indicate that the school readiness of children is low and that the schools themselves are not ready for children. The reasons may include a poor quality of education, the low capacity of schools to retain children, as well as pover-

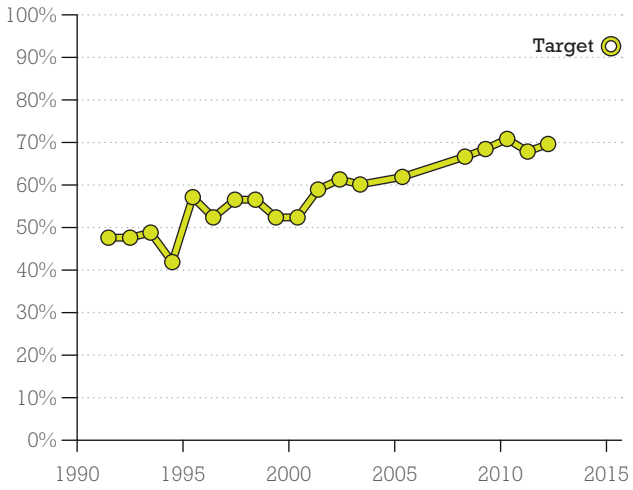
Box 2.2. Out-of-school children

The primary reason amongst children aged 5 to 17 years for dropping out of school or never having gone to school was "Not interested in school," cited by around a third of children. The second most frequent reason given was "Cannot afford schooling." The majority of children from migrated families who are currently not attending school replied "Cannot afford schooling."[a]

Not attending school has strong links with child labour, although the relationship is not necessarily causal. Only 7 per cent of child labourers and 4 per cent of children in hazardous child labour are currently attending school. 72 per cent of child labourers had attended school in the past but discontinued their studies (dropped out of school) and 24 per cent of child labourers had never attended school.

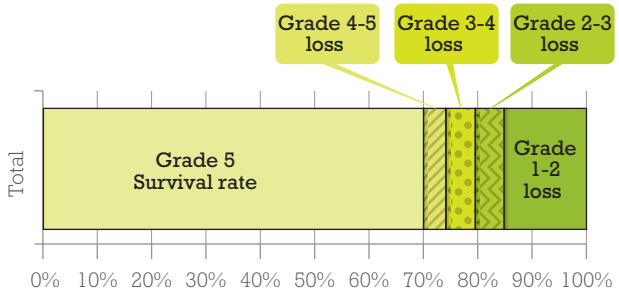
[a] Child Labour Survey 2010, Lao Statistics Bureau

Figure 2.3.
Survival rate to last grade of primary education
(Percentage of grade 1 starting pupils who reach grade 5)



Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS); UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES.

Figure 2.4.
Survival rate to last grade of primary education
(Percentage of grade 1 starting pupils who reach grade 5)



Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

ty and other factors external to the education sector. Having some form of organized learning for children of pre-school age is important in fostering school readiness. Robust data on the quality of school-readiness programmes is unavailable. However, the percentage of children attending the first grade of primary school who attended pre-school or a pre-primary programme the preceding year was quite low (24 per cent from survey data, 34 per cent from administrative data in 2011/12). Some 29 per cent of all children aged 3 to 5 years were enrolled in an organized early childhood education programme in the school year 2011/12, compared to 25 per cent in the previous school year.[13]

Subnational trends

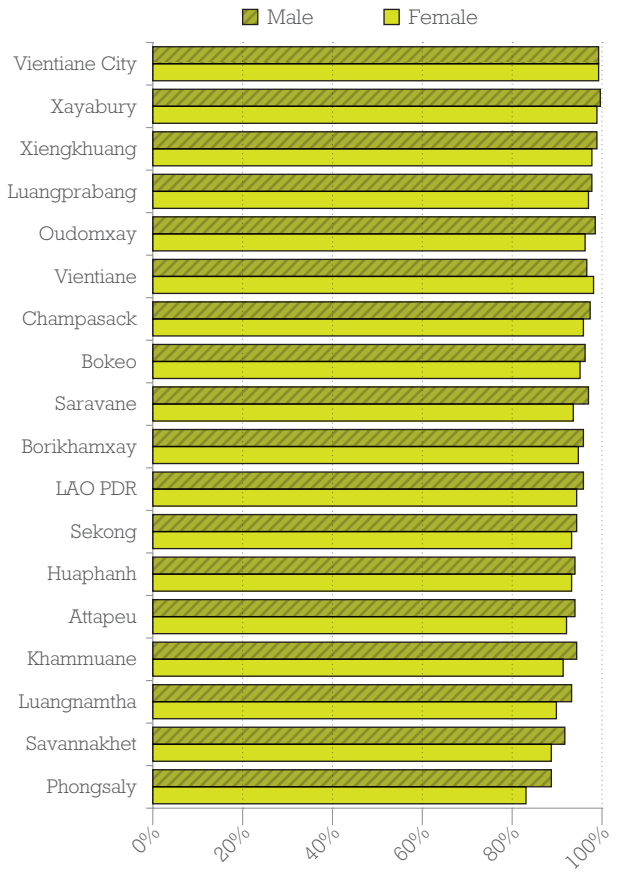
All provinces show NERs over 80 per cent for both girls and boys. The lowest NERs, well below the national average, are seen in Phongsaly, Savannakhet and Luangnamtha (figure 2.5).

However, school attendance shows significant disparities, as seen in the survey data (figure 2.6):

- The disparities in school attendance are greater between different female groups than those between the male groups. The difference in NAR between girls in the poorest and richest quintiles is 30 percentage points; that for boys is 23 percentage points.
- Girls in rural areas without road access lag behind those in urban areas by some 27 percentage points in NAR. In the case of boys, the difference is 22 percentage points.
- The NAR of the daughters of women with no education lag behind those of women with higher education by 25 percentage points. The corresponding difference for boys is 23 percentage points.
- Ethnic groups living in remote mountainous areas lag behind in school attendance. Among these remote groups, the Hmong-Lu Mien have higher school attendance rates than the Sino-Tibetan and the Mon-Khmer groups.

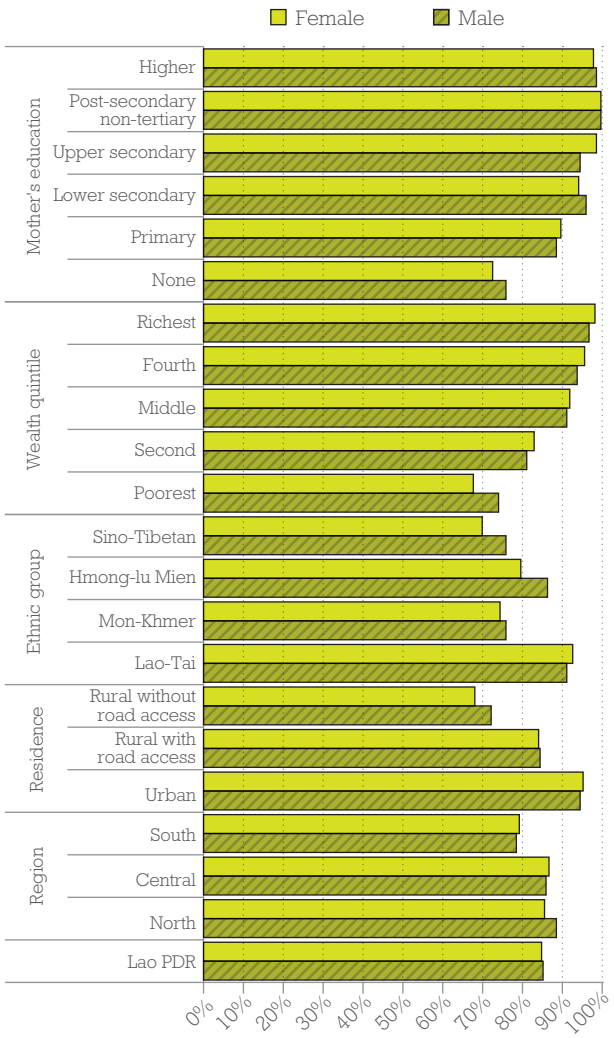
The South lags behind the North Region in school attendance. The difference is about 6 to 10 percentage points respectively for girls and boys. Amongst the provinces, Saravane, Phongsaly and Attapeu have the lowest attendance rates, having one-quarter to one-fifth of school-aged children out of school (figure 2.7). In terms

Figure 2.5. **Primary net enrolment ratio**



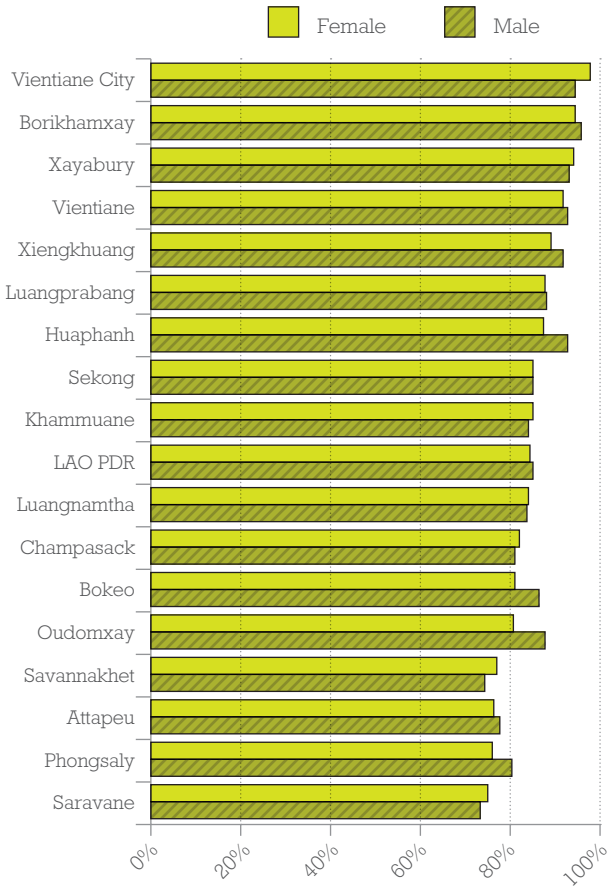
% Percentage of children of primary school age enrolled in primary school. Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Figure 2.6. **Primary net attendance ratio (adjusted)***



**% Percentage of children of primary school age attending primary or secondary school. Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment*

Figure 2.7. **Primary net attendance ratio (adjusted)***

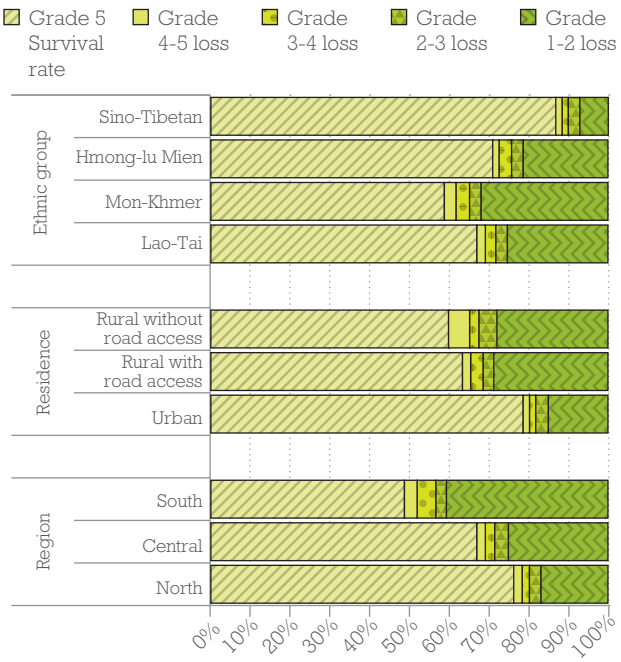


**% Percentage of children of primary school age attending primary or secondary school. Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment*

of absolute numbers, around 90,000 children were out of school in the school year 2011/12, with Savannakhet, Champasack and Saravane accounting for the largest numbers of out-of-school children.[14]

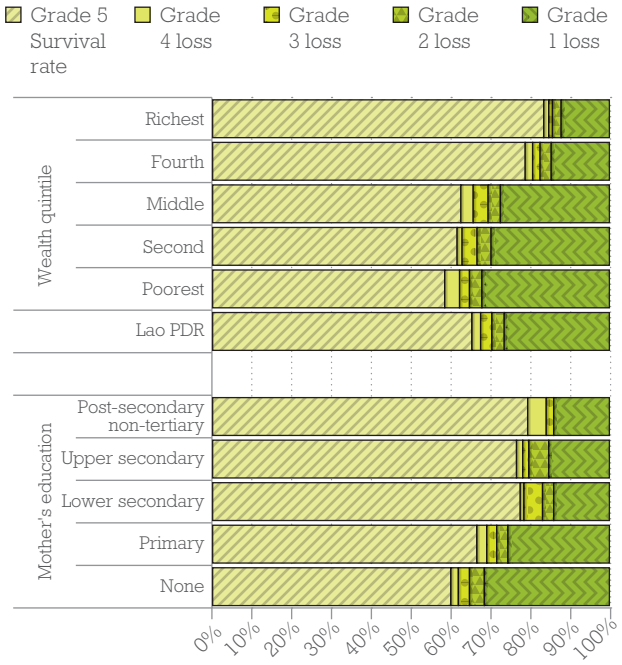
Survival rate to grade 5 is lowest amongst children living in rural areas without road access, children in the poorest quintile and children of mothers with no education (figures 2.8 and 2.9). The Lao-Tai group has lower survival rates (67 per cent) than those from the Hmong-Lu Mien and the Sino-Tibetan groups (71 per cent and 87 per cent respectively). The Mon-Khmer group have the lowest survival rate (59 per cent). The North Region has the best survival rate, some 28 percentage points higher than that of the South. Amongst the provinces, Saravane, Attapeu and Sekong have the lowest survival rates, at 46 per cent, 55 per cent and 58 per cent respectively. Other provinces also below the national average are Oudomxay, Savannakhet, Phongsaly and Champasack. In these 7 provinces, less than half to two-thirds of the children in grade 1 will make it through to grade 5. The Ministry of Education and Sports estimates that only

Figure 2.8.
Survival rate to last grade of primary education



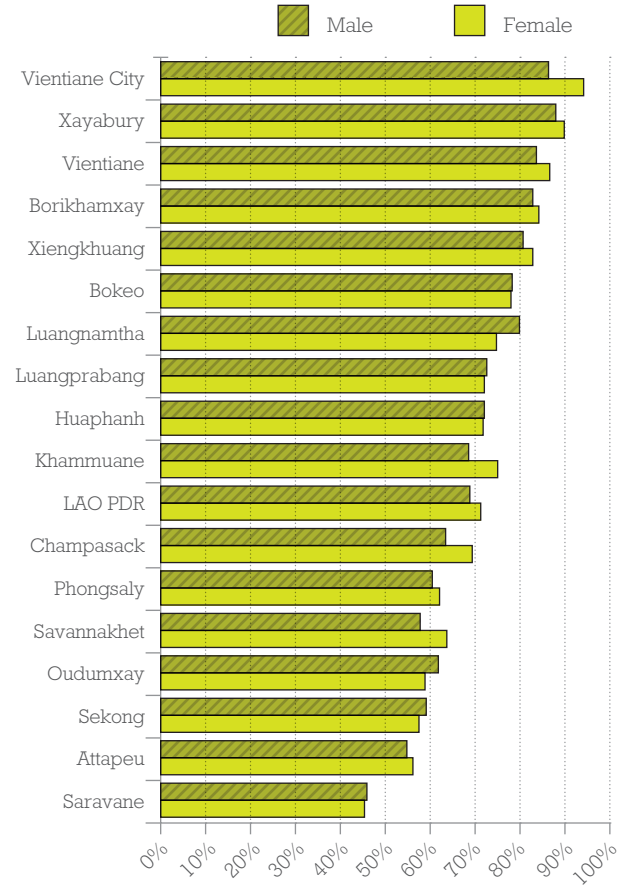
Assumes repeaters do NOT progress to the next grade Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 2.9.
Survival rate to last grade of primary education



Assumes repeaters do NOT progress to the next grade
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 2.10. **Survival rate to grade 5***



**The proportion of pupils starting grade 1 who reach the last grade of primary. Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)*

Xayabury and Vientiane city will be able to achieve the target of 95 per cent survival rate by 2015 (figure 2.10).

In all population groups, the transition from grade 1 to grade 2 is the main barrier: the highest proportion of children either drop out or repeat at this stage. There is a general correlation between the survival rate to grade 5 and the preschool attendance rates of children who enter primary school, but the relationship is not necessarily causal, since both indicators rise with socio-economic status. The proportion of children aged 3 to 5 years enrolled in early childhood education programmes also shows wide disparities, from over 50 per cent in Vientiane city to below 20 per cent for Saravane, Sekong and Attapeu.

2.4.2. Primary education learning outcomes

A 2009 assessment of student learning[15] ***used three benchmarks to examine how well children were prepared at the end of primary school***:

• Pre-functional: Primary school pupils have not reached the minimum level for functional purposes in Lao society;

• Functional: Primary school pupils have reached the level for functional participation in Lao society;

• Independent: Primary school pupils have reached the level that enables independent learning in Grade 6.

Table 2.1 shows the results of the assessment compared with those from a 2006 assessment. Both sets of results showed sound ability amongst grade 5 pupils in tests for Lao language skills and natural and social science topics (called World Around Us or WAU). However, the children were weaker in mathematics: two-thirds (65 per cent) perform in the lower two out of six levels.

The learning outcomes of pupils across the benchmarks vary strongly by subject. The majority of students (78 per cent) were judged as ''functional'' in Lao language; very few (2 per cent) were ''pre-functional.'' In contrast, there was a large proportion of students at the ''pre-functional'' level (73 per cent) in mathematics, with only 27 per cent at the ''functional'' level. The knowledge of WAU appears to be the best: 43 per cent were at the ''independent'' level and 44 per cent were at ''functional'' level. The situation does not seem to have improved appreciably from that in 2006.

Socio-economic characteristics drive the differences in learning outcomes. To define different socio-economic groups, the assessment used a weighted 'home background' score based on possessions in the home and the average education level of parents. In all three tests, pupils from higher socio-economic groups achieved higher scores than pupils from lower socio-economic groups. Pupils in urban areas achieved higher levels than those in rural areas. ''Excellent students'' were about twice as likely to be found in urban as rural areas, and were highly unlikely to be found in remote areas. At the national level, girls performed significantly bet-

Table 2.1. Percentage of grade 5 pupils reaching functionality levels in three subject areas, 2006 and 2009

Functionality		Year	Lao Language	Mathematics	WAU
Independent	Reached the level to enable independent learning in Grade 6	2006	17.00%	1.00%	42.10%
		2009	19.13%	0.16%	43.34%
Functional	Reached the level for functional participation in Lao society	2006	78.40%	33.67%	42.00%
		2009	77.55%	27.08%	44.22%
Pre-functional	Not reached the minimum level for functional purposes in Lao society	2006	4.60%	65.40%	15.90%
		2009	2.48%	72.77%	12.10%

Source: RIES/MoES (2010). National Assessment of Student Learning Outcome (ASLO II): Primary Grade 5. Vientiane: Ministry of Education and Sports, Research Institute for Education Sciences, June 2010

ter than boys in Lao language, but there were no significant differences in achievement between boys and girls in mathematics and WAU. Four provinces stand out for high achievement in language and WAU (Vientiane city, Borikhamxay, Savannakhet and Saravane). In mathematics, the pattern was less clear, but Vientiane city and Borikhamxay appear to be ahead of the rest.

Factors associated with teacher characteristics appear to influence learning outcomes more than classroom factors. The most important factors are set out below:[16]

- The teacher's subject knowledge was strongly and positively associated with student learning achievement, except in WAU, where Lao language knowledge was most important.
- Teachers from other ethnic groups achieved poorer results than Lao-Tai teachers, perhaps because of language difficulties.
- Importantly, no other factors connected with teacher background, such as education or training, had any importance.
- The teacher's background in education and training did not appear to have significant influence.
- The most important methodological factors were: using the teacher's guide, giving homework and attaching importance to it, and setting written tests. Small group teaching was also valuable in Lao language, as was emphasis on basic reading skills.

Factors relating to the classroom itself did not appear to have much impact on achievement, apart from set squares and electric lighting. The assessment noted that pupils achieved better if they had textbooks, pens, pencils and rulers.

The assessment recommended that teachers be trained in the way the subject matter is taught. For example, all teachers should correct the homework they assign and work through with it afterwards with pupils. This could be incorporated in the pre-service and in-service teacher training courses. The assessment also suggested that the Ministry of Education and Sports undertake an analysis to realign the content of Grade 5 curriculum and mathematics textbooks, so that children learn at the appropriate level.

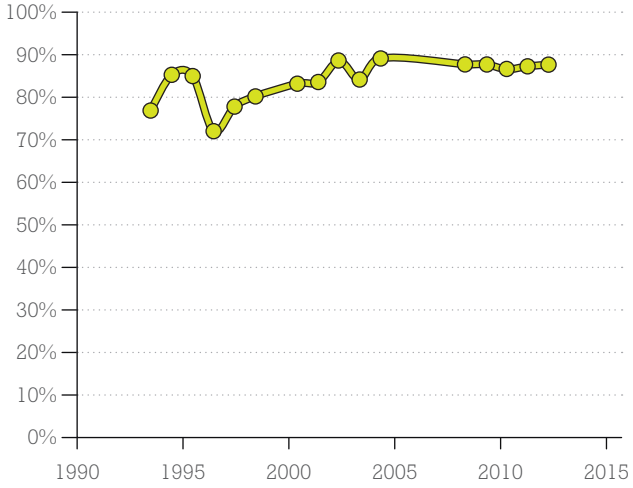
2.5. Expanding secondary education

National trends

The transition rate from primary to secondary education shows a significant increase (figure 2.11). The percentage of pupils in the final grade of primary school admitted in the subsequent year to the first grade of secondary school has increased from around 60 per cent in the 1990s to 88 per cent in 2012 (85 per cent for girls, 91 per cent for boys). This is highly encouraging; it means that a high proportion of those who made it to grade 5 successfully completed primary education and are able to go on to secondary. However, this applies only to children who are retained in the primary education system.

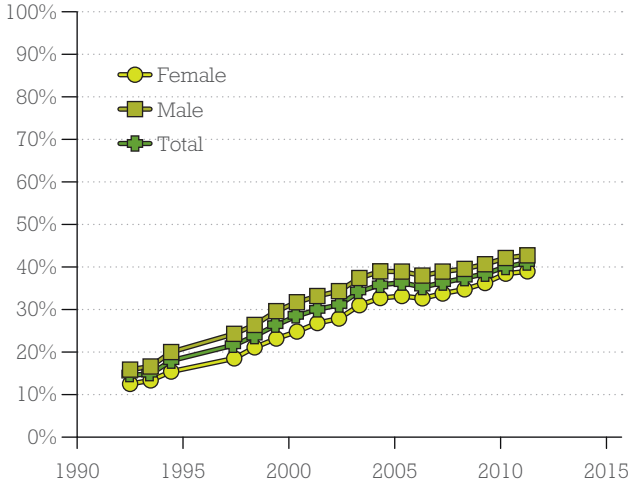
The percentage of all children of secondary school age enrolled in secondary education has also increased steadily (figure 2.12). The secondary NER increased from below 20 per cent in the 1990s to 40 per cent in 2010. The high losses and non-retention in primary school, especially in the first year, are one reason why the secondary NER is still relatively low, although not the only one. Other reasons relate to access and demand. The secondary GER also shows steady progress from just above 20 per cent in the early 1990s to 46 per cent in 2012 (65 per cent for lower secondary) (figure 2.13). Over the years, the GER has been higher than NER by around 10 percentage points or less. The difference indicates the still significant proportion of over-aged and under-aged pupils in secondary school, due to early or late entrants and grade repetition.

Figure 2.11.
Transition rate from primary to secondary school*



*% of pupils enrolled in final grade of primary school in the previous year admitted to the first grade of secondary school in a given year.
Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

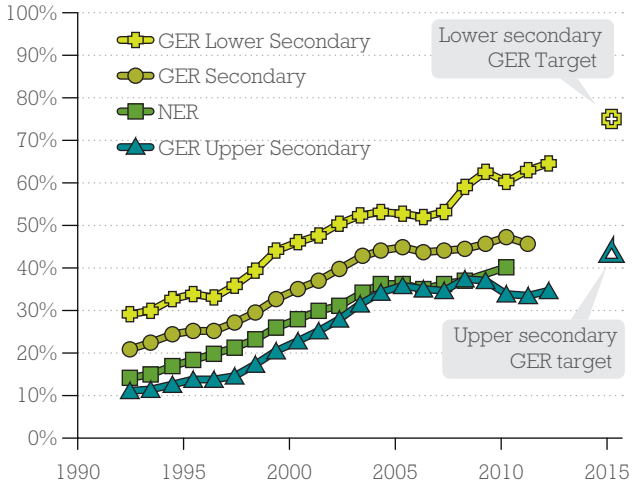
Figure 2.12.
Net enrolment rate in secondary education



Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Amongst children of secondary school age, 45 per cent were attending secondary or higher levels of education in 2011/12[17] (i.e., secondary adjusted net attendance ratio). Some 25 per cent of secondary school-aged children were still attending primary school; these are the over-aged children in primary education, explaining why the primary GER is so high. This leaves around 30 per cent of secondary school aged children who are not in school.

Figure 2.13.
Gross & net enrolment ratios in secondary education



Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS); UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES.

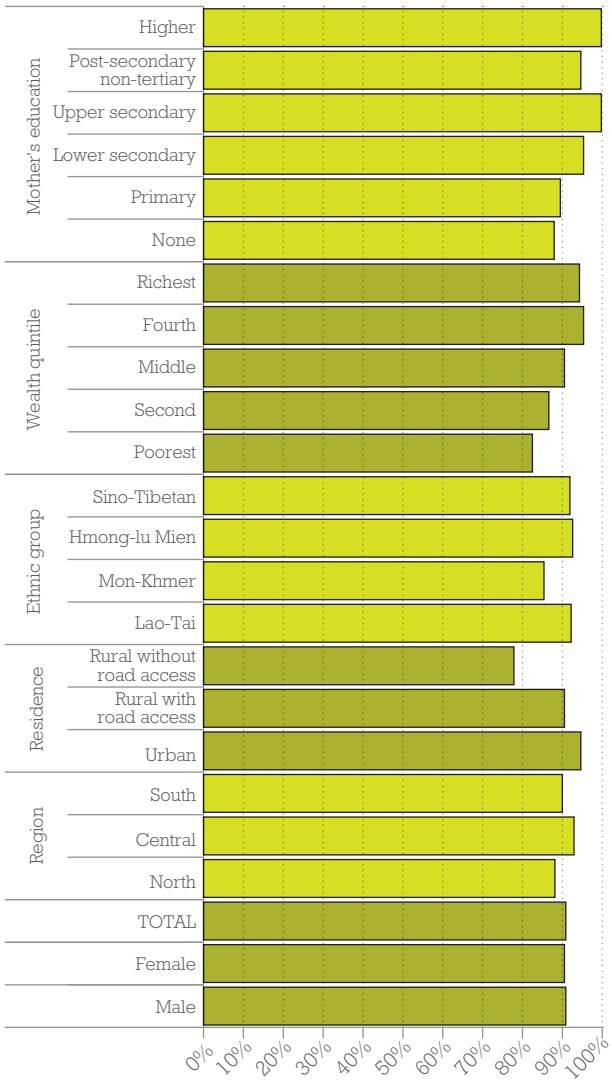
Subnational trends

The greatest disparities in the primary-secondary transition rate are in rural areas without road access, which lag behind urban areas by one-fifth (Figure 2.14). The gaps in transition rate are also significant between the richest and poorest quintiles, and between children of mothers with no education and those of educated mothers. The gaps between regions and ethnic groups are somewhat less. The Mon-Khmer lag behind the other ethnic groups by about 8 per cent. The North lags behind the South and Central Regions in the transition rate to secondary school, although in primary education, the North had a much better survival rate to grade 5 than the other two Regions.

The secondary adjusted net attendance ratio is also lowest in rural areas without road access. In these remote areas, it is 26 percentage points below the national average. Additionally, NAR is lowest amongst the Mon-Khmer, amongst children of households in the poorest quintiles, and amongst children of mothers with no education. Amongst the regions, the South has again the lowest secondary attendance (33 per cent) whilst the Central Region has the highest (43 per cent).

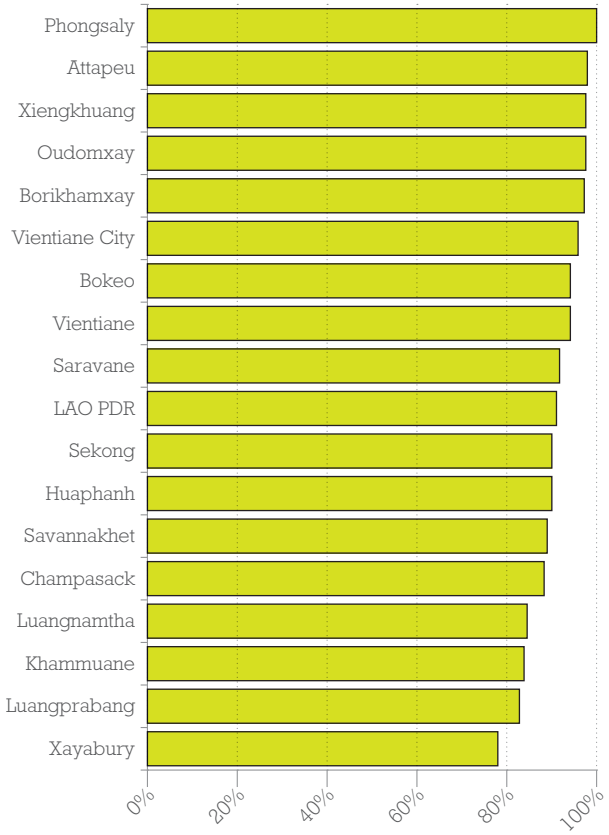
Disparity patterns are different between transition and secondary attendance. Several factors, including those outside of the education system, influence the decision on whether to continue with secondary education, even after the child has made the transition from primary school. Xayabury, Luangprabang and Khammuane have the lowest transition rates amongst the provinces, whilst Phongsaly has the best transition rate (100 per cent), even slightly higher than that in Vientiane city (96 per cent) (Figure 2.15). Phongsaly's primary survival rate is

Figure 2.14. **Transition rate from primary to secondary school***



*% of pupils enrolled in final grade of primary school in the previous year admitted to the first grade of secondary school in a given year.
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 2.15. **Transition rate from primary to secondary school***



*% of pupils enrolled in final grade of primary school in the previous year admitted to the first grade of secondary school in a given year.
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

also amongst those higher than the national average. Yet Phongsaly has amongst the lowest secondary GERs, together with Saravane and Savannakhet. Phongsaly also has low secondary NAR, together with Saravane, Savannakhet and Attapeu (22 per cent to 34 per cent).

2.6. Ensuring literacy for all young people

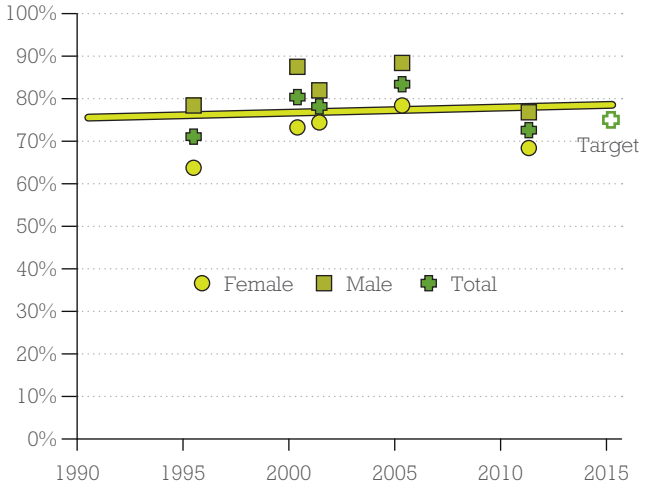
National trends

Literacy rates amongst young people do not show progress in recent years (Figure 2.16). The data was collected by censuses and surveys but the two methods are not comparable: the census assessed literacy by self-reporting (respondents reporting their status), whereas the surveys, such as the 2001 Lao National Literacy Survey (LNLS) and the 2011/12 LSIS, assessed literacy by testing. LSIS assumed that respondents with secondary or higher education could read, but asked respondents with primary education or less to read a short simple statement. The tested literacy rate is likely to be lower than the self-reported one. This may explain in part the drop in literacy rate from 84 per cent in 2005 (census) to around 73 per cent in 2011 (survey), but not the drop from 79 per cent in 2001, measured by the LNLS.

Subnational trends

A greater proportion is literate in the younger age groups than in the older (Figure 2.17). The younger age group (15-19 years, literacy rate 76 per cent) is more likely to have completed some education than the older

Figure 2.16.
Literacy rate, 15-24 years*

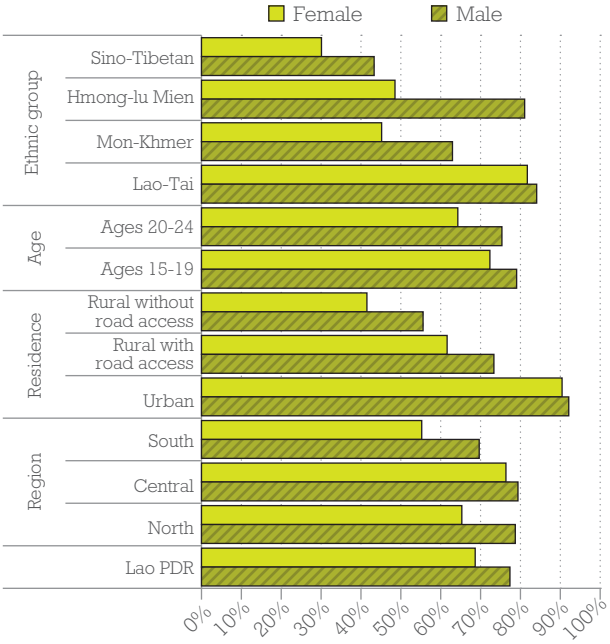


** % of young people age 15-24 years who are literate.*
Source: LNLS 2001, MInistry of Education & Sports;
Census 1995 & 2005, MICS 2000, LSIS 2011-12 ,
Lao Statistics Bureau, Ministry of Planning & Investment

age group (20-24 years; literacy rate 70 per cent), given that enrolment in both primary and secondary education has increased over time. In addition, people in the younger age group are more likely to retain reading and writing skills, which were acquired more recently than those in the older age group.

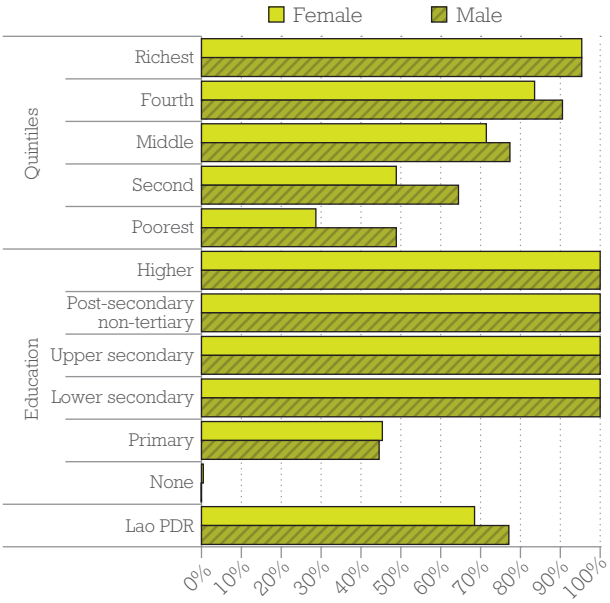
The literacy gap is largest between young people who live in urban areas and those in rural areas without road access (the rates being respectively (91 per cent and 48 per cent) (Figures 2.17, 2.18). Only 45 per cent of young people who had ever attended primary school were literate. Those who had never attended school were illiterate, except for a tiny proportion of young women (0.4 per cent) who seemed to have learnt how to read and write. Disaggregation by poverty or consumption quintiles also shows a large difference between the poorest (39 per cent) and the richest (96 per cent). Among ethnic groups, those living in remote areas have lower literacy rates than those living in urban or more accessible areas. The men from the Hmong-Lu Mien group are amongst those with the highest literacy rates, only a few per cent below that for the Lao Tai group. The women from the Sino-Tibetan group have the lowest literacy rates (30 per cent). The South has the lowest literacy rate (53 per cent). The Central region has the highest literacy rates. Saravane, Oudomxay, and Phongsaly have the lowest female literacy rates (39 to 53 per cent) whilst Phongsaly, Savannakhet and Saravane have the lowest male literacy rates (51 to 63 per cent).

Figure 2.17. **Literacy rates amongst 15-24 year olds* by socio-economic characteristics**



**% Percentage of population 15-24 years old who are literate.*
Source: Lao Social Indicators Survey (LSIS 2011-12),
Lao Statistics Bureau, Ministry of Planning & Investment

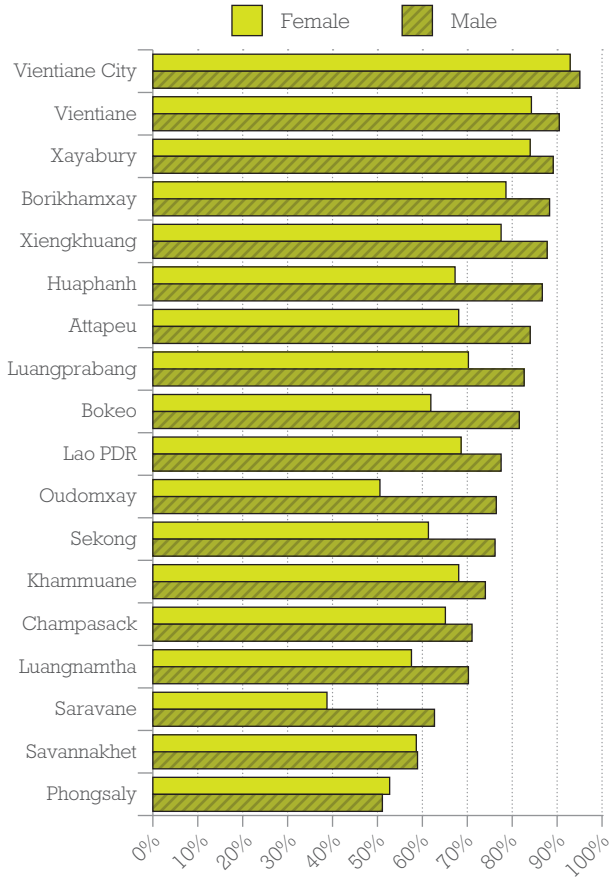
Figure 2.18. **Literacy rates amongst 15-24 year olds* by socio-economic characteristics**



**% Percentage of population 15-24 years old who are literate.*
Source: Lao Social Indicators Survey (LSIS 2011-12),
Lao Statistics Bureau, Ministry of Planning & Investment

Across geographic, age, wealth and ethnic groups, females are proportionately less literate than are males, with a few exceptions. The largest gender gaps are seen amongst the Hmong-Lu Mien group (a difference of 33 percentage points), amongst the population in the poorest quintile (20 percentage points) and in the provinces of Oudomxay, Saravane and Bokeo (differences of 20 to 26 percentage points) (Figure 2.19). The exceptions are seen in the richest quintiles and amongst those with secondary or higher education, where there is no gender gap, and amongst those who had had either no education or only primary education, where the female literacy rate is marginally higher than or similar to the male literacy rate.

Figure 2.19. **Literacy rates amongst 15-24 year olds* by province**



**% Percentage of population 15-24 years old who are literate.*
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

2.7. Linkages

The analysis above shows that education has strong associations with wealth status. In wealthier groups, mothers tend to be more educated; access to both primary and secondary education tends to be assured; and children are more likely to stay on in school until they complete the cycle. The poorer segments of the population – those close to or below the poverty line – lag behind in every education indicator. These are, in general, those who live in remote rural or mountainous areas, especially the females from certain ethnic groups.

However, there are exceptions: some poorer groups may perform better in some education indicators. Whilst the North Region has lagged behind in reducing poverty, its education performance is better than that of the South, with higher survival rates to grade 5, higher primary net intake rates, higher adjusted primary NARs, and higher adjusted secondary NARs. Similarly, children of the Sino-Tibetan group, which have high poverty rates, have better survival rates to grade 5 than those of the Lao-Tai group. Such exceptions will require a deeper analysis of the causes.

Infrastructure expansion plays a critical role in ensuring education access for the rural population. In 2012, 65 per cent of all villages in Lao PDR had a primary school in the village; 87 per cent of all villages were within one hour's walk of a primary school,[18] and 80 per cent of all village groups nationwide had lower secondary schools.[19] The access to primary school varies – the proportion of villages with a primary school in the village ranges from 39 per cent in Phongsaly to 85 per cent in Xayabury and Attapeu.[20] The government has also increased investment in school infrastructure for secondary education, including accommodation for students from remote areas.

Achieving high literacy will require improving the quality of primary education and ensuring that children go on to secondary school. Primary education is not sufficient. Amongst young people aged 15-24 who stated that they had attended primary school (although not necessarily completed it), only 45 per cent were actually able to read the statement shown to them. Therefore, in the 5 to 15 years after they left primary school, more than half the young people had lost whatever reading skills they had. Studies elsewhere have shown that about 7 years are required to make a learner functionally literate for useful citizenship.[21]

2.8. Government policies, programmes and strategies

Lao PDR has promulgated a number of laws to promote education in line with its Constitution, which guarantees all citizens the right to education. In 1996, Lao PDR made five years of primary education free and compulsory for all children between the ages of 6 and 14 years. In 2000, Lao PDR issued the Education Law, which sets out the right of all Lao citizens to education without discrimination, regardless of ethnicity, origin, religion, gender or social status. In 2005, Lao PDR ratified the ILO Minimum Age Convention (No. 138), which sets the minimum age for admission to employment at 14 years. In 2009, general education was extended from 11 years (5 + 3 + 3) to 12 years (5 + 4 + 3). The country also took steps to promoted inclusive education (Box 2.3).

A number of policy and planning instruments guide education sector interventions. These include 2009-2015 Education Sector Development Framework (ESDF), the 2003-2015 Education for All (EFA) National Plan for Action and the 2011-2015 Education Sector Development Plan (ESDP). Additionally, the country's Seventh NSEDP and the National Growth and Poverty Eradication Strategy emphasize the role and importance of education. The ESDP sets out the national priorities to achieve the EFA goals. It commits the Government to further investing in education.

The Government is implementing several strategies to promote the education of children from poor families and the poorest groups. These include the following:[22]

• Lower secondary schools are being expanded to remote areas and village groups.

• School feeding programmes now cover primary schools in 30 districts of six target provinces, encouraging poor students to come to school regularly.

• Scholarships are awarded to poor students, including to students from the poorer ethnic groups and lower secondary school students.

• The Government has also expanded literacy programmes and non-formal education, including for out-of-school children.

• School block grants were introduced in 2011/12 to all primary schools nationwide, initially based on a unit cost of LAK 20,000 per student per year, and increased to LAK 50,000 per student per year in 2012/13. The Government plans to increase this to LAK 100,000 by the year 2015, according to the ESDF.

The purpose of the school block grants is to encourage the poorer parents to enrol and keep their children in school. Although primary education is free in principle, most schools ask parents to contribute towards their children's education. The school block grant system is meant to discourage this practice and lighten the burden for poorer parents. To complement this, the Government also has a village block grant programme where each village receives around US$ 360 a year to support poor families to send their children to school. The selection of families is made by the village authorities. The allocation of school block grants is not weighted against school or community criteria. Regardless of the location or size of the school, the amount received per student is the same. This may be a disadvantage for smaller, poor rural schools that need more resources as they are much poorer. However, isolated rural schools do receive a 'remote allowance' which seeks to compensate for the higher costs associated with their functioning.

The Government is also promoting education quality and relevance. The interventions include the selection and reward of outstanding students, teacher training at all levels, and curriculum development and adaptation to local needs. Technical and vocational education and training (TVET) opportunities are being expanded.

2.9. Challenges and Opportunities

More work is needed on both demand and supply. The problems of non-attendance, low enrolment, low retention and under-achievement are the results of inadequate investment in education, although other barriers such as poverty and language also play a role. Parents need to be convinced that education will benefit their children and that it is worth the cost and time away from helping their parents. Village education development committees can help in this regard.

Significant proportions of children are still excluded. These are the children of groups living in remote and hard-to-access rural areas. The Ministry of Education and Sports has categorized 56 districts in Lao PDR as the ''most educationally disadvantaged'' districts, having low female net enrolment rates. The challenge will be to ensure that these children are reached and retained by the education system. Knowing who are the educationally disadvantaged, where they live and what prevents them from participating in education is the first step towards their inclusion. Abolition of all kinds of formal and informal fees would help bring children from poor households to school. In addition to poverty, disability may also keep children out of school. Several positive steps are being taken to promote education for children with disabilities (Box 2.3).

The education system will need to respond to the specific needs of communities in the remote rural areas. The Government is therefore expanding school infrastructure further and also increasing the incentives for civil servants to work in remote areas.[23] It will need to

Box 2.3. Inclusive education

People living with disability account for an estimated 1.3 per cent of the total population in Lao PDR. Some 8 per cent of children aged two to nine have at least one reported disability[a].

Children with disabilities are less likely to access education. According to the National Strategy and Plan of Action on Inclusive Education 2011-2015, only 4 per cent of all school aged children with disabilities in 2007/08 were enrolled in preschools, primary and secondary education and receiving appropriate assistance from trained teachers. A child that is disabled and kept at home is more vulnerable to violence, abuse and neglect.

Many factors that lead to disability in childhood could be prevented by better maternal and delivery care and better nutrition. UXO incidents and traffic accidents are other causes of disability.

Lao PDR ratified the UN Convention on the Rights of Persons with Disabilities in September 2009. In 2011, the Ministry of Education and Sports approved the National Policy on Inclusive Education and the National Strategy and Action Plan on Inclusive Education 2011-2015. Both promote a more equitable education system and the inclusion of children with disabilities. This is in line with Article 23 of the UN Convention on the Rights of the Child, which recognizes that children with disabilities need special care, education and training to help them achieve greatest possible self-reliance and to enjoy a full and decent life.

[a] Multiple Indicator Cluster Survey 2006, Lao Statistics Bureau

ensure that teachers in these areas are qualified and trained. Addressing the educational need of children from families who practice shifting cultivation is also required: when the family moves to cultivate land elsewhere, children may drop out in the middle of the school year. Despite improvements in rural infrastructure, the distance to school and incomplete schools are still significant constraints in the more remote areas. As mentioned previously, some 35 per cent of villages did not have a primary school in the village in 2011[24] and about 30 per cent of the country's primary schools were incomplete, offering schooling only for the first few grades.[25] These schools will need to be transformed to complete schools. Lao PDR has a well-developed multi-grade teaching system, which will need to be continued. Approximately one third (29 per cent) of all classrooms are multigrade.[26] Teachers in these classrooms need to acquire the particular skills to efficiently and effectively teach children of differing grade levels.

ECE is expanding in towns and cities but its expansion is proving a challenge in rural areas. The first barrier is inadequate infrastructure. The proportion of government investment in ECE infrastructure is only 1 per cent, far below other investments in the education sector.[27] Where local authorities have failed to provide adequate infrastructure, ECE programmes do not have sufficient space, equipment and safe water and sanitation facilities. Second, local education authorities often do not have sufficient technical capacity or resources to support the delivery of quality ECE services. The mismatch between local situations and the quota provision for kindergarten teacher training is a constraint to the effective training of teachers.[28] Additionally, graduates of ECE teacher training often do not return to their local villages and the Government has to rely on contract and volunteer teachers who may not be qualified. Local trainers do not always adhere to the norms and regulations issued by the Ministry of Education and Sports for pre-primary courses.

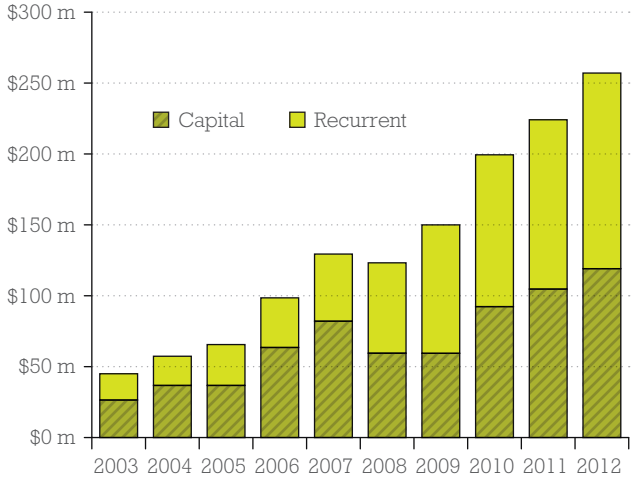
The education system is still unable to meet the demands of society and the labour market. Both the relevance and quality of education needs to be addressed. This is highlighted by the learning outcomes assessment, the high repetition and drop-out rates, and the low completion rates at both primary and lower secondary level. The Ministry of Education and Sports has noted that skills development in the system is not consistent with the demands of the labour market identified in the Seventh NSEDP.[29] Some 11 per cent of primary school teachers still do not have the required qualifications.[30] Many teachers are not able to teach certain subjects in the curricula well, particularly mathematics. Teacher shortages in some disciplines continue to be an issue, including a shortage of English language teachers for grade 3 to grade 5. The low capacity of many rural teachers means that more resources and training need to be invested in the monitoring and supervision of teaching.

The transition to and retention in secondary education is an increasing priority, especially for LDC graduation. As seen in the preceding section, some 55 per cent of young people who have attended primary school are functionally illiterate. Expanding secondary education will require not only infrastructure expansion, but also attention to the quality and availability of teachers and teaching-learning materials. Despite recent infrastructure improvements, secondary schools still have a problem of overcrowded classes, a result of increased enrolments in recent years. Adding one grade to lower secondary education in 2009-2010 resulted in an ad-

ditional need for classrooms, teachers, and learning-teaching materials, which remains to be fully met. The Government is planning to expand lower secondary school to village groups and focal development areas in remote areas, and strengthen capacity building for secondary school principals and teachers. At local level, the institutional and human resource capacity for planning, management and delivery of education needs to be improved.

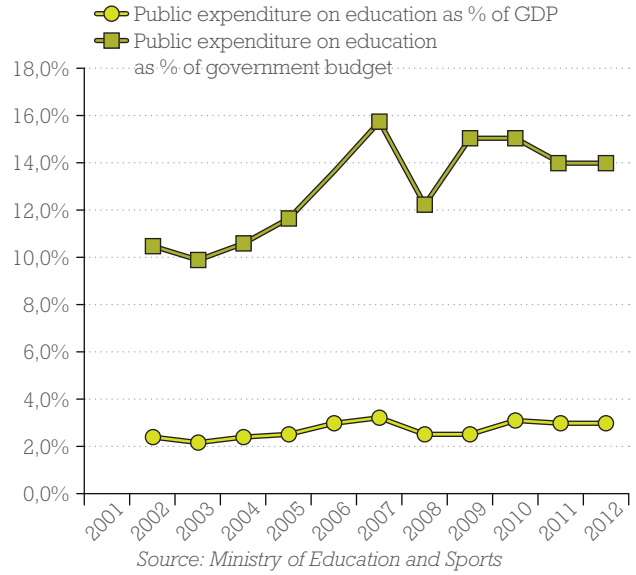
Financing continues to be a major concern. Public expenditure on education and sport has increased by six times over the past ten years (Figure 2.20). In the financial year 2011/12, the total public expenditure was some US$ 258 million, of which 31 per cent was from external support partners ($ 79 million).[31] The funds from external support partners go to investment costs, which include textbooks. One major concern is the low share (4.27 per cent) allocated to non-wage recurrent costs within the overall education budget (fiscal year 2012-2013), making it difficult to maintain schools, pay utilities, strengthen the capacity of teachers in pedagogical methods, buy teaching materials and conduct learning activities for children. Over the past ten years, public expenditure on education and sports has also increased as a share of the government budget from 10 per cent to 14 per cent, or about 4 percentage points. However, in the same period, its share in GDP has increased only from 2.4 per cent to 3 per cent (Figure 2.21).[32] This is lower than the developing country average for East Asia and the Pacific (4.4 per cent of GDP in 2010).[33]

Figure 2.20. **Public expenditure on education: capital, recurrent and total (million US$)**



Source: Ministry of Education and Sports

Figure 2.21. **Public expenditure on education as percentage of GDP and percentage of government budget**



Source: Ministry of Education and Sports

MDG3. Promote Gender Equality and Empower Women

3.1. Summary

Gender parity has steadily improved in all three levels of education in Lao PDR. The country is well on track to achieve parity between boys and girls in primary education. Higher levels of education also show progress although there is still some way to go. In secondary education, the gender gap (in favour of boys) is more pronounced in poorer groups than in wealthier groups and amongst those whose mothers have no education. In survival rates to grade 5, girls generally have a slightly better performance than do boys.

In literacy rates, gender inequality is also associated with poverty. In rural areas without road access, amongst the poorest quintiles and amongst the ethnic groups living in remote areas, females are proportionately less literate than are males. Younger people (ages 15 to 19) show less of a gender gap in literacy than do people slightly older (ages 20 to 24). This may be attributed to higher female school enrolment rates in more recent years.

The share of women in wage employment in the non-agricultural sectors has increased from around 20 per cent in 1990 to 34 per cent by 2010. This still-low proportion may be attributed at least in part to the high proportion of women in unpaid work for the family. Both labour force participation rates and ETPR are relatively high. However, this also applies to the whole population, not only to women, indicating possibly an abundance of poor quality jobs at which people work simply to survive.

The male workforce is better educated than is the female workforce. Women and men account for equal proportions (50 per cent) of the total workforce but are distributed unequally between different sectors. Sectors characterized by vulnerable employment have the greatest proportion of women, either self-employed or engaged in unpaid work for the family. Women make up a greater proportion of unpaid family workers (65 per cent) compared to men (35 per cent).The vulnerability of women workers is due to poor education, and limited access to resources. The most prevalent form of gender discrimination in labour markets is the wage gap between male and female workers.

At the decision-making level, Lao PDR has amongst the highest proportions of women in national parliaments in the region. The proportion of women in other decision-making institutions is still low, possibly because of having to balance family responsibilities with training and other constraints to participation.

Overall, Lao PDR has achieved significant progress in reducing gender disparities and empowering women, but much remains to be done.

3.2. MDG 3 at a glance

Goal 3. Promote gender equality and empower women

Target 3A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015

3.1 Ratios of girls to boys in primary, secondary and tertiary education*	1990	1995	2000	2005	2012	Target 2015
Primary	**0.79**	**0.81**	**0.85**	**0.88**	**0.91**	**1.00**
	1998	2000	2005	2008	2012	
Lower Secondary	**0.70**	**0.72**	**0.79**	**0.84**	**0.89**	
Upper Secondary	**0.67**	**0.67**	**0.71**	**0.78**	**0.83**	
Tertiary	**0.42**	**0.52**	**0.7**	**0.71**	**0.77**	
3.2 Share of women in wage employment in the non-agricultural sector**		1995	2005	2006	2010	
		38%	**44%**	**-**	**34%**	
3.3 Proportion of seats held by women in national parliament	1990	1997	2000	2005	2012	
	6.3%	**9.4%**	**21.2%**	**22.9%**	**25.0%**	

Notes:
*Indicator 3.1: Gross enrolment data for tertiary level was unavailable, so the Ministry of Education and Sports (MoES) calculated the tertiary gender parity index by dividing the number of female students by male students.
**Indicator 3.2: Data from the Economic Census (2006) was dropped as this Census related only to the formal sector.
Data sources:
Indicator 3.1: Ministry of Education & Sports, Education Management Information System (MoES-EMIS) and UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES
Indicator 3.2: Labour Force Survey (LFS 2010), Lao Statistics Bureau, Ministry of Planning & Investment and Population and Housing Censuses, 1995 & 2005, Lao Statistics Bureau, Ministry of Planning & Investment.
Indicator 3.3: Inter-Parliamentary Union, based on reports from the National Assembly of Lao PDR

3.3. Introduction

Gender equality and other MDGs

Gender equality and women's empowerment are development goals in their own right. Studies have shown that gender equality enhances economic growth and productivity, reduces poverty and improves the opportunities and outcomes for the next generation. Other studies show a robust inverse relationship between the size of the gender gap in education and GDP growth.[1] A study has found that in the East Asia and Pacific region, output per worker could be 7 to 18 per cent higher if female entrepreneurs and workers were to work in the same sectors, types of jobs, and activities as men, and have the same access to productive resources.[2]

Women are key players in environmental protection and sustainability. Although they have important roles in management of natural and household resources, many lack the voice to influence decisions on environment and natural resource management. Studies in South Asia found that giving women a greater voice and decision-making role on natural resource management, local outcomes improved significantly.[3]

Progress towards MDG 3 is essential for all other MDGs. Ensuring maternal and child health is only possible if women have equal access to household resources and equal say in making decisions. A child is less likely to suffer from malnutrition if the mother is well nourished before pregnancy. Conversely, children of malnourished women are more likely to suffer from developmental delays and reduced performance at school. Reducing child mortality is strongly associated with the education of mothers, since educated women have better health knowledge and health-seeking behaviour. An educated mother is more likely to have her children enrol in school and complete their education. Healthier and better educated mothers thus have healthier, better nourished and better educated children, which influence the future productivity of a nation's workforce. Women's empowerment and equal participation are crucial to reduce maternal deaths, bring infectious and other diseases under better control, and stop the global trend towards feminization of the HIV/AIDS epidemic.

Gender inequality makes a country less competitive and undermines the potential of the next generation. To participate effectively in an increasingly competitive world, countries will need to improve opportunities for both women and men. Studies show that higher female labour force participation and assets and income in the hands of women have a positive effect on their children's survival and children's education, much more so than similar income and assets in the hands of fathers.[4] Empowered women are less likely to be victims of abuse and domestic violence, which can take a significant toll on the economy by reducing female worker productivity and by increasing health care costs. Reductions in gender-based violence have a positive impact on children and their future. Children of mothers who experienced domestic violence have a higher risk of being victims or perpetrators of domestic violence themselves.[5]

Linkages with LDC graduation

Gender equality and women's empowerment are linked to the HAI (see Box 1.1 on LDC criteria). Women's education, health and nutrition are closely associated with children's health outcomes and are thus strong predictors of reduced under-five mortality rates, which is a

Box 3.1. Gender indicators

The Gender Parity Index (GPI) in primary, secondary or tertiary education, which is obtained by dividing the female gross enrolment ratio (GER) by the male GER, measures the extent of progress in access to and participation in schooling, which is the first step towards gender equality in education.[a] A GPI of 1 indicates parity between the sexes. A GPI lower than 1 indicates that girls are disadvantaged in schooling, whereas a GPI greater than 1 indicates that boys are disadvantaged. However, the GPI alone gives no information on the actual level of participation or access needs to be considered with other education indicators. Accordingly, this MDG Progress Report analyzes the gender dimensions of other education indicators as well, to the extent that these data are available.

The percentage of female workers in total wage employment in the non-agricultural sector reflects the extent to which women have equal access to paid employment in the industry and service sectors as production moves with a country's development towards the non-agricultural sectors. [a] It also reflects women's access to paid employment and regular income, which will help them to become more empowered. However, it does not indicate the quality of wage employment and needs to be examined together with other labour indicators.

The proportion of seats held by women in national parliaments measures the degree to which women have access to parliamentary decision making. It reflects the extent of women's opportunities in political and public life, and ultimately women's empowerment. Obtaining a fuller picture of gender equality in decision-making and public life requires also looking at the share of women in decision-making positions at other levels.

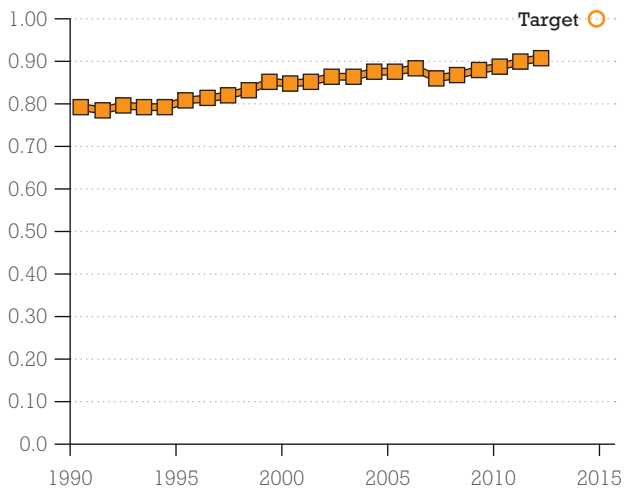
[a] Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/

HAI criterion for LDC classification. The remaining three HAI criteria for LDC graduation (secondary gross enrolment, adult literacy and share of malnourished population) are also closely associated with women's education and empowerment. Mothers' education is associated with higher secondary gross enrolment rates. A country cannot substantially improve adult literacy rate and reduce the proportion of population that is malnourished unless it closes the gender gap in education of girls and women. Gender equality and women's empowerment improve a nation's productivity, which influences its GNI capita, one of the LDC criteria.

3.4. Gender in education

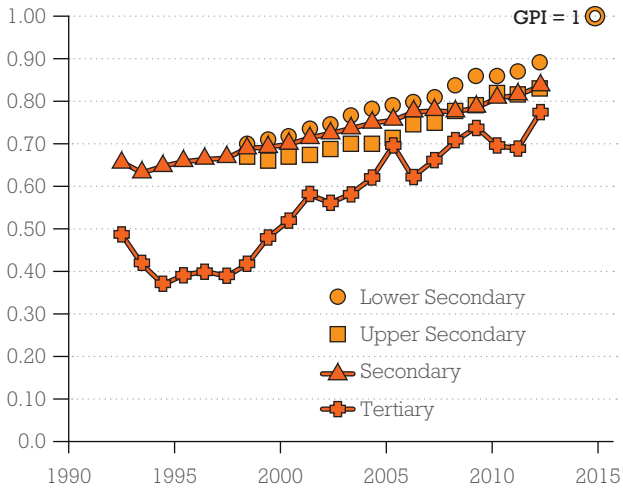
The Gender Parity Index (GPI) in Lao PDR has steadily improved in all three levels of education (Figures 3.1 and 3.2). The GPI for primary education has increased from 0.79 in 1990 to 0.91 in 2012. It is well on track to achieve parity between boys and girls, which means a GPI of 1. The GPI for secondary education has also increased from a low 0.66 in 1992 to around 0.84 in recent years. Not surprisingly, breaking down secondary education into lower and upper secondary shows that the upper secondary GPI (0.83 in 2012) lags behind lower secondary education GPI (0.89 in 2012) throughout. The GPI for tertiary education[6] shows more uneven progress, but progress that is relatively rapid. Starting in 1992 at a low 0.49, the tertiary GPI was 0.77 by 2012.[7]

Figure 3.1.
Gender parity index, primary education



Ratio of female GER to male GER at primary level
Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS); UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES

Figure 3.2.
Gender parity index, secondary & tertiary education



Ratio of female GER to male GER at secondary level. Tertiary GER data was not available, so the ratio was calculated by dividing the number of female by male students.
Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS); UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES

Gender disparity in primary education is seen at province level but differences are not great. Provincial disparities range from 0.93 (Phongsaly, Luangnamtha, Saravane and Savannakhet) to 1 in Vientiane province, Vientiane city and Luangprabang. The female-male ratio calculated with the NER is consistently higher than that calculated with GER, meaning that proportionately more boys are in the over-aged or under-aged population enrolled in school compared to girls.

In secondary education, the differences in gender gap between provinces is greater (Figure 3.3). The lower secondary education GPI ranges from around 0.8 in the northern provinces of Bokeo, Luangnamtha, Oudomxay and Luangprabang to 1.02 in Savannakhet. In upper secondary education, girls' GER is noticeably lower than that of boys in all provinces. It ranges from 0.95 in Vientiane city to 0.69 in Luangprabang, Huaphanh and Vientiane Province. In these three last provinces, for every 100 boys attending upper secondary school, only 69 girls do so.

The association between gender gap and poverty is more pronounced in secondary education. This is seen in the patterns of GPI calculated from the primary and secondary adjusted net attendance ratios (NAR) between the different socio-economic groups. The lowest GPIs are seen amongst the children from the poorest quintile, and amongst those whose mothers have no education (Figures 3.4 and 3.5).

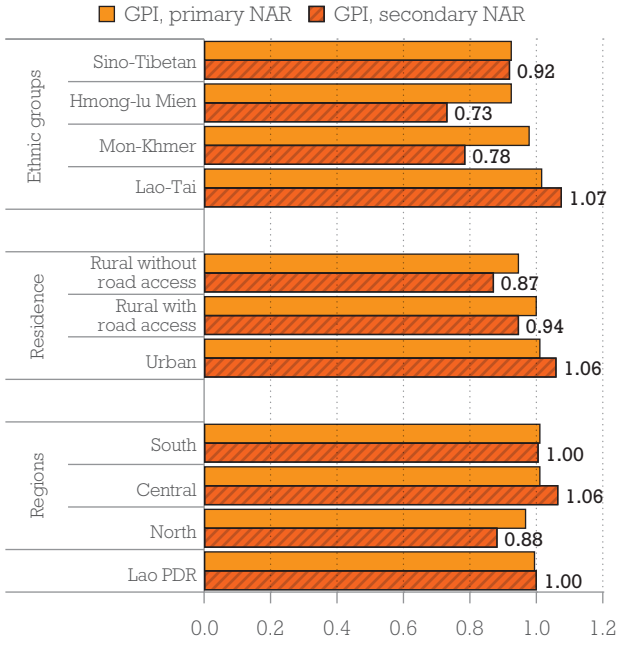
In survival rates to grade 5, girls have a marginally better performance than do boys (Figure 3.6). Nationally,

for every 100 boys surviving until grade 5, 103 girls are retained until that grade. The pattern is repeated by province. Out of the 17 provinces, proportionately more girls survive to grade 5 than do boys in 12 provinces. Savannakhet, Champasack and Khammuane are the three top provinces in this regard: in Savannakhet, for every 100 boys who stay on to grade 5, there are 111 girls who do so.

In literacy rates, the gender gap is generally associated with poverty. The young people in urban areas, ethnic groups from easily accessible lowland areas, and those from the richest quintile have all achieved or nearly achieved gender parity. However, females are proportionately less literate than are males in rural areas without road access, amongst the poorest quintiles and amongst the ethnic groups living in remote areas, (Figures 3.7 and 3.8). Amongst the provinces, Saravane (GPI 0.61), Oudomxay, Bokeo, Huaphanh, Sekong and Attapeu all have the GPI for literacy well below the national average (Figure 3.9).

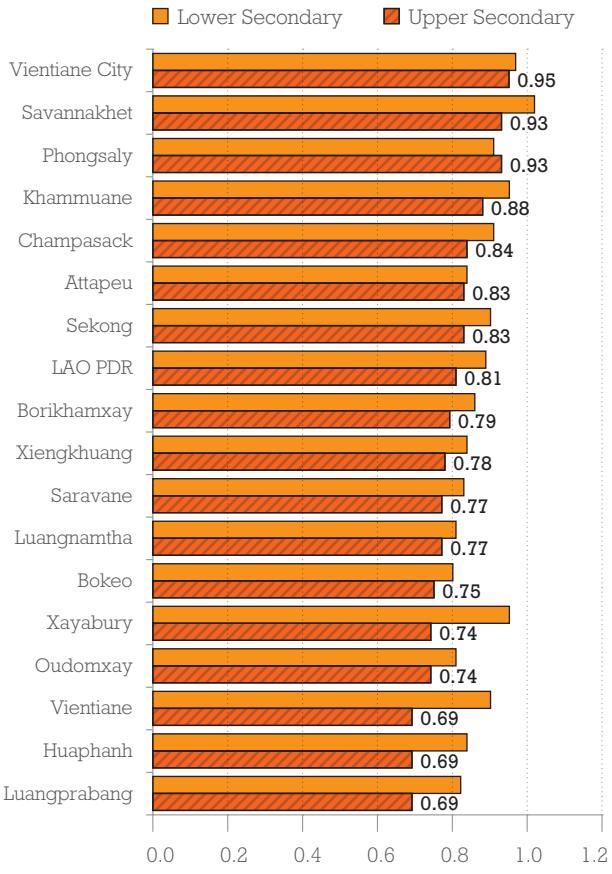
Younger people (ages 15 to 19) show less of a gender gap in literacy than do people slightly older (ages 20 to 24) (Figure 3.8). This may be attributed to higher female school enrolment rates in more recent years. The adult population above 15 years of age have a gender gap similar to that of the 20-24 year age group.

Figure 3.4.
Gender Parity calculated with adjusted Net Attendance Rates (NAR)



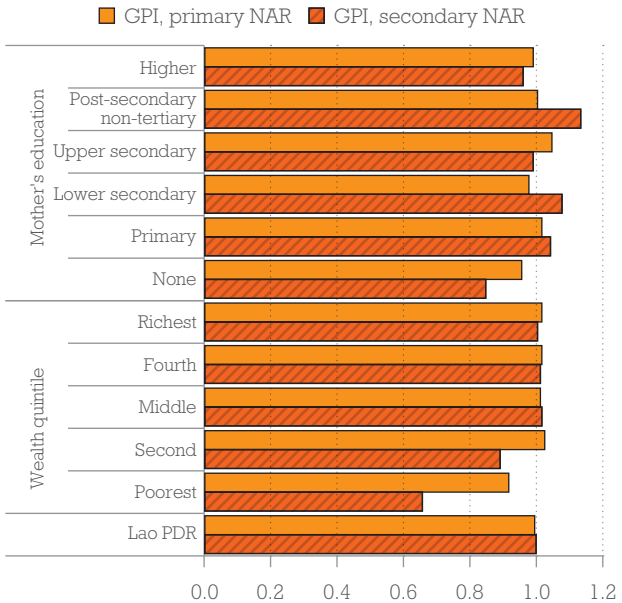
Ratio of female NAR (Adjusted) to male NAR (Adjusted)
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 3.3. **Lower & Upper Secondary Education GPI**



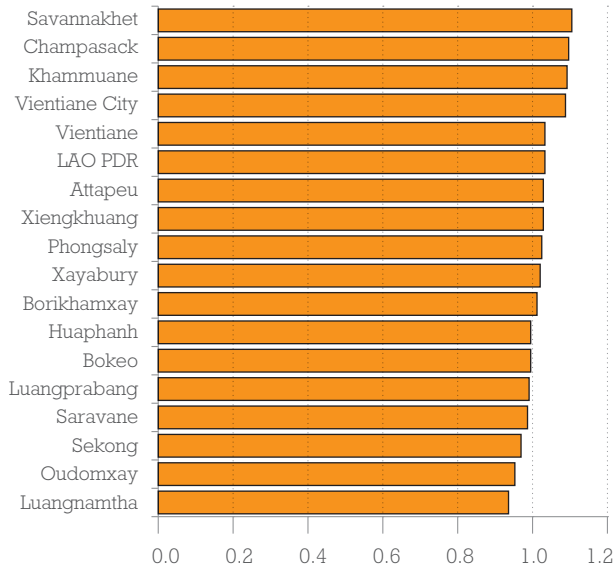
Ratio of female GER to male GER. Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Figure 3.5.
Gender parity calculated with Adjusted Net Attendance Rates (NAR)



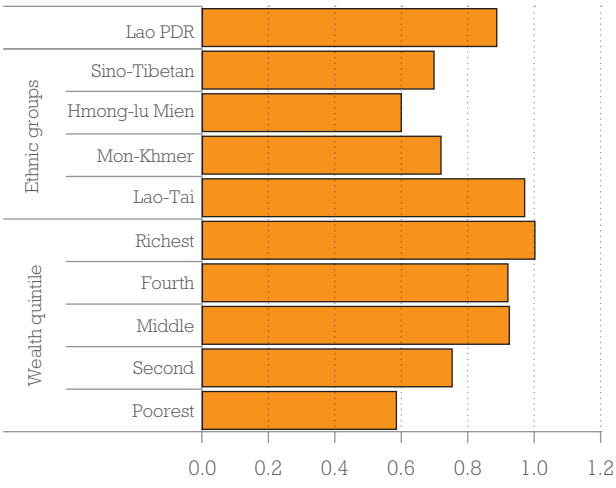
Ratio of female NAR (Adjusted) to male NAR (Adjusted)
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 3.6. **Gender parity calculated with survival rate to grade 5**



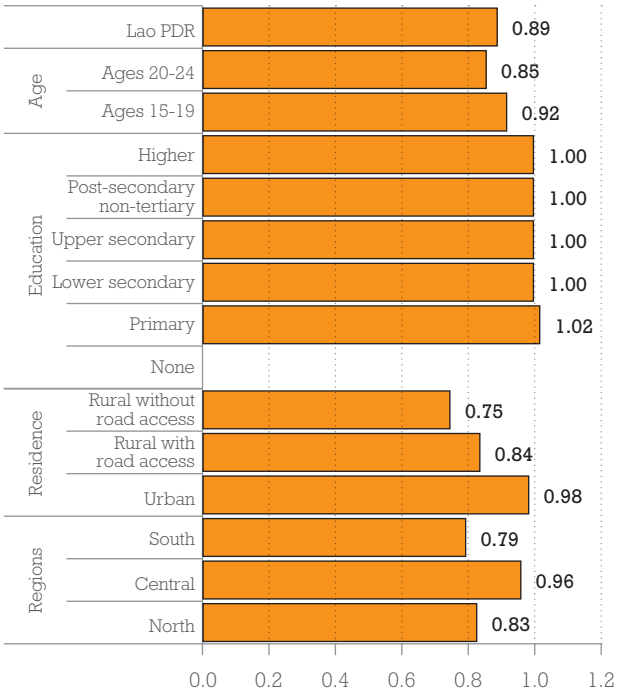
Ratio of female to male survival rates to grade 5
Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Figure 3.7.
Gender parity calculated with literacy rates amongst 15-24 year-olds



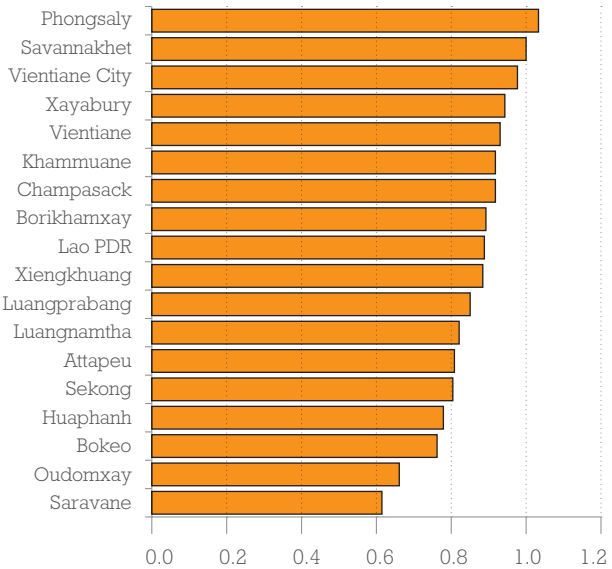
Ratio of female to male literacy rates
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 3.8.
Gender parity calculated with literacy rates amongst 15-24 year-olds



Ratio of female to male literacy rates
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 3.9. **Gender parity calculated with literacy rates amongst 15-24 year-olds**

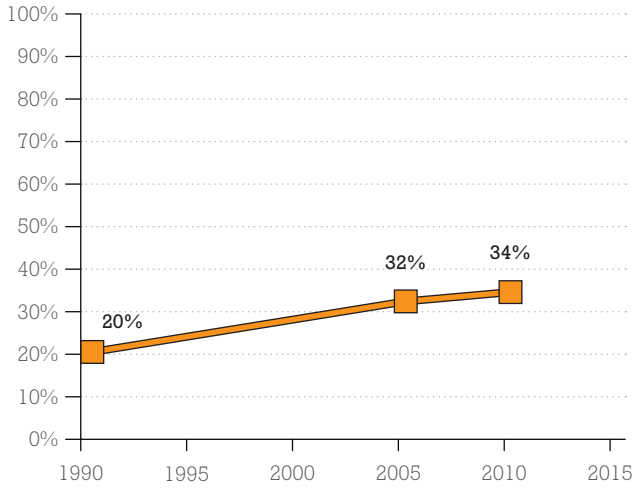


Ratio of female to male literacy rates
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

3.5. Gender in employment

The share of women in wage employment in the non-agricultural sectors has increased (Figure 3.10). Starting around 20 per cent in 1990, it had increased to 34 per cent by 2010.[8] The share of women in wage employment in all sectors (including agriculture) is similar, at around 35 per cent. The explanation for the relatively low share of women in wage employment in non-agricultural sectors, therefore, is not necessarily because women are being "left behind" relative to men in the move of production from agriculture to industry and services (Lao PDR being still overwhelmingly agricultural). Rather, it may be explained by the high proportion of women in unpaid work for the family: 65 per cent of unpaid workers for the family are women (see below). The Labour Force Survey shows that women account for only 23 per cent of all employers.

Figure 3.10.
Share of women in wage employment in the non-agricultural sectors



Source: Labour Force Survey (LFS 2010) and Population and Housing Census, 2005, Lao Statistics Bureau, Ministry of Planning & Investment. ILO-KILM database for 1990.

Both labour force participation rates and ETPR are relatively high but this applies to the whole population, not only to women (Chapter 1). The labour force participation rate has declined relatively slowly over the past two decades from around 85 per cent in the 1990s to 79 per cent in 2010 (78 per cent for women and 81 per cent for men).[9] The Employment-to-Population Ratio (76 per cent for women and 79 per cent for men) is somewhat higher than the regional average for South East Asia and the Pacific (71 per cent for men and 51 per cent for women).[10] As noted in Chapter 1, a relatively high ETPR In developing countries that are poor means an abundance of poor quality jobs at which people work simply to survive.[11] The quality of women's work is therefore a key issue.

Overall, the male workforce is better educated than is the female workforce (Figure 3.11). 33 per cent of the male workforce have completed secondary education, compared to 25 per cent of the female workforce. 28 per cent of the female workforce are uneducated, compared to 17 per cent of the male workforce. Some 6 per cent and 7 per cent of employed men respectively have tertiary and technical school education, compared to 3 and 5 per cent of employed women.

Women and men account for equal proportions (50 per cent) of the total workforce but are distributed unequally between different sectors (Figure 3.12). Women are predominant in the elementary occupations:[12] 64 per cent of employed workers in this sector are female. They also predominate as service workers and sales workers in shops and markets (63 per cent). On the other hand, men account for the majority of civil servants, professionals, technicians and other sectors. In the agriculture and fishery sectors, the workforce comprises similar proportions of women and men (51 per cent and 49 per cent).

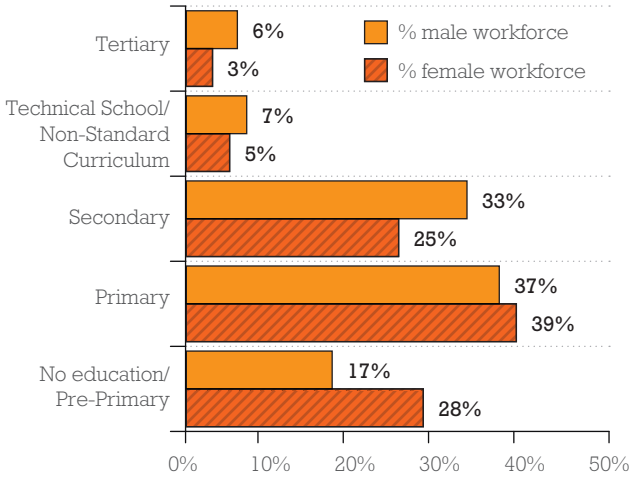
Sectors characterized by vulnerable employment have the greatest proportion of women. Within the total female workforce of 1.5 million, some 1.1 million women or 72 per cent are engaged in the agriculture and fishery sectors and 11 per cent in the elementary occupations. This is significantly more than the proportion of the male workforce engaged in these sectors (68 per cent and 6 per cent respectively). Amongst service workers or shop & market sales workers, 63 per cent are women whilst 37 per cent are men. This is also a vulnerable sector, with a significant proportion of the workforce either self-employed or engaged in unpaid work for the family. A far greater proportion of unpaid family workers (65 per cent) are women as opposed to men (35 per cent) (Figures 3.12 and 3.13).

3.6. Gender in decision-making

Lao PDR has amongst the highest proportions of women in national parliaments in the region. It is well above the world average in terms of women's representation in the National Assembly (Figures 3.14 and 3.15).

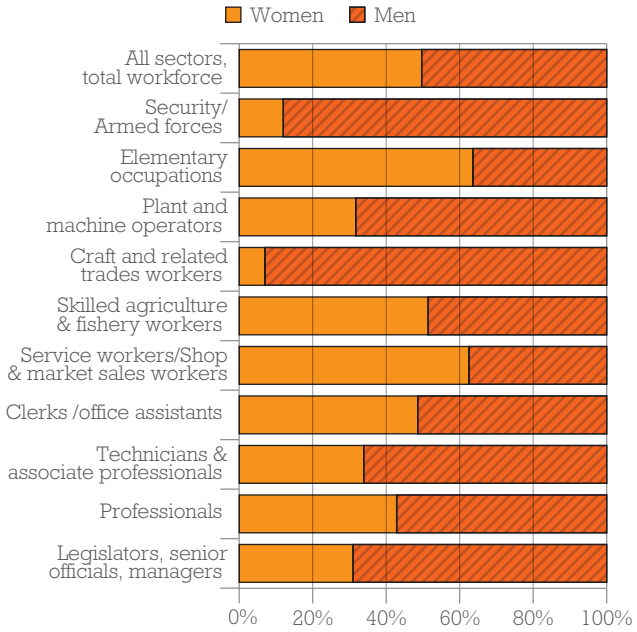
The proportion of women in other decision-making institutions is still low. Out of more than 25,900 decision-making positions, only 5 per cent are filled by women. The Government aims to have women in at least 15 per cent of all such decision-making positions by 2015. At the time of this Report, there are no female provincial governors. Out of 8,651 village chiefs, 191 or 2 per cent are women. The National Assembly and the Deputy Director-General positions have the highest proportion of women (25 per cent and 19 per cent respectively). (Figure 3.16)

Figure 3.11.
Women and men in employment by level of education
(Percentage of total male/female work force)



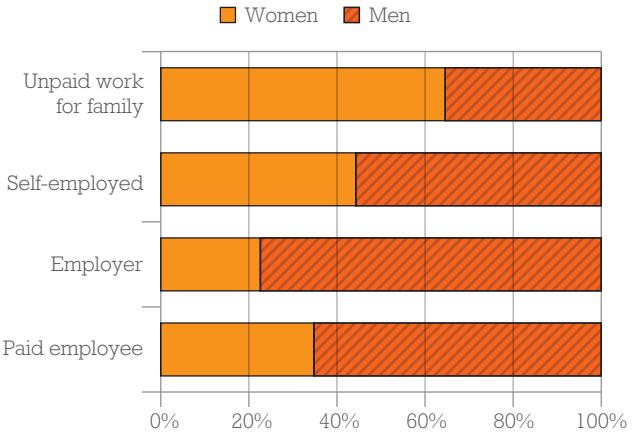
Source: Labour Force Survey (LFS 2010), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 3.12. **Women and men in employment by sector of employment (Percentage in each sector)***



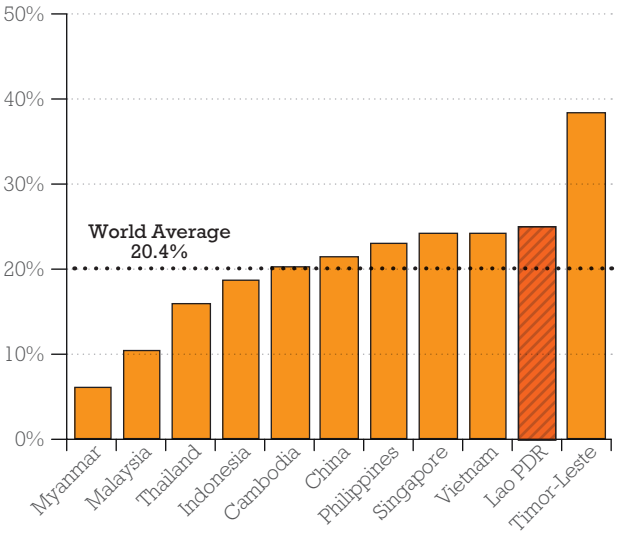
** Does not include "Not Recorded" Category*
Source: Labour Force Survey (LFS 2010), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 3.13. **Women and men in employment by type of employment (Percentage in each type)***



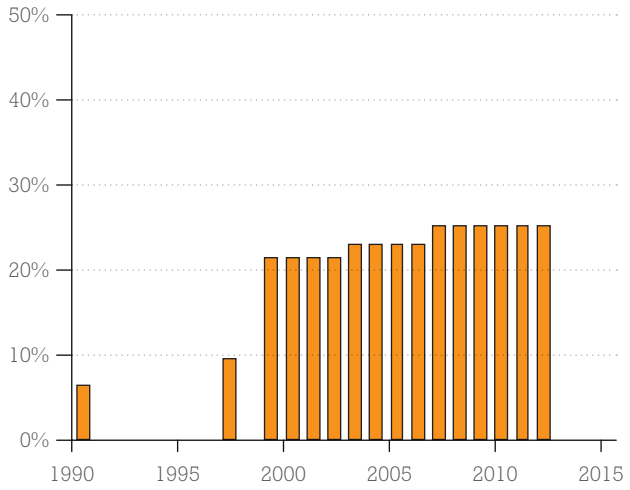
** Includes agriculture & fisheries sector.*
Does not include "Not Recorded" category
Source: Labour Force Survey (LFS 2010), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 3.14.
Proportion of seats held by women in national parliament: regional and global comparisons



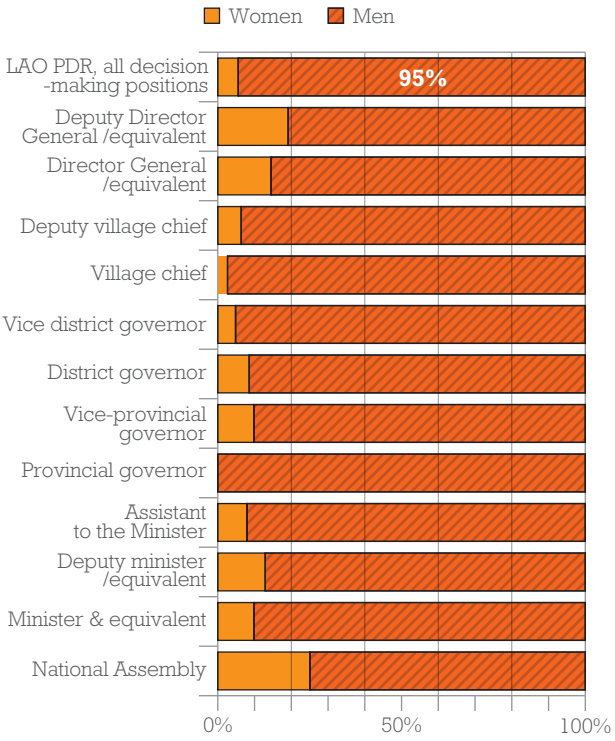
Source: InterParliamentary Union, 1 February 2013

Figure 3.15.
Proportion of seats held by women in national parliament



Source: InterParliamentary Union, 1 February 2013, from reports by the National Assembly of Lao PDR

Figure 3.16. **Percentage of decision making positions held by women and men, 2012**



Source: MoHA and Central Party Bureau, July 2012

Advancing through the system is a challenge for women. Promotion generally follows special administrative, leadership and political training. Having to balance family responsibilities with such training and other responsibilities could be difficult for many women. Men's attitudes and perspectives could also be an issue. The UN Committee on the Elimination of All Forms of Discrimination against Women, at their 44th Session in August 2009, noted the persistence of patriarchal attitudes and deep-rooted stereotypes regarding the roles, responsibilities and identities of women and men in all spheres of life.

3.7. Key determinants

Culture and tradition are important factors in gender parity and inequality. Lao PDR's rich and diverse mix of ethnic groups brings with it a mix of different traditions and cultures, each with its own gender roles and relations. Within the majority Lao-Tai group, for example, women play a strong role in household finances and families pass on land to daughters. This is not the case amongst some other ethnic groups, where men may play a more dominant role in controlling finances. Furthermore, certain traditional customs do not allow women to work far from the village, limiting their mobility for work. The cultural differences lead to different perceptions and different utilization of education, health and social services. These differences largely explain the gender gaps seen in health and education outcomes. Polygamy is still practised by some ethnic groups. Yet the Lao Constitution does not allow more than one wife or one husband. Some cultures view violence against women as acceptable. Promoting gender equality and women's empowerment will require the changing of mind-sets and behaviours.

Gender roles and biases make it more difficult for girls to be educated. In many remote ethnic groups, the disadvantages of illiteracy and poor female education are perpetuated when girls who drop out of school grow up into women who are illiterate and unable to participate adequately in development activities that could empower them and improve the situation of their children. Other constraints to girls' education include poverty, distance, the costs of education, and family attitudes: poor families may not see the relevance of formal education for improving their livelihoods and girls are more burdened with household chores than are boys. The Child Labour Survey shows that even amongst child workers, the proportion of girls doing household chores in addition to their own work is greater than that of boys. Early marriage or pregnancy may also cut short girls' education.

Lao women's economic participation is one of the highest in the region. Lao women play a critical role in agriculture and in the management and use of natural resources, and are primarily responsible for main-

Box 3.2. Trafficking

Lao PDR is primarily a source country for victims of trafficking and, to a much lesser extent, a transit and destination country. Children, women and men who end up being trafficked are often migrant workers (or would-be migrant workers) seeking better opportunities outside the country. Destination countries include Thailand, Malaysia and China. Young women and girls from Lao PDR may be forced into Thailand's commercial sex trade or domestic service, garment factories, and agricultural industries. Lao men are also victims of trafficking for forced labour in Thailand's fishing and construction industries. Some Lao women and girls are reportedly sold as brides in China.[a] About 72 per cent of trafficked children are young girls under 18 years of age.[b]

The Government of Lao PDR investigated 49 cases and convicted 37 alleged offenders in 2012, compared with 20 cases investigated and 33 convictions in 2010.[b] Between 2006 and 2012 1,419 victims of trafficking were officially repatriated from neighbouring countries to Lao PDR. Of these, 1,350 were female and 1,072 were girls and boys under 18 years of age. Between 2006 and 2012, 362 female victims of human trafficking received medical care, rehabilitation, and vocational training in Lao PDR, 216 of which were girls under 18 years of age. There are likely to be other unreported cases of victims of trafficking returning to Lao PDR. Protection procedures for returned trafficked victims from abroad, especially from Thailand, need to be strengthened.

Trafficking victims are mainly from rural areas, but not from the most remote areas or from situations of severe poverty. They are predominately from the Lao-Thai ethnic group and from the lowland regions of the country.

Lao PDR has adopted several laws and regulations to prevent and combat trafficking and assist its victims. The Law on the Development and Protection of Women (2004) includes provisions on the prevention of trafficking of women and children (Article 24), the rights of the victims (Article 25), the obligations of society (Article 26), the prosecution of offenders (Article 27), and assistance to victims (Article 28).

All forms of trafficking in human beings are prohibited under Article 134 of the Penal Code, revised in 2006. The Law on the Protection of the Rights and Interests of Children (2006) also provides for protection and assistance from exploitation (Article 35) and stipulates the applicable sentence for trafficking in children (Article 90). [c]

In November 2012 the Government of the Lao PDR adopted a National Plan of Action to Combat Human Trafficking. The central mechanism in Lao PDR for responding to trafficking in human beings is the National Steering Committee on Human Trafficking, established by Prime Ministerial decision on 8 September 2008, which coordinates with provincial Anti-Trafficking Divisions and district networks, international organizations and neighbouring countries to combat trafficking.

Lao PDR endorsed the ASEAN Declaration against Human Trafficking in Persons Particularly in Women and Children at the 10th ASEAN Summit Meeting held in Vientiane on 29 November 2004. Lao PDR became a joint signatory to the Memorandum of Understanding (MOU) of the Coordinated Mekong Ministerial Initiative against Trafficking (COMMIT) in 2004. Subsequently, Lao PDR has signed MOUs to prevent, combat and assist victims of trafficking with Thailand (2005)[d] and Vietnam (2010).[e] At the time of this MDG Progress Report, Lao PDR is in the process of negotiating a MOU with China on the same issues.

[a] US Department of State (2012)
[b] Government of Lao PDR (2013). First National Report on the Implementation of the Optional Protocols
[c] Any person who commits an offence of trafficking in children shall be punished by imprisonment from five years to fifteen years and fined from LAK 10,000,000 to LAK 100,000,000 and shall have his assets confiscated as provided in Article 134 of the Penal Law.
[d] Lao PDR and Thailand MOU on Cooperation to Combat Trafficking in Persons especially Women and Children on 13 July 2005.
[e] Lao PDR and Vietnam Agreement on Cooperation and Preventing and Combating Trafficking in Persons and Protection of Victims of Trafficking on 3rd November 2010.

taining their families' food security. They use the forest as an important resource for providing household food security, gathering mushrooms, wild berries, fruits, nuts, honey, medicinal herbs and insects.[13] They spend a similar amount of time on agricultural work as do men, but men have more time and opportunities to engage in income generating activities, including in agricultural work. The majority of women's economic contributions remain undervalued and women's employment is highly vulnerable. Although data is not available, anecdotal evidence shows that many younger Lao women migrate to Thailand, largely undocumented, to work as domestic workers or in the service sectors.

The vulnerability of women workers is due to poor education, limited opportunities and less access to resources and financial services compared to men. This applies across all sectors of employment and across all

Box 3.3. Violence against women and children

Violence affects women and children disproportionately. Violence can affect children's physical and mental health, impair their ability to learn and socialize, and undermine their development as adults and good parents later in life. In the most severe cases, violence causes death.

In 2009, Lao PDR submitted its Combined Sixth and Seventh Periodic Report of State Parties to the UN Committee on the Elimination of All Forms of Discrimination Against Women (CEDAW). The Committee noted the high prevalence of violence against women and girls, including domestic violence in Lao PDR. It further remarked that cases of violence were underreported and that those reported were settled out of court. The UN Committee recommended that the Government directly combat violence against women and girls by raising awareness about the issue, by removing impediments that prevent women from gaining access to justice and by establishing counselling services and shelters for victims of violence. Further, the Committee recommended that Lao PDR widen the definition of rape in the Penal Code and consult widely with women on the reform of laws and procedures related to rape and sexual abuse.

In 2011, the UN Committee on the Rights of the Child considered the second periodic report of the Lao PDR and made several key recommendations to combat violence against children, including the establishment of a national system of data collection and analysis on children and violence. In 2012, the Government of Lao PDR, led by the National Commission on Mothers and Children, committed to conducting the first Baseline Assessment of Violence against Children.

types of jobs, and is especially pronounced amongst the poor. Such barriers push many women into the informal sector and small-scale enterprises to supplement their family incomes, in addition to their work in farms and within the household.[14] Women entrepreneurs may face difficulties in dealing with cumbersome registration procedures, due to limited education and limited time. Thus women tend to work in low-skilled jobs, rarely in management positions. This explains the much greater numbers of women in elementary occupations, amongst service workers and sales workers and as unpaid workers for the family. Conversely, much smaller numbers of women hold jobs requiring education, skills and training, such as managerial and professional positions and machine operators and craft workers.

The proportion of employers[15] who are female is still small, at 23 per cent. These businesses are usually in retail and textiles. The most common type of women-owned businesses are small-scale retail businesses, vending, textile and guesthouse or restaurant businesses.[16] Off-farm activities undertaken by women to earn cash income include silkworm-raising, weaving and embroidery for household consumption, local and export markets. Women's enterprises are more likely to be home-based or placed in the market rather than mobile. Only 5 per cent of female-owned enterprises use electric or motorised equipment as opposed to 48 per cent of male owned enterprises.[17] Female entrepreneurs report that household and personal duties, which lead to lack of mobility, are a hindrance to starting up businesses, in addition to the cost of business licensing.[18] Female-owned firms tend to be smaller than male-owned firms but they also grow at a faster pace,[19] offering high potential for the country's overall development. Newly registered firms by women in the formal sector are increasing. In 2010, women owned 54.8 per cent of newly registered firms, compared to only 43.9 per cent in 2009.[20] A 2004 survey identified the different needs for women and men to start a business: women need training in fields such as marketing, business management and trading, whereas men identified needs for training in mechanical and technical skills, marketing and livestock husbandry.[21]

The most prevalent form of gender discrimination in labour markets is the wage gap between male and female workers. Differences also exist in job security, types of work and working conditions. Female workers on average earn lower salaries, wages and other kinds of remuneration than male workers. This is partly because average wages in the textile and garment industries – where women predominate – are lower than those in industries where men predominate.[22]

New risks have emerged for women and girls, linked to the rapid changes in and development of Lao PDR's economy. Greater economic integration and development have brought more opportunities and a greater desire for migration to neighbouring countries, particularly Thailand. A number of risks associated with migration are emerging – these include sexual exploitation, abuse, HIV and human trafficking (Box 3.2). Other vulnerabilities have always existed, such as violence against women, but these are increasingly discussed openly (Box 3.3). However, many misperceptions and practices continue, such as attaching blame to the victims of violence. Women who suffer from abuse and violence have little legal or psychological recourse.[23]

Agricultural land, notably land size and the number of plots, is a significant source of gender inequality in the agricultural sector. The average size of land that female-headed households can access is 16 per cent smaller than that of male-headed households. Further, the proportion of female-headed households that have

access to more than one plot of land is almost half that of male-headed households.[24] Female-headed households have less diversified cropping patterns than do male-headed households.

Income and livelihood diversification constitute a second source of gender inequality in the agricultural sector. Being poorer, but also engaged in childcare, female-headed households spend a larger proportion of their total expenses on purchasing food products than do male-headed households
Compared to male-headed households, female-headed households are less able to engage in livestock production; less able to obtain higher proceeds for selling livestock; less able to market cereals; less able to engage in fishery and forestry as income sources; less able to have access to financial services and loans, especially formal loans, to invest in businesses; and less likely to have a literate head of household.

3.8. Government policies, programmes and strategies

The revised Constitution of 2003 and other laws of Lao PDR stipulate that women and men have equal rights in all spheres. The country has enacted or revised a number of laws and policies to guarantee women's rights such as the Law on Development and Protection of Women in 2004, the 2005 amendment of the Penal Law criminalizing discrimination against women in article 177, the revised labour law in 2006 and the revised Family Law in 2009. Lao PDR's labour law stipulates equal access to employment.

The Government's commitment to gender equality is articulated in several policy documents. These include the Second National Strategy on the Advancement of Women (2011-2015), the National Growth and Poverty Eradication Strategy, and the Seventh National Social and Economic Development Plan. The National Plan of Action for Basic Education for All emphasizes the eradication of illiteracy and gender disparities in education.

Three key institutions provide a favourable environment for women's empowerment and gender equality: The Lao Women's Union, established in 1955, safeguards the rights and interests of Lao women and children of different ethnic groups. The Women's Caucus, composed of all female members of the National Assembly, was formed in the 5th Legislature of 2003 in recognition of the need to address issues faced by women in parliament, and to provide a platform from which members can seek to enhance their parliamentary skills. The National Commission for the Advancement of Women (NCAW), established in 2003, assists the Government to formulate national policy guidance and strategic action plans to promote women's advancement and gender equality. The NCAW has established Sub-Commissions for the Advancement of Women at ministerial and provincial levels.

Gender equality in governance is being promoted by the Ministry of Home Affairs. Its activities and programmes aim at the following:

- Equal rights for women at work,
- The enhancement of knowledge amongst women, to enable them to make decisions on important issues at all levels,
- The participation of women in politics, the economy, socio-cultural and family activities and the removal of barriers and constraints to this end,
- Gender education,
- Women in at least 30 per cent of participants in all training and capacity building interventions, and
- Women in at least 15 per cent of decision-making positions by 2015.

The Lao Women's Development Plan (2011-2015) has six programmes, comprising 32 projects. The first focuses on promoting political consciousness and upgrading legal knowledge for women. The second aims to build capacity amongst the Lao Women's Union organizations from central to grass roots level. The third programme aims to protect women's and children's rights and interests and promote gender equality. The fourth programme promotes vocational training, skills development and small businesses for women with a view to reducing poverty. The fifth programme focuses on the protection and promotion of the cultural heritage of Lao women and the nation. The sixth programme relates to international cooperation.

Lao PDR has committed to international Conventions in support of equal rights between women and men and between girls and boys. It acceded to the Convention on the Political Rights of Women in 1969 and adopted the Beijing Action Plan in 1995. It has also ratified the CEDAW since 1981, and ratified the Convention on the Rights of the Child (CRC) since 1990. CEDAW prohibits the discrimination against women and protects their rights, whilst the CRC obligates governments to protect the rights of all children "irrespective of ... race, colour, sex, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status." (Article 2). Maternal health and survival are also part of the CRC (Articles 22 and 24).

3.9. Challenges and Opportunities

Lao PDR has achieved significant progress in reducing gender disparities and empowering women, but much remains to be done. The generally low level of gender awareness in society causes women's role to be often undervalued. The level of legal and rights awareness among men and women is also low, particularly about laws that affect women. There is a need to strengthen the implementation and monitoring of the legal and policy frameworks. The implementation of laws is particularly weak at the district and provincial level. Overall, the national capacities need strengthening, especially in light of emerging vulnerabilities such as human trafficking and violence against women. The Lao Women's Union and the Lao National Commission for the Advancement of Women are making efforts to heighten awareness and assist women.

The barriers to gender equality and women's empowerment are rooted in the poorer education of girls and young women. Many of the reasons for these disparities are in turn associated with the remoteness of villages, poverty, lack of information, linguistic and cultural practices and the perception of those families that education is not a priority. Lao PDR has made impressive progress in increasing girls' access to and participation in primary education. It now needs to achieve the same progress in secondary education.

Training for women to improve their livelihood opportunities is essential and should start early with school leavers. Problems hampering non-formal education approaches for poor girls and women need to be addressed: these include an insufficiency of non-formal education trainers, a shortage of teaching materials and traditional attitudes on the usefulness of learning for girls and women.

Attitudes and discrimination need to change to achieve gender equality and women's empowerment. This is a long-term task that will involve encouraging men to take their share of responsibility in empowering women within the home and community, providing educational, income-generating and decision-making opportunities to women, and bringing sensitive issues such as violence against women to the fore. Legal frameworks need to be strengthened to further protect women and girls.

MDG4. Reduce Child Mortality

4.1. Summary

From the early 1990s to 2011, Lao PDR saw significant declines in the infant and under-five mortality rates. The most recent survey data show that Lao PDR has achieved the previously set national MDG target for under-five mortality rate of 80 per thousand live births and can now set a more ambitious target for 2015. Nonetheless, Lao PDR still ranks amongst countries with the highest under-five mortality rates in the region.

To achieve child mortality targets that are more ambitious, Lao PDR will need to continue its current reduction rate of more than 4 percentage points a year. This will require tackling significant challenges. To date, much of the progress seen in reducing under-five mortality may be attributed to improvements in socio-economic conditions and the mortality reductions amongst groups that are less poor, better educated and more receptive to interventions. Comparison with 2006 MICS data suggests that the equity gap has widened or remained the same, with better-off and urban families recording faster progress. Therefore, achieving further reductions in infant and child mortality will require reaching the poorer segments of the population and the population living in remote areas. The cost and difficulty of providing services to these groups will be some orders of magnitude higher and will require corresponding investment in the health sector.

Most child deaths in Lao PDR are due to preventable and treatable conditions. An increasing number of children in Lao PDR now have access to high-impact child survival interventions (such as immunization and oral rehydration therapy) known to be effective in reducing child deaths and childhood diseases. Implementing these high impact, low-cost interventions could reduce two-thirds of child deaths. Lao PDR shows good progress on some interventions but overall, the coverage is still low.

Immunization coverage has increased but remains low and inequitable. The main reasons of low coverage on immunization and other health services include difficulty in access and a reliance on unpredictable external funding sources for health outreach, supply distribution and cold chain.

The greatest challenge will be to ensure sustainable and predictable financing for maternal, neonatal and child health services. Another challenge will be to strengthen clinical and management capacity and develop better supply and logistics management systems.

There are several opportunities for accelerating progress towards national targets for under-five mortality rate and infant mortality rate. First, Lao PDR has good overall policies that aim at expanding child survival interventions and reducing inequities in health services utilization among different groups. Second, the health reforms prioritize the expansion of high impact, low-cost interventions to reach the MDGs. Large scale implementation will be needed so that these interventions reach high levels of population coverage. Finally, Lao PDR's steady economic growth provides growing fiscal space, which would allow an increased national budget allocation for recurrent costs. This should be sufficient to cover vaccines, other essential supplies and functioning of primary health care facilities, including health outreach.

4.2. MDG 4 at a glance

Goal 4. Reduce child mortality						
Target 4A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate						
	1993	1997	2003	2007	2011	Target 2015
4.1. Under-five mortality rate (per 1,000 live births)	170	150	131	106	79	70
4.2. Infant mortality rate (per 1,000 live births)	114	118	104	87	68	45
				2006	2012	Target 2015
4.3 (a) Proportion of 1 year-old children immunised against measles (%) (survey data)				33%	55%	90%
	1997	1999	2003	2008	2012	Target 2015
4.3 b) Proportion of 1 year-old children immunised against measles (%) (administrative data)	67%	71%	43%	52%	72%	90%

Data sources:
Indicators 4.1 and 4.2. Lao Social Indicators Survey (LSIS 2011/12), Lao Statistics Bureau (LSB), Ministry of Planning & Investment.
Indicator 4.3 a: LSIS 2011/12 and Multiple Indicator Cluster Survey (MICS 2006), LSB.
Indicator 4.3 b: Ministry of Health (MoH) administrative data.

4.3. Introduction

Child health and the MDGs

Child mortality is the outcome of several interconnected factors. The immediate causes of child mortality lie in illness, malnutrition, injury or accidents. The underlying causes include poor maternal health and nutrition, inappropriate childcare practices, the lack of hygiene, safe water and sanitation, the lack of health services and other factors that lie outside the health sector, such as the lack of education and knowledge amongst mothers. The wide range of factors influencing child mortality means that progress in other MDG areas contributes to reducing child mortality. At a structural level, the causes of child mortality are linked to the broader context of socio-economic development, the mores and traditions of a society, poverty, gender inequities, environmental degradation, the governance and financing of the social sectors, and the quality of human resources in the country. As the level of the country's development rises, the under-five mortality rate declines. The under-five mortality rates in least developed countries and low-income countries are over 16 times higher than in high-income countries and 5 times higher than in upper middle-income countries.[1]

Rapid economic growth is associated with widening disparities in under-5 mortality between rich and poor. Increased public spending on health and targeted programmes that benefit the poorest might partly remedy this effect.[2] In many developing countries, data on disease incidence and prevalence are frequently unavailable, so the under-five mortality rate, disaggregated by region, is particularly useful in the targeting and planning of national development strategies.

The mix of causes leading to child death varies by age. Developing strategies to reduce under-five mortality rate, therefore, requires examining and interpreting the mortality rates at different ages. As developing countries move from low- to middle-income status, child mortality due to infections and other childhood illnesses drops with general improvements in socioeconomic factors, such as the mother's education, environmental hygiene, increased income and improved access to health services. Neonatal mortality then becomes the main hurdle in reducing further child deaths and strategies must target the pregnancy and the neonatal period.

Ensuring child health is particularly crucial for a nation's productivity. The next generation is more likely to grow into healthy, productive adults if they maintain good health as children. Conversely, children with poor health and multiple bouts of illness miss school, perform poorly in school, and find it harder to realize their full potential.

About two-thirds of child deaths could be prevented by easily available interventions that can be scaled up in low-income countries to reach high levels of population coverage. Amongst others, these include early initiation and exclusive breastfeeding, immunization, Vitamin A, deworming, antibiotics for pneumonia, oral rehydration salts and zinc for diarrhoea, etc.[3] As mortality declines, the relative proportion of neonatal deaths within the total child deaths increases. At this stage, additional low-cost high impact interventions aimed at neonatal survival and care become important. These neonatal interventions include immediate newborn care (drying, warming, skin-to-skin, cord care), antibiotics for preterm premature rupture of membranes and antenatal corticosteroids for preterm labour.[4] Neonatal interventions are closely linked to maternal health interventions and are related to progress towards MDG 5.

At least one-third of under-five deaths is due to undernutrition. Achievement of MDG 4 is closely associated with the progress towards MDG 1. Low birth weight (which is linked to maternal malnutrition), underweight status and micronutrient deficiencies, particularly in vitamin A and zinc, are underlying causes of child death. Young children are more likely to die of pneumonia, diarrhoea and other infectious diseases if they are malnourished. Globally, nutrition-related factors are responsible for about 35 per cent of child deaths and 11 per cent of the total global disease burden.[5]

Child health and LDC graduation

Under-five mortality rate has a direct bearing on a country's LDC status. Together with a country's secondary GER, adult literacy rate and the proportion of population that is malnourished, a country's under-five mortality rate is one of four components of the HAI. In turn, HAI is one of the three criteria used by the UN to determine whether a country has LDC status (see Box 1.1 on LDC graduation).

4.4. Ensuring child health and survival

4.4.1. National trends

From the early 1990s, Lao PDR recorded significant declines in the infant and under-five mortality rates. Recent LSIS 2011/12 data show that the infant and under-five mortality rates have declined from 114 and 170 per 1,000 live births respectively in 1993, to 68 and 79 per 1,000 live births in 2011 (Figure 4.1). The main factors explaining this progress are continued improvements in the socio-economic status of the population, the increased utilization of essential health services, in particular immunization, and improved early and exclusive breastfeeding rates. Previous to the new LSIS data, the UN Interagency Group on Child Mortality Estimations had also recorded declining trends, but these previous estimates of the under-five and infant mortality rates

Box 4.1. Child mortality indicators and data sources

The under-five mortality rate is the probability of a child dying before his/her fifth birthday; the infant mortality rate is the probability of a child dying before his/her first birthday. Proper analysis of these two indicators requires looking at the child deaths at different ages. The neonatal mortality (the probability of dying within the first month of life) is a useful indicator in the context of its contribution to total under-five deaths.

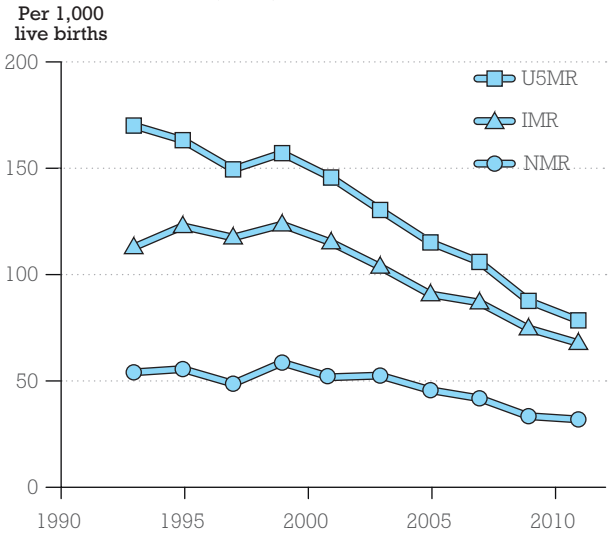
The third indicator for this MDG is the proportion of children who received at least one dose of measles-containing vaccine by one year of age. Immunization is essential for reducing under-five mortality rates and this indicator reflects the extent of coverage and the quality of the health care system. Vaccination coverage for measles needs to be above 90 per cent to stop transmission of the virus.

This report uses the Lao Social Indicators Survey (LSIS) data from 2011/12 for the early childhood mortality rates, and LSIS and other survey data for immunization and other health indicators. Administrative data may under-report or over-report coverage of health services, as it is difficult to estimate the size of the cohort of children under one year of age, especially with population movements. However, to compare trends with earlier MDG Reports, this MDG Progress Report provides immunization data from both survey and administrative sources. The difference between survey data and administrative data for the same indicator can provide valuable information on the quality of a country's health management information system.

were lower than that estimated by LSIS (Figure 4.2).

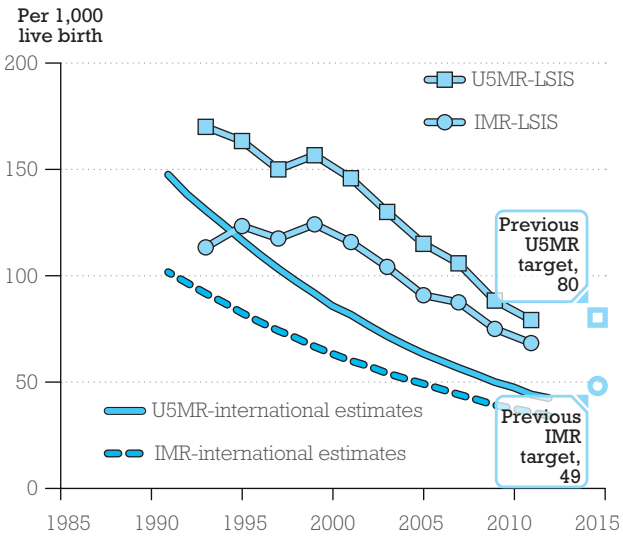
The 2011/12 LSIS data show that Lao PDR has already achieved the previously set MDG 4 target[6] for under five mortality rate of 80 per thousand live births (Figure 4.2). Despite this progress, Lao PDR still ranks amongst the countries with the highest under-five mortality rates in the region (Figure 4.3). The international MDG guidelines recommend setting the MDG 4 targets at one-third of the 1990 values (or two-thirds reduction from 1990), that is, 57 and 38 per thousand live births respectively for under-five and infant mortality rates when calculated with the new LSIS data. The LSIS results also show that the overall picture of declining trends over the past two decades remains consistent. Taking this progress and the country-specific situation into account, the Ministry of Health has now set the new 2015 targets as 70 and 45 per thousand live births respectively for under-five mortality rate and infant mortality rate.

Figure 4.1.
Trends in under-5 mortality rates (U5MR), infant mortality rates (IMR) and neonatal mortality rates (NMR) from LSIS*



** For two-year periods preceding the survey.*
Source: Lao Social Indicator Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 4.2.
Trends in under-5 mortality rates (U5MR) and infant mortality rates (IMR) from LSIS & prior estimates*



** For two-year periods preceding the survey.*
Source: Lao Social Indicator Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment. International estimates: UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA, UN Population Division) .

The more ambitious international MDG target for under-five mortality is achievable if Lao PDR continues its current reduction rate of more than 4 percentage points a year. This will require tackling significant challenges. To date, much of the progress seen in reducing under-five mortality may be attributed to improvements in socio-economic conditions and the mortality reduc-

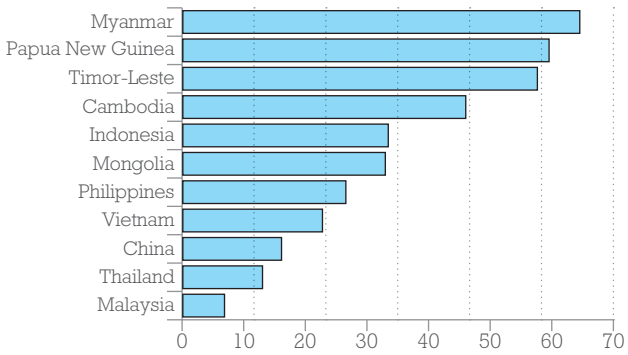
tions amongst groups that are less poor, better educated and more receptive to interventions. Achieving further reductions in infant and child mortality will require reaching the poorer populations and people living in remote areas. The cost and difficulty of providing services to these groups will be some orders of magnitude higher and will require corresponding investment in the health sector.

Some 86 per cent of deaths amongst the under-fives took place within the first year of birth. Half of the infant deaths occurred within the neonatal period, the first month of birth. This is seen by comparing the under-five, infant and neonatal mortality rates in the two-year period preceding the survey (Figure 4.1). The trends over time show that the sharpest decline is seen in the under-five mortality rate, since it is decreasing faster than the infant or neonatal mortality rates and that neonatal mortality is declining relatively slowly. Lao PDR's relatively fast decline in under-five mortality rate (compared to the decline in infant mortality) indicates a drop in child deaths due to infections as socioeconomic conditions improve. The main contributor to childhood mortality then becomes the deaths below the age of one year, reflected in the infant mortality rate. Elsewhere, developing countries moving up from low-income to middle-income status also show this pattern.

Most child deaths in Lao PDR are due to preventable and treatable conditions. The top three causes of under-five mortality in Lao PDR are neonatal conditions, pneumonia and diarrhoea (Figure 4.4). In 2008, neonatal causes were the largest single contributor to under-five mortality. Neonatal mortality is closely linked to interventions aiming at maternal mortality reduction. Antenatal, delivery and postnatal care are crucial in reducing both neonatal and maternal mortality. Chapter 5 discusses these issues further.

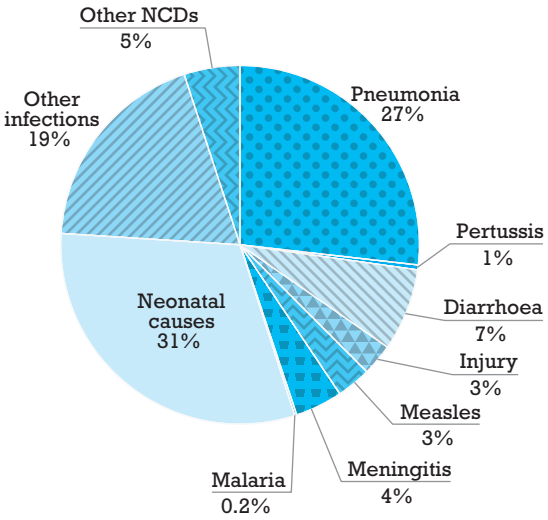
An increasing number of children in Lao PDR now have access to high-impact child survival interventions compared to 2006 (Figure 4.5). That said, many life-saving interventions are still reaching less than half of all children. Section 4.4.3 provides further details.

Figure 4.3. **Under-5 mortality rates, selected countries 2010**



Source: International estimates by the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA, UNDP), based on country survey reports

Figure 4.4. **Causes of under-five deaths, 2008**



NCDs: Non-communicable diseases
Source: World Health Statistics 2010. World Health Organization.

4.4.2. Subnational trends

Stark disparities between different socioeconomic groups in under-five mortality rates reflect the differences in accessibility, poverty, mothers' education and the reach of services (Figures 4.6 and 4.7).

• Children living in rural areas without road access are three times more likely to die before their fifth birthday than are children living in urban areas. Those from some remote ethnic groups have an under-five mortality rate twice as high as those from the lowland ethnic groups. Children from the South and North Regions have a risk of dying in early childhood that is 1.4 times that of children from the Central Region.

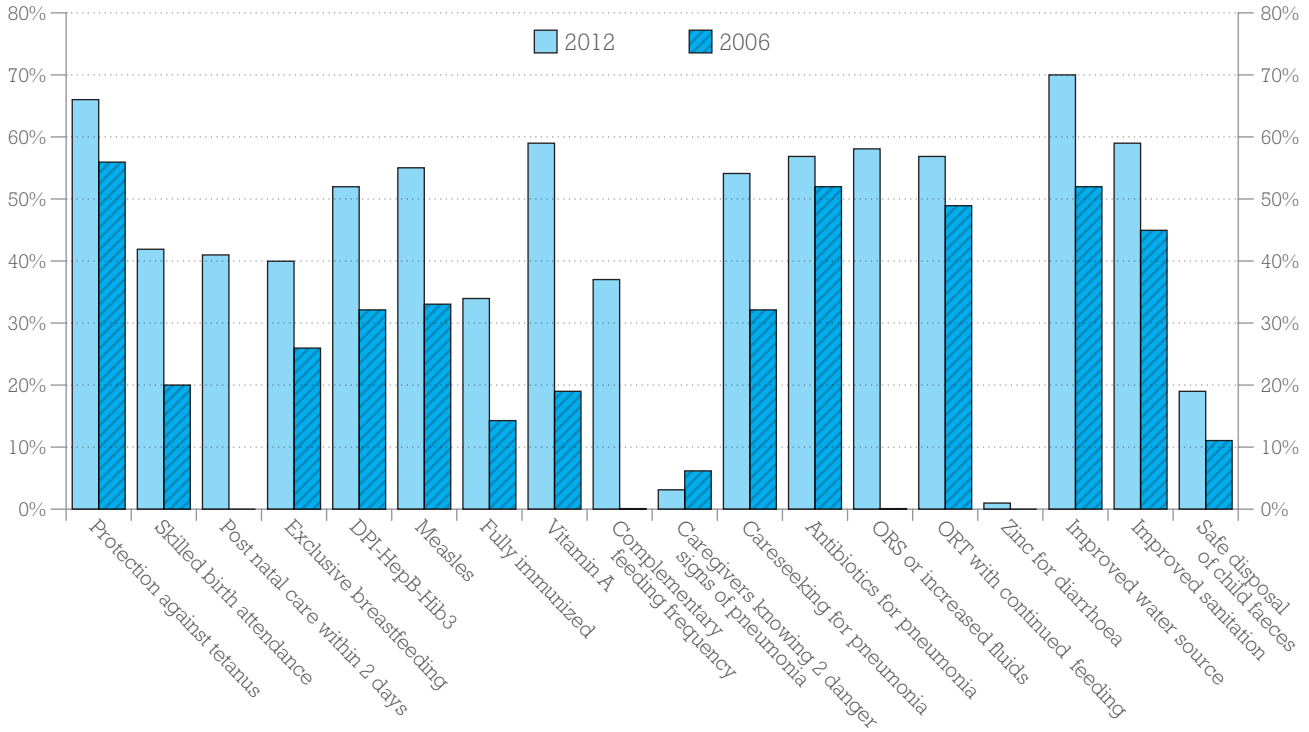
• Children from the poorest quintile are 3.6 times more likely to die before their fifth birthday than those from the richest quintile.

• Children of mothers with no education have an under-five mortality rate 2.8 times that of children of mothers with tertiary education.

• Provinces vary according to the mix of various factors. A child below the age of five in Phongsaly has nearly five times the risk of dying than a child living in Vientiane city. In Phongsaly, Khammuane and Huaphanh, the infant mortality rate is above 100 per thousand live births, meaning that at least one of 10 children born in these provinces will die before the first birthday. In these provinces, as well as in Saravane, Bokeo, Luangprabang and Oudomxay, one in 10 children born is also likely to die before the fifth birthday (Figure 4.8).

The relative proportions between the under-five, infant and neonatal mortality rates are broadly indicative of the overall socioeconomic progress of the group (Figures 4.6, 4.7 and 4.8). Groups that lag behind still have a substantial gap between the under-five mortality

Figure 4.5.
Trends in high impact interventions addressing newborn and child mortality, 2006-2011



Source: MICS 2006, LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

rate and the infant mortality rate, such as those living in remote rural areas, those in the poorest quintiles, and those with mothers who are not educated. In all these groups, a significant proportion of children still die of infectious diseases after their first birthdays. Groups that show greater socioeconomic progress have an under-five mortality rate that is close to the infant mortality rate. This means that once a child reaches the age of one year, her or his risk of dying is greatly reduced.

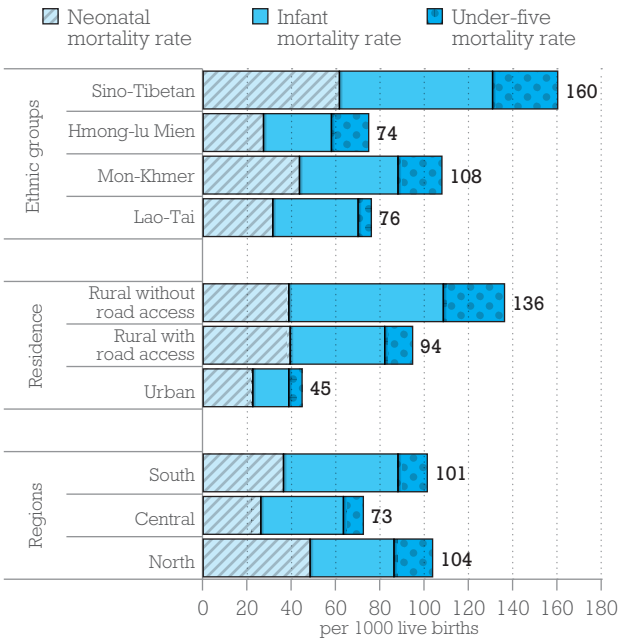
As elsewhere, demographic factors play a significant role in influencing child mortality patterns (Figure 4.9):

• ***Male children are at slightly higher risk of dying*** in the first five years of life than are female children. Studies elsewhere have attributed this phenomenon to the greater vulnerability of male children, and the greater biological survival advantage of female children.[7] After the neonatal period, the risks of dying before the fifth birthday are the same for female and male children.[8]

• ***The age of mothers at birth influences the survival probability of children***. Children of mothers who were 20 to 34 years at the time of their birth have the lowest risk of dying. Children of mothers who were older at birth (35-49 years) or younger at birth (below age 20) are one and a half times more likely to die before they are five years old. The mortality risks in these two groups start in the neonatal period.

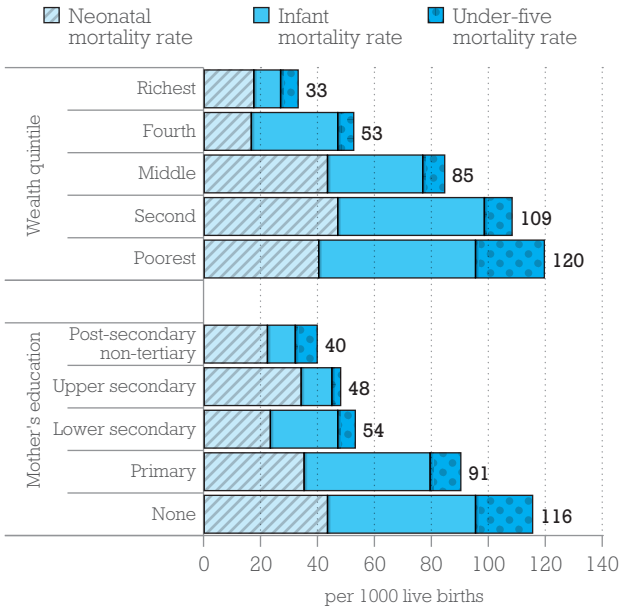
• ***Birth order plays a role***: Neonatal mortality is higher amongst first-born children and amongst children whose birth order is 7 or above. In general, fourth and higher order births suffer from higher mortality risks than those

Figure 4.6.
Under-five, infant and neonatal mortality rates* by socio-economic characteristics



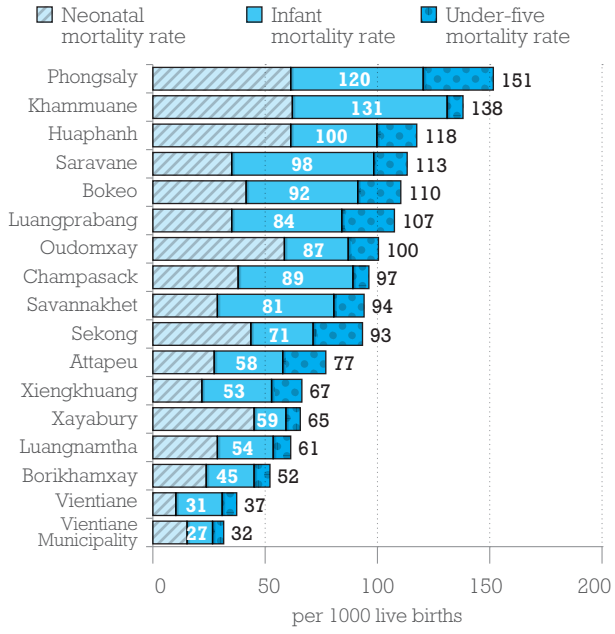
**For the five year period preceding the survey. Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment*

Figure 4.7.
Under-five, infant and neonatal mortality rates* by socio-economic characteristics



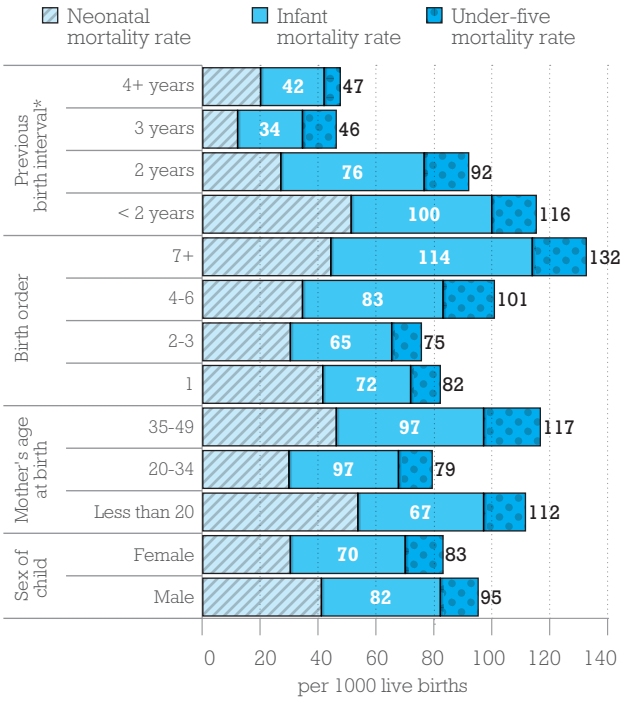
For the five year period preceding the survey. Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 4.8. **Under-five, infant and neonatal mortality rates* by province**



For the five year period preceding the survey. Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 4.9. **Under-five, infant and neonatal mortality rates* by demographic characteristics**



For the five year period preceding the survey. "Previous birth interval" excludes first order births. Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

of birth order 3 or less. After the age of 1 year, first-born children and those of birth order 3 or less have the same probability for survival. The higher risk of death for first-borns was also reported elsewhere.[9 10 11] However, for Lao PDR, no firm conclusions can be drawn without further study.

• ***Short birth intervals reduce a child's chance of survival*** (Figure 4.9). Where the birth interval is shorter than two years, the risks of dying are the highest in the neonatal period. After these first 28 days, the risk of dying becomes similar with that for birth intervals of two years. The optimal birth interval appears to be three years. With birth interval of four years, the risk of dying in the neonatal period goes up again. Again, no firm conclusions can be drawn from the pattern, but the mother's age could be a reason.

4.4.3. High impact interventions

This section examines the patterns in the utilization and provision of the high impact interventions known to be effective in reducing child deaths and childhood diseases.

Immunization coverage has increased but remains low and inequitable (Figures 4.10-4.12). Overall, children living in rural areas without road access, those in poor families, children whose mothers have no education are much less likely to receive immunization services. Comparison with 2006 MICS data showed that the equity gap

has widened or remained the same; better-off and urban families generally showed faster progress.

The main reasons for low immunization coverage include reliance on unpredictable external funding sources for supplies, health outreach and cold chain. The much higher BCG (77 per cent) coverage compared to subsequent vaccines shows that the health system is able to achieve higher coverage at birth. The first doses of polio and DPT-HepB-Hib also achieved similarly high levels, but coverage fell for subsequent doses. High dropout rates (>10 per cent) in immunization indicate problems of access or utilization of services, or both. The result is that only about one-third of all children received the full complement of recommended vaccinations by one year of age.[12]

Protection against tetanus has improved, although it is still amongst the causes of under-five deaths (Figure 4.13). Overall, 66 per cent of women with a live birth in the previous two years were protected against tetanus,[13] compared to 56 per cent in the 2006 MICS survey. The coverage is substantially lower amongst the disadvantaged groups: these are the women in rural areas without road access, women in the poorest quintile, women with no education and women from ethnic groups living in mountainous areas.

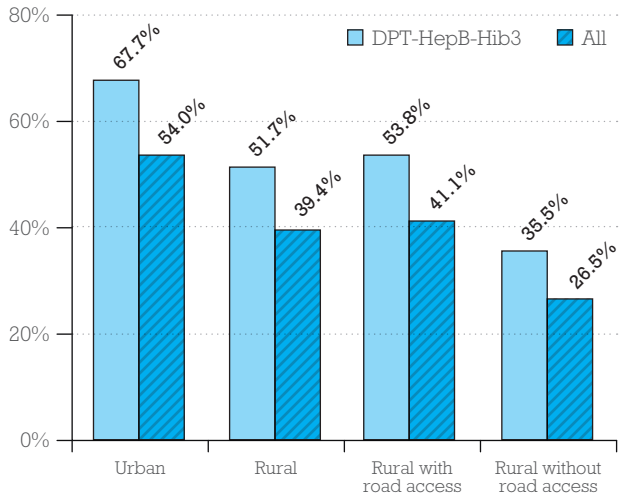
The administration of antibiotics for pneumonia has shown little improvement (54 per cent in 2006 and 57 per cent in 2011/12). Moreover, there are high inequities in administration of antibiotics for pneumonia, with poor groups having poorer access. Procurement of antibiotics for health facilities is decentralized and supply is irregular: 47 per cent of facilities surveyed in 2011 had at least three antibiotics (98% at the provincial level, 83% at the district level, and 30% at the health centre level).[14]

The use of oral rehydration therapy (ORT) shows similar disparities. The ORT use rate amongst the rich is some 28 percentage points higher that amongst the poor (Figure 4.14). Knowledge of diarrhoea management varies amongst the socio-economic groups.

Zinc for diarrhoea management is administered to less than 1 per cent of children. Reliance on public sector distribution for Zinc through health facilities limits coverage, because communities may not seek care for diarrhoea and meanwhile, zinc supplies may expire. Instead, zinc delivery should be linked to community-based distribution of oral rehydration salts, which has the largest potential to increase equitable coverage.

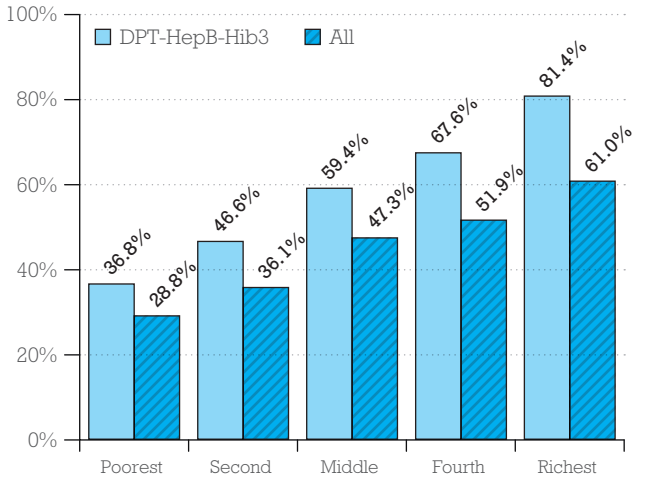
Vitamin A coverage reached 59 per cent of children aged 6-59 months.[15] Providing vitamin A to children under 5 years old is an accepted strategy to reduce under-five mortality, as well as to prevent blindness caused by vitamin A deficiency. Vitamin A distribution is part of the Expanded Programme on Immunization.

Figure 4.10.
Immunization coverage by residence



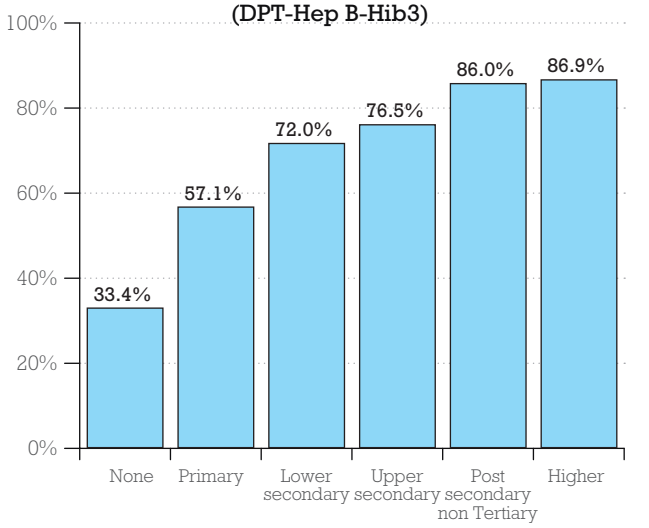
Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 4.11.
Immunization coverage by wealth quintiles



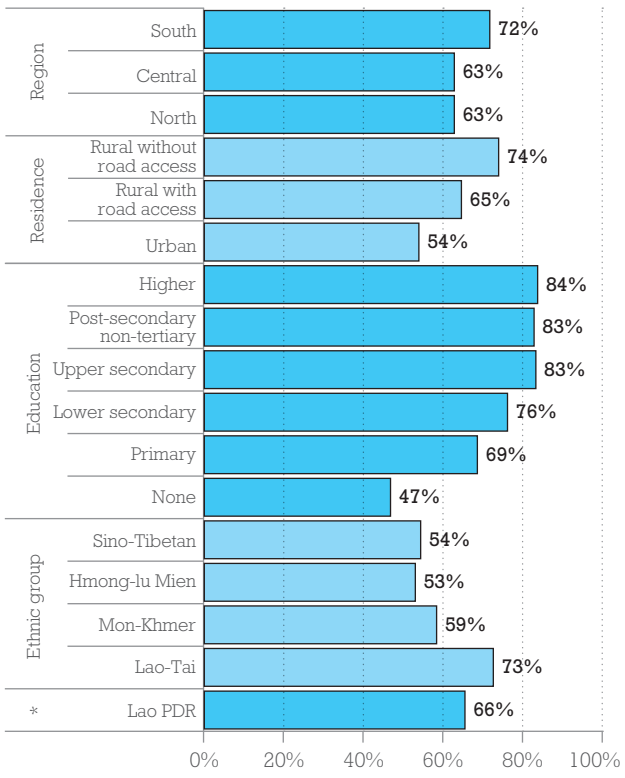
Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 4.12.
Immunization coverage by mother's education (DPT-Hep B-Hib3)



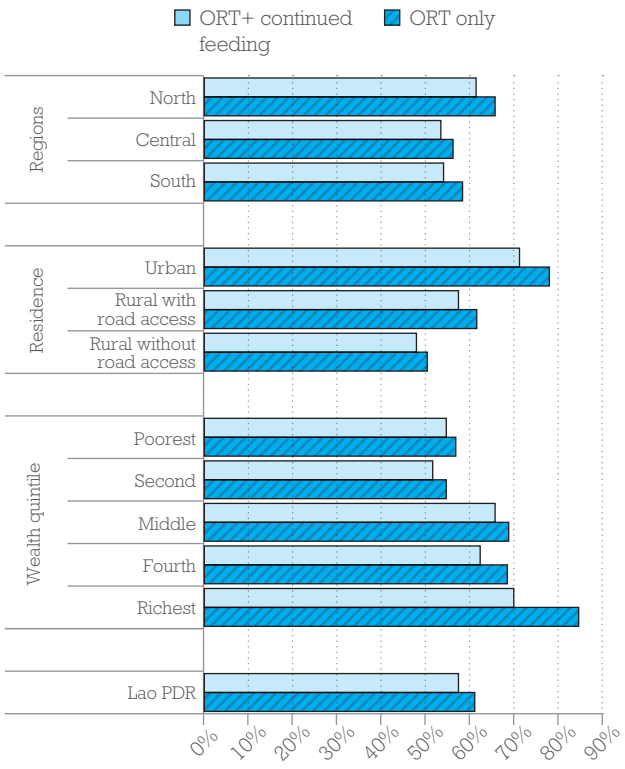
Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 4.13.
Percentage of women with a live birth in the last 2 years protected against tetanus



Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 4.14.
Percentage of children under age 5 with diarrhoea who received ORT or increased fluids *and* continued feeding



Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

4.4.4. Other determinants of child mortality

Child mortality in Lao PDR is associated with undernutrition, as in countries elsewhere. The same socio-economic groups with highest under-five mortality rate also have high rates of stunting and underweight. These are the groups living in remote rural areas and the poorest quintiles.

The association with food poverty is weaker. As discussed in Chapter 1, food poverty is influenced by people's perceptions and choices regarding spending on food and the type and quality of food purchased. Amongst the poorest, the inability to buy adequate or safe food will clearly have an impact on nutritional status, and hence on childhood mortality.

Gender roles, and related cultural traditions, have an impact on childhood mortality. Women's empowerment and well-being have a profound effect on childbearing and childcare. Unplanned and frequent childbirths, heavy workload, inadequate dietary intakes due to the priority given to males within the household, and low levels of education have a large impact on pregnancy outcomes and on child survival. Socio-economic groups where women have a heavy workload, such as the burden of carrying water (Chapter 7, figures 7.9 and 7.10) show much higher child mortality rates than those where there is more gender equality.

The association between poor water, sanitation, and hygiene and high under-five mortality rates is well recognized. Around 26 per cent of the total disease burden in Lao PDR is attributed to environmental causes.[16] Notable amongst these are lack of access to safe water and sanitation, poor water quality and inadequate hygiene practices. Saravane and Phongsaly, for example, have very high rates of open defecation (78 and 62 per cent respectively). Chapter 7 discusses water and sanitation further.

4.5. Government policies, programmes and strategies

Government policies relating to maternal health are also covered in Chapter 5.

Lao PDR is aiming to achieve universal health services coverage by 2020, a goal set by the National Growth and Poverty Eradication Strategy (NGPES).[17] Over the past decade, the Government's response to high levels of child mortality in Lao PDR has included interventions such as immunization, breastfeeding, Vitamin A supplementation and deworming. In 2009, the Ministry of Health adopted a comprehensive strategy and plan of action for delivering an integrated package of maternal,

newborn and child health interventions that includes most of the internationally recommended actions to reduce child mortality. The Government has also developed a comprehensive nutrition policy and strategy.

The National Health Sector Development Plan (NHSDP) guides health policies and programmes. The Seventh NHSDP (2011–2015) aims to strengthen the existing health system, with a focus on ensuring access to good quality health services for the poor and for vulnerable populations in remote areas. The Seventh NHSDP also aims to establish health infrastructure, contribute to the country's goal of graduating from LDC status by 2020, and contribute to poverty eradication and the achievement of the five health-related MDGs. A series of subsector plans and strategies accompany this overall plan. In the area of child health, Lao PDR has committed to maintaining its polio-free status; eliminating measles, strengthening routine immunization and hepatitis B control, and eliminating maternal and neonatal tetanus. The past five years have seen significant progress in developing health policies, strengthening the country's health system, and decentralizing health services to provincial, district and health centre levels. The Prime Ministerial Decree on financial incentives for rural civil servants working in rural and remote areas was passed in 2010,[18] which is expected to contribute to improved health services in these areas.

The Health Sector Working Group continues to be the main mechanism for effective coordination and cooperation in health. Various technical working groups and task forces formed within this mechanism have drafted major policies and strategies for sector development in areas such as human resources for health, health financing, maternal health, neonatal and child health, emerging infectious diseases, and the control of HIV/AIDS, malaria and tuberculosis.

Lao PDR has four different schemes for social protection in health covering 12.5 per cent of the total population. The Ministry of Labour and Social Welfare takes responsibility for the SASS scheme for civil servants and the SSO scheme for private and state-owned enterprises with 10 or more employees (see Chapter 1). The Ministry of Health is responsible for the voluntary community-based health insurance (CBHI) scheme and for a health equity fund supported by external donors focusing on the poorest population. A ministerial decree on national health insurance combining the four social health protection schemes and a new user fee exemption for maternal and child health services (Chapter 5) are expected to bring the goal of universal coverage closer.

4.6. Challenges and Opportunities

Further and more significant progress towards MDG 4 will require reaching the poorer and more remote populations with health and other services. The Ministry of Health recognizes the importance of tackling this challenge. However, it is constrained by the limited allocation of funds for the health sector and by the weak institutional capacities. Whilst the outcomes also depend on factors outside the health sector, such as poverty and mother's education, equitable coverage by good quality health services is a necessary condition for reducing infant and under-five mortality.

Strengthening clinical and management capacity and developing better supply and logistics management systems will be necessary. Timely vaccination coverage is impeded by vaccine stock ruptures. For example, the availability of the DPT-HepB-Hib vaccines declines in general from 86 per cent at province level to 75 per cent district level and 38 per cent at health centre level.[19] Strengthening the capacity of health providers is needed most in rural and remote areas where levels of child mortality are the highest. Primary health centres have on average 1.9 health workers (the target is 3), and some health centres have no health workers present. Yet health centre staff are responsible for the delivery of all health services, including fixed site services and outreach activities.

Sustainable and predictable financing for maternal, neonatal and child health services is a pressing priority. The data indicate an increase in government expenditure on health, although the spending levels are still relatively low. The three indicators examined are: [20]

- General government health expenditure in per capita amount (Figure 4.15);
- General government health expenditure as a proportion of General Government Expenditure (Figure 4.16); and
- General government health expenditure as a proportion of GDP (Figure 4.17).

Over the years, the government health expenditure has increased in per capita amount, up to US$ 18 in 2011, which represents a significant increase over that in 2010. However, health expenditure remains low in terms of percentage of GDP (1.4 per cent). Of the total health expenditure, the general government health expenditure represents 49 per cent whilst private health expenditure represents the other 51 per cent. A high proportion of total health expenditure (23 per cent) derives from external sources, with almost all preventive health services and programmes funded by donors. This is risky, unpredictable and encourages fragmentation.

Health services in Lao PDR are nearly all provided by the Government, but household out-of-pocket (OOP) payments account for a large proportion of health expenditure. Pharmaceuticals are the major use of total health expenditure. The OOP payments are a heavy burden, especially for the poor who risk incurring catastrophic health expenditure and falling deeper into poverty. Many households are not able to access basic health care service because of the cost of care. If the country is to achieve universal health services coverage by 2020, it will need to address the lack of sufficient funding at the health facility level, especially in rural and remote areas, and the very low utilization rates of services. Aware of these issues, the Government of Lao PDR is planning to increase domestic funding substantially, as part of the health sector reform from 2012-13.

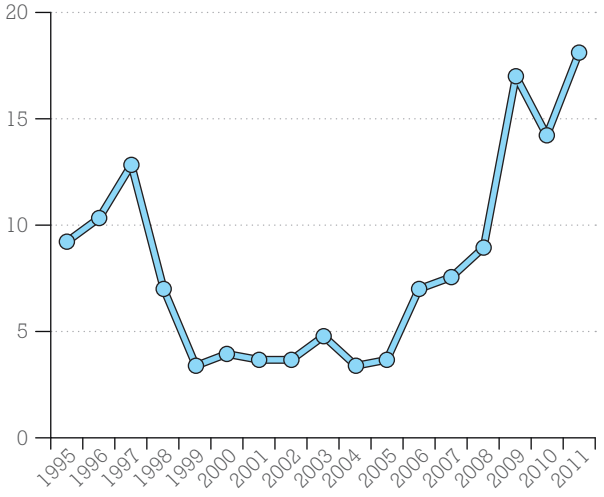
There are several opportunities for accelerating progress and achieving the new ambitious targets for under-five mortality rate and infant mortality rate:

• Lao PDR has good overall policies that aim at expanding child survival interventions and reducing inequities in health services utilization among different groups.

• The health reforms prioritize the expansion of certain high priority interventions to reach the MDGs. Implementing these high impact low-cost interventions could reduce two-thirds of child deaths. Large-scale implementation will be needed so that the interventions reach high levels of population coverage.

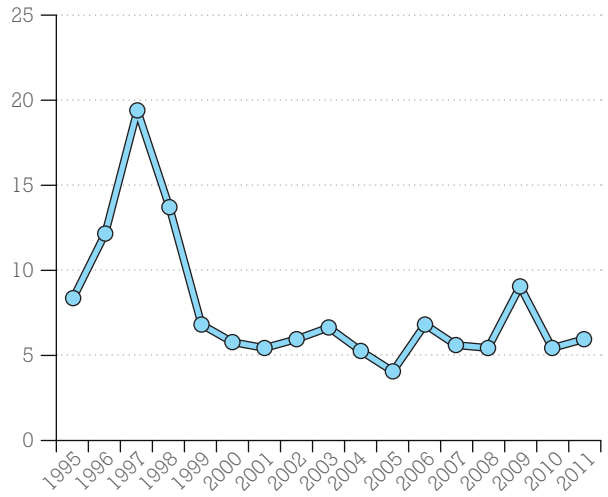
• Lao PDR's steady economic growth provides growing fiscal space, which would allow an increased national budget allocation for recurrent costs. This should be sufficient to cover vaccines, other essential supplies and functioning of primary health care facilities, including health outreach.

Figure 4.15.
General government expenditure on health (GGHE) in current US dollars per capita



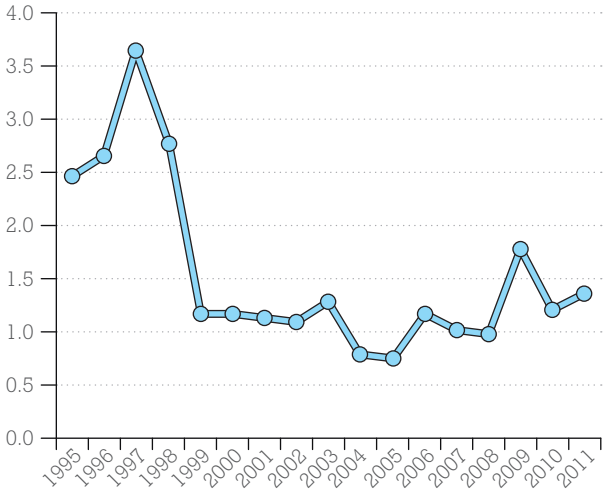
Source: WHO National Health Accounts, Health Expenditure Series, in collaboration with Ministries of Health

Figure 4.16.
General government expenditure on health (GGHE) as a proportion of general government expenditure (GGE)



Source: WHO National Health Accounts, Health Expenditure Series, in collaboration with Ministries of Health

Figure 4.17.
General government expenditure on health (GGHE) as percentage of GDP



Source: WHO National Health Accounts, Health Expenditure Series, in collaboration with Ministries of Health

MDG5. Improve Maternal Health

5.1. Summary

Lao PDR still has one of the highest maternal mortality ratios (MMRs) in the region although the ratio has declined over the years to 357 per 100,000 live births: which means that for every 1,000 children born alive, four women die during pregnancy, delivery, or within two months of childbirth.

All maternal health indicators show a positive trend but still have low coverage:

• The proportion of births assisted by trained health personnel continues to increase but is still below 50 per cent

• The facility-based delivery rates (38 per cent) are still too low.

• The percentage of pregnant women who received antenatal care by health personnel improved from 35 per cent in 2006 to 54 per cent in 2011/12 – an impressive achievement over 5 years. However, the quality of antenatal care services still needs improvement

Recent assessments show that the country now has basic emergency obstetric and newborn care (BEmONC) available in every district and that major hospitals can provide caesarean services. This is a significant achievement. On the other hand, the quality of services remains a challenge. The referral system needs to be further improved and strengthened, with a special focus on road access in remote areas and the promotion of pro-poor policies for the poorest groups. Social and cultural concerns also need to be taken into consideration.

Disparities in delivery assistance and other indicators are pronounced between the different groups. Urban areas show a safe delivery rate that is twice the national average and over six times that in remote rural areas. The safe delivery rate was three times higher amongst the ethnic groups living in accessible areas than that amongst the groups living in remote areas. The difference in safe delivery is eight times between the richest and poorest quintiles, and about six times between women who have completed secondary education and those with no education. The Caesarean section rate is still low at 4 per cent of all births. This indicates that some women whose lives could have been saved by caesarean section were not able to have this intervention.

Reproductive health shows significant progress with an increase in modern contraceptive usage, consistent with the decline in fertility in Lao PDR. The unmet need for contraception has gone down by half over the past decade, showing not only increased access to contraceptives, but also changing behaviour patterns. A far greater proportion of women who want to use contraceptives are now able to do so. Despite this progress, the adolescent birth rate in Lao PDR is still high, at 94 live births per thousand adolescent women. Avoiding such pregnancies will require satisfying the unmet need for family planning amongst the population

Despite the positive trend of maternal and reproductive health service indicators, the country's progress towards this goal is not on track. The issues are (i) the still-low levels of achievements in all these indicators; (ii) the relatively low rate of facility-based delivery; and (iii) the poor quality of health services. Interventions required are those that can achieve high population coverage, improve the quality of services, promote facility-based delivery and prevent high-risk and unwanted pregnancies. Family planning alone could cut maternal deaths by almost a third and is, therefore, one of the most cost-effective interventions to help reduce maternal mortality. On the demand side, advocacy, mobilization and health education activities will need to target women and men from communities in the remote rural areas, often the same groups as those in the poorest quintiles and those with the lowest education.

5.2. MDG 5 at a glance

Goal 5. Improve maternal health						
Target 5A: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio						
	1995	2000	2003	2005	2009	Target 2015
5.1 Maternal mortality ratio (per 100,000 live births)	796	530	433	405	357	260
		1994	2000	2005	2011	
5.2 Proportion of births attended by trained health personnel		14%	17%	23%	42%	50%
Target 5B: Achieve, by 2015, universal access to reproductive health						
	1990	1994	2000	2005	2011	
5.3 Contraceptive prevalence rate, any method	13%	20%	32%	38%	50%	55%
Contraceptive prevalence rate, modern methods			29%	35%	42%	
		1992	1997	2005	2011	
5.4 Adolescent birth rate (per 1000)		115	102	110	94	

		2000	2005	2006	2011	
5.5 Antenatal care coverage (%)		21%	29%	35%	54%	60%
at least one visit by trained health personnel at least four visits by any trained health personnel*					NA	
			2000	2005	2011	
5.6 Unmet need for family planning			40%	27%	20%	

Notes:
*Indicator 5.5. The definition of ''Trained health personnel'' does not include traditional birth attendants. See text on this indicator.
Data sources:
Indicator 5.1. Population and Housing Census, 1995 & 2005, Lao Statistics Bureau (LSB), Ministry of Planning & Investment (MPI). Lao Reproductive Health Survey (LRHS 2000), LSB. Lao Health Survey (LHS 2003), LSB. Lao Social Indicators Survey (LSIS 2011/12), LSB (for the seven years preceding the survey).
Indicator 5.2. Lao Fertility and Birth Spacing Survey (LFBSS 1994), LSB. LRHS 2000 & 2005, LSB. LSIS 2011/12, LSB for the two-year period preceding the survey.
Indicator 5.3. Round Table Implementation Meeting (RTIM 2012) for 1990. LFBSS 1994, LSB. LRHS 2000 & 2005, LSB. LSIS 2011/12, LSB
Indicator 5.4. UN Statistical Division for earlier years. http://unstats.un.org/unsd/databases.htm (accessed April 2013). LSIS 2011/12, LSB.
Indicator 5.5. LRHS 2000 & 2005, LSB. Multiple Indicator Cluster Survey (MICS 2006), LSB. LSIS 2011/12, LSB.
Indicator 5.6. LRHS 2000 & 2005, LSB. LSIS 2011/12, LSB.

5.3. Introduction

Maternal health and the MDGs

High maternal mortality ratios (MMRs) are closely associated with poverty. Women in Least Developed Countries are more likely to die of pregnancy-related causes 7 and 30 times respectively than are women in upper middle-income and high-income countries respectively.[1] Each year, 99 per cent of the 350,000 maternal deaths or more occur in developing countries. More than 80 per cent of these deaths are caused by haemorrhage, sepsis, unsafe abortion, obstructed labour and hypertensive diseases of pregnancy.[2] Adequate reproductive health services, equipment, supplies and good antenatal, delivery and post-natal care by trained health personnel could prevent many of these deaths, but such services are not easily accessible for the poor.

Maternal health and well-being are intertwined with child mortality and child malnutrition. Children who have lost their mothers are up to 10 times more likely to die prematurely than those who have not.[3] Improving women's nutritional status will reduce adverse outcomes such as low birth weight. A woman's nutritional status before and during pregnancy is a crucial determinant of the child's nutrition and ultimately, that child's educational performance and even productivity as an adult.[4 5],

Maternal health and survival are closely linked with gender equality and women's empowerment. The risk for maternal and neonatal death is much higher when the woman is too young or too old, or when the pregnancies are too many or too close together (the Four Too's). However, in many communities and societies around the world, women still do not have the information, the choice or the decision-making power to avoid such risks. Even if women survive frequent pregnancies, their health is likely to suffer, affecting their status, livelihood and income. Childbearing during the teenage years has adverse social consequences, particularly on educational attainment.

By preventing high risk and unwanted pregnancies, family planning alone could cut maternal deaths by almost a third. Avoiding such pregnancies will require satisfying the unmet need for family planning amongst the population.[6]

Maternal and reproductive health is closely related to combatting HIV, malaria and other diseases. In many poor societies, antenatal care services are often the first point of contact between the health system and the adult woman. Antenatal care services, therefore, provide an opportunity to prevent and treat malaria and other diseases amongst pregnant women. The antenatal services also provide an entry point for HIV prevention education, diagnosis and care, including the prevention of HIV transmission from mother to child. Disease prevention amongst pregnant women and their treatment, in turn, are essential to improve maternal health and foetal outcomes.

Maternal health and LDC graduation

Maternal health has links with all three criteria used by the UN define a country as an LDC. These are the HAI, EVI and GNI per capita (see Box 1.1 on LDC graduation). Maternal health strongly influences child survival and nutrition, which are then linked directly to two indicators that make up the HAI: the under-five mortality rate and the proportion of population that is undernourished. Maternal health has an indirect relationship with EVI, a measure of the risk posed to the country's development by exogenous shocks, and its GNI per capita. A country with a healthy workforce is likely to be more resilient and have a more productive economy than one that does not. In Lao PDR, women constitute 50 per cent of the country's total workforce and 51 per cent of the workers in the agriculture and fisheries sector.[7] The health of women is therefore crucial to the productivity and economy of Lao PDR.

Box 5.1. Maternal health indicators

The maternal mortality ratio (MMR) monitors the deaths related to pregnancy and childbirth. The term 'maternal mortality' corresponds to the term 'pregnancy-related death' defined by WHO as the death of a woman while pregnant or within 42 days of termination of pregnancy,[a] irrespective of the cause of death.[b] It is reported as the number of pregnancy-related deaths per 100,000 live births for a specified year. It reflects the capacity of health systems to provide effective health care in preventing and addressing the complications occurring during pregnancy and childbirth. Data disaggregation is not advisable for this indicator due to the large margins of uncertainty surrounding MMR estimates.

MMR cannot be used for regular monitoring because of measurement difficulties, so health systems use a range of process indicators to track progress in reducing maternal deaths. These include:

• *The proportion of births attended by trained health personnel*,[c] which means only accredited health professionals, such as a midwife, doctor or nurse trained in managing normal pregnancies and childbirth, and in identifying, managing and referring complications in women and newborns. Traditional birth attendants (TBAs), even trained ones, are not included.

• *Antenatal care coverage indicators*: the percentage of women aged 15–49 years with a live birth that received antenatal care provided by trained health personnelc during pregnancy (a) at least once (b) four or more times. Many of the adverse outcomes of pregnancy can be avoided or reduced by having good quality antenatal care services. Antenatal care must start early and continue to delivery for maximum benefit. The minimum four antenatal visits recommended by UNICEF and WHO include at least one visit in the first trimester of pregnancy, another visit in the second trimester and two visits during the third trimester.

• *The contraceptive prevalence rate*: this is a proxy measure of access to reproductive health services. It should be used with the indicator below.

• *Unmet need for family planning*: The sum of contraceptive prevalence and unmet need determines the total demand for contraception.

• *The adolescent birth rate* is the annual number of live births to adolescent women per 1,000 adolescent women. It is an essential indicator for the design of policies aiming to improve maternal health, since MMR is much higher for adolescent women, and under-five mortality rates are higher for children born of adolescent mothers.

[a] The LSIS asked respondents about deaths within two months of termination of pregnancy, as most people could not report accurately on ''42 days of termination of pregnancy.''

[b] http://www.who.int/healthinfo/statistics/indmaternalmortality/en/index.html

[c]The Ministry of Health and the UN adapted these process indicators to the Lao PDR context (to distinguish between ''trained'' and ''skilled'' health workers) at the MDG Report Workshop in Vientiane, 17 December 2012.

5.4. Ensuring women's health and survival

5.4.1. Maternal mortality

Lao PDR still has one of the highest MMRs in the region although the ratio has declined considerably over the years (Figures 5.1 and 5.2). Direct estimates by LSIS provided an MMR of 357 deaths per 100,000 live births during the seven-year period preceding the survey. This means that out of every 1,000 live births in Lao PDR, about four women die during pregnancy, delivery, or within two months of childbirth.[8] Even though this appears lower than the 2005 MMR estimate from the Census (405 deaths per 100,000 live births), LSIS found no statistically significant change from the previous 2005 estimate, because of the large confidence intervals of estimates (Figure 5.1). International estimates of the MMR[9] for Lao PDR show a steeper decline, but starting from a much higher baseline in the 1990s.

Figure 5.1.
Trend in maternal mortality ratios, Lao PDR 1995-2012

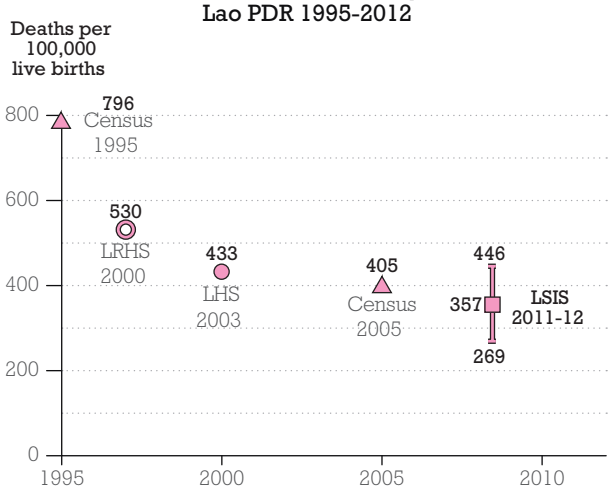
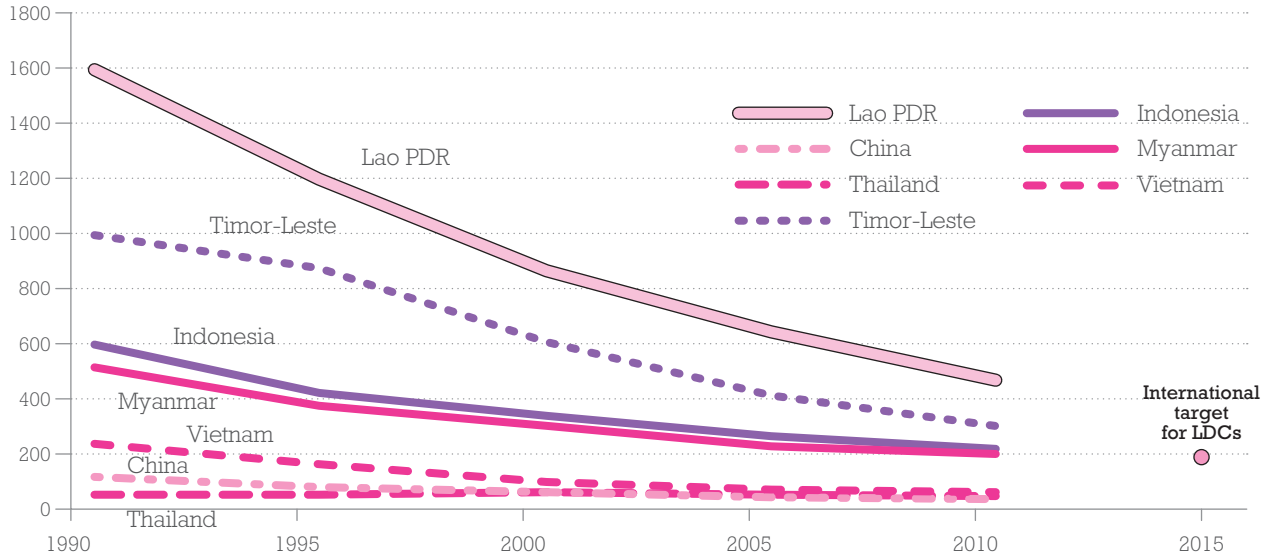


Figure 5.2.
Maternal mortality ratio (modelled estimate, per 100,000 live births)



Estimates Developed by WHO, UNICEF, UNFPA and the World Bank based on information on fertility, birth attendants, and HIV prevalence.

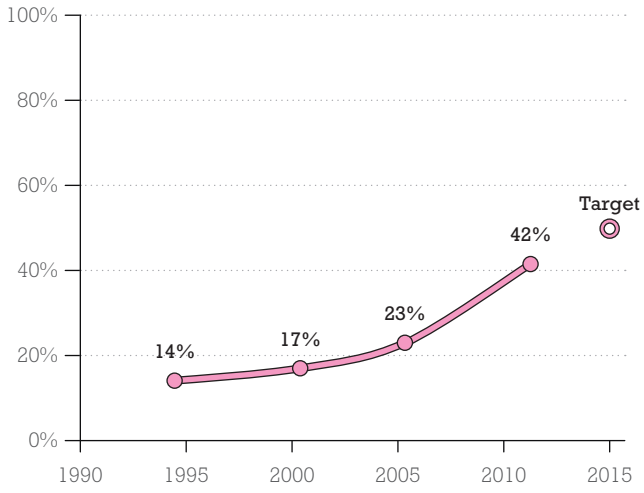
5.4.2. Determinants of maternal health

Delivery care

The proportion of births assisted by trained health personnel ("safe delivery") continues to increase but is still low, at below 50 per cent (Figure 5.3). Only 42 per cent of women who had a live birth in the two years preceding the survey were assisted by a health professional (37 per cent by doctors, the rest by nurses, midwives and auxiliary midwives). Nonetheless, this is an improvement from 23 per cent in 2005. Amongst those not assisted by a health professional, 29 per cent were assisted by a relative or friend, 12 per cent by TBAs, and 3 per cent of women had no assistance.

Disparities in safe delivery are pronounced between the different groups (Figures 5.4 and 5.5). Urban areas show a proportion that is twice the national average and over six times that in remote rural areas. The safe delivery rate is about three times higher amongst the ethnic groups living in accessible areas than that amongst the groups living in remote areas. Women below the age of 35 tend to have a greater proportion of properly assisted deliveries than do older women. The difference in safe delivery is eight times between the richest and poorest quintiles, about six times between women who have completed secondary education and those with no education, and about two times between women who have attended primary school and those with no education. The Central Region has a higher percentage in

Figure 5.3.
Proportion of births assisted by a trained health professional



Source: LFBSS 1994, LRHS 2000, 2005, LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

safe delivery than the North or South. There is a sharp difference between the capital city, Vientiane, which has near-universal coverage in the safe delivery rate, and the rest of the country. Borikhamxay and Vientiane province are also well above the national average. However, only one in four deliveries in Phongsaly, Attapeu, Oudomxay and Huaphanh were properly assisted (Figure 5.6)..

Home delivery rates are still too high and facility-based delivery rates (38 per cent) are still low despite significant progress (Figure 5.7). Lao PDR's facility-

based delivery rate has more than doubled from 17 per cent in 2006.[10] Maternal and neonatal deaths are significantly reduced only when most women give birth in a health facility with access to basic and comprehensive emergency obstetric and newborn care (BEmONC and CEmONC) services (Box 5.2). A trained health professional can do little about complications in childbirth without such equipment and facilities. Many countries in the region have managed to reduce their MMR through rigorously implementing facility-based care. Most of Lao PDR's facility-based deliveries in 2011/12 were in public sector facilities.

The facility-based delivery rates show the same disparity patterns as delivery assistance. The groups living in remote rural areas, the poorest and least educated groups and the non-Lao-Tai groups have the lowest rates of facility-based delivery. Facility-based delivery rates are, as expected, consistently lower than safe delivery rates since many women deliver at home with midwives in attendance.

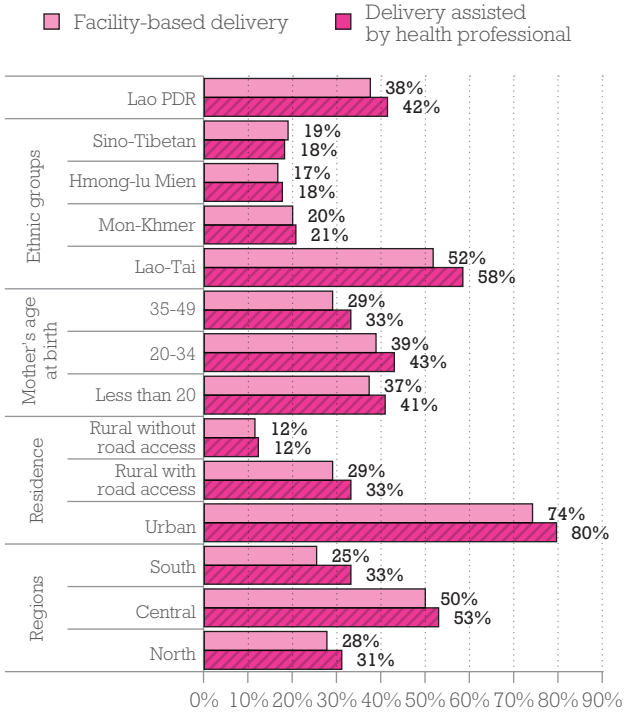
Recent assessments show that the country now has BEmONC available in every district and that major hospitals can provide caesarean services. This is a significant achievement. On the other hand, the quality of services

Box 5.2. Guidelines for Basic & Comprehensive Emergency Obstetric & Newborn Care

Indicator /Measure	Minimum acceptable level set by the UN[a]
Population-EmONC ratio: Do enough functioning emergency obstetric and newborn care (EmONC) services exist to serve the population?	For every 500,000 population, there should be: • At least 4 Basic EmONC facilities. • At least 1 Comprehensive EmONC facility, Facilities are considered EmONC, either comprehensive or basic, if they provide a series of services known as signal functions over a designated 3-month period. The 7 signal functions for BEmONC are (i) administration of parenteral antibiotics, (ii) administration of uterotonic drugs (i.e., parenteral oxytocin (iii) administration of parenteral anticonvulsants for preeclampsia and eclampsia (i.e., magnesium sulphate), (iv) manual removal of placenta, (v) removal of retained products (e.g., manual vacuum aspiration, dilation and curettage), (vi) assisted vaginal delivery, and (vii) basic neonatal resuscitation. The additional 2 signal functions for a facility to be considered comprehensive are the availability of caesarean and blood transfusion. Signal functions should be available 24 hours a day, 7 days of the week.
Geographical distribution of EmONC facilities	Subnational areas should meet the minimum specified number of EmONC facilities/services.
Proportion of all births in Basic and Comprehensive EmONC facilities	At least 15 per cent of all births in the population must take place in either Basic or Comprehensive EmONC facilities.
Met need for EmONC	All women (100 per cent) estimated to have obstetric complications are treated in EmONC facilities. The number of women expected to develop obstetric complications in the population is estimated as 15 per cent of expected live births in the population..
Caesarean sections (C-Section) as a percentage of all births	The proportion of all births in the population that underwent Caesarean sections is not less than 5 per cent or more than 15 per cent. This indicator on caesarean section rate shows whether this specific life-saving intervention is performed in sufficient numbers. However, in affluent societies in Asia, there is an increasing tendency to do elective C-Section, regardless of the need.
Case fatality rate	The case fatality rate amongst women with obstetric complications in EmONC facilities is less than 1 per cent.

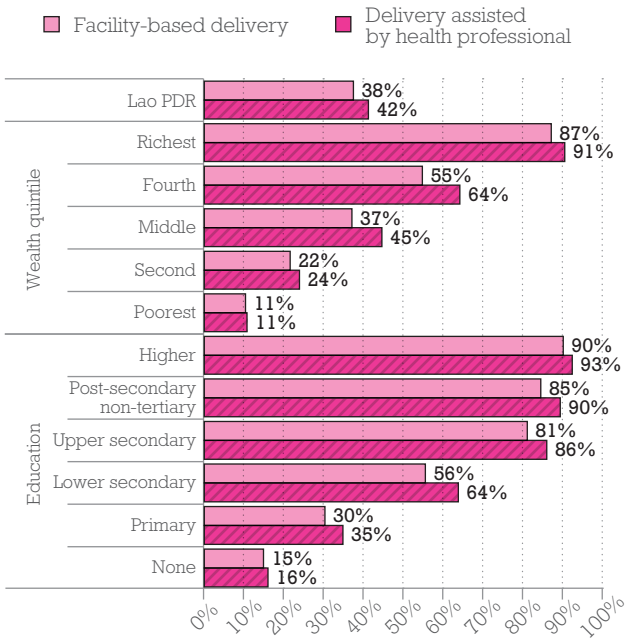
[a] *Adapted from UNICEF, WHO, UNFPA (1997): Guidelines for monitoring the availability and use of obstetric services. New York: United Nations*, and WHO, UNFPA, UNICEF and AMDD, 2009: Monitoring emergency obstetric care: a handbook. Geneva: World Health Organization

Figure 5.4.
Percentage of births assisted by a trained health professional* & percentage of births in health facilities, by socio-economic characteristics



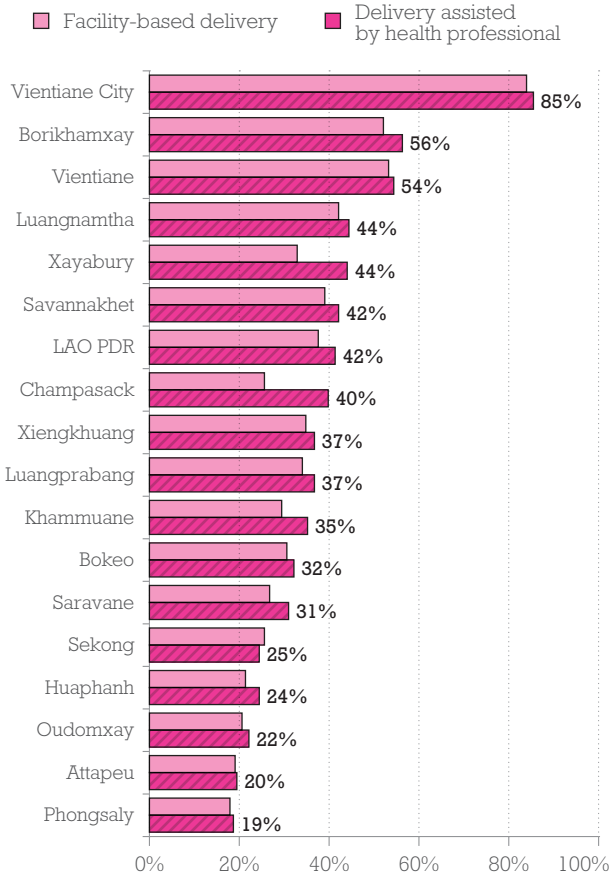
** For the two year period preceding the survey. Trained health professional means a doctor, nurse or midwife only. Source: LSIS 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment*

Figure 5.5.
Percentage of births assisted by a trained health professional & percentage of births in health facilities, by socio-economic characteristics



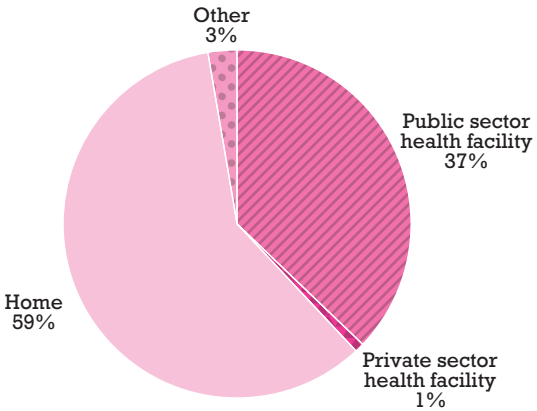
** For the two year period preceding the survey. Trained health professional means a doctor, nurse or midwife only. Source: LSIS 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment*

Figure 5.6. **Percentage of births assisted by a trained health professional & percentage of births in health facilities, by province**



** For the two year period preceding the survey. Trained health professional means a doctor, nurse or midwife only. Source: LSIS 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment*

Figure 5.7.
Place of delivery



** For the two year period preceding the survey. Source: LSIS 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment*

remains a challenge, and there is an urgent need to address the number, quality and distribution of skilled health personnel. Blood is not always readily available at these hospitals and a strategy to address this is important. The current Essential Drug list must include basic lifesaving drugs such as misoprostol and magnesium sulphate[11] for use at health centre level. The referral system needs to be further improved and strengthened, with a special focus on road access in remote areas and the promotion of pro-poor policies for the poorest groups. Social and cultural concerns also need to be taken into consideration.

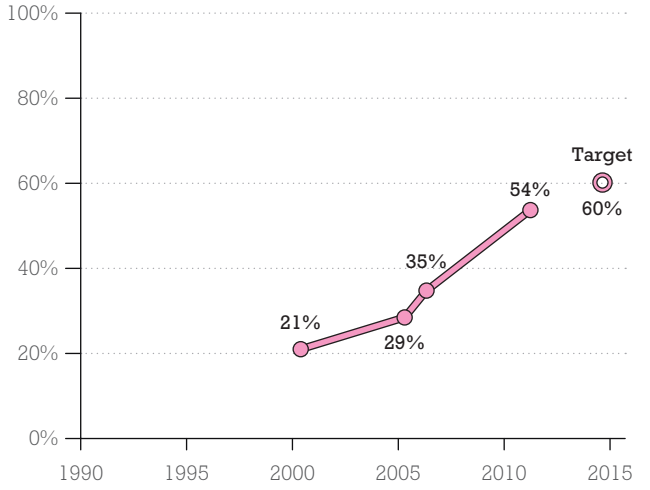
The Caesarean section rate is still low, around 4 per cent of all births. This indicates that some women whose lives would have been saved by caesarean section were not able to have this intervention. The most highly educated mothers and those in the wealthiest quintiles showed a higher caesarean section rate than did women in other groups. Fifteen per cent of women in Vientiane city reported delivering by caesarean section. The caesarean section rates amongst disadvantaged groups are very low (0 per cent in rural remote areas, 0.1 per cent in the poorest quintiles, and 0.6 per cent in women without education). On the other hand, women with tertiary education have a caesarean section rate of 18 per cent, which indicates that some C-sections could be elective due to social reasons, such as convenience.

Antenatal care

The effectiveness of antenatal care may be judged by the nature of the care provider, the number and frequency of antenatal care visits and the content of the services.

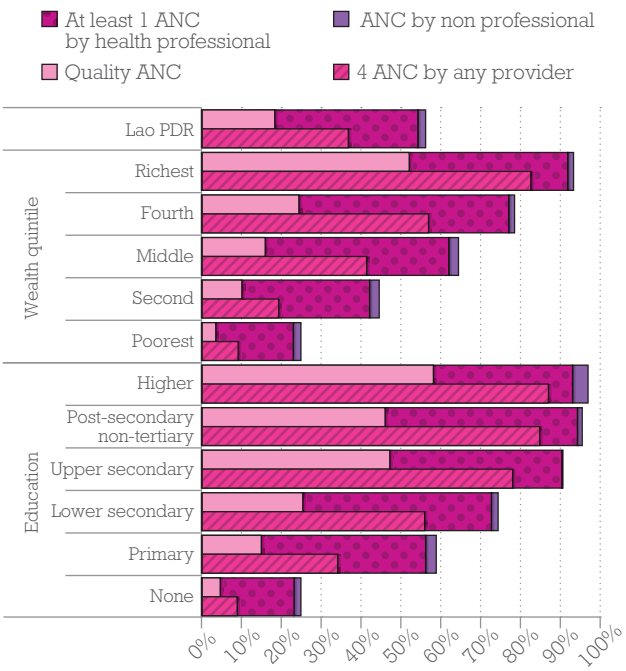
The coverage of antenatal care services has improved at national level but still needs attention (Figure 5.8). The percentage of pregnant women[12] who received antenatal care by health personnel improved from 35 per cent in 2006 to 54 per cent in 2011/12 – an impressive achievement over 5 years. However, some 44 per cent of all pregnant women in Lao PDR still do not receive any antenatal care, and 2 per cent of pregnant women received antenatal care from a non-health person (Figures 5.9 and 5.10). Those with the lowest antenatal care coverage rates are women living in remote rural areas, women in the poorest quintiles, women of ethnic groups from mountainous areas, and women with no education or only primary education. In these groups, three out of four women who gave birth did not receive any antenatal care during their pregnancy. Overall, there is a tendency for younger women to have more antenatal care than older ones. Over 90 per cent of all antenatal care in Lao PDR is provided by trained health professionals. Only three per cent of pregnant women in Lao PDR using non-professional or "other" antenatal care providers is below 3 per cent for all socio-economic categories, except for those living in Xayabury (8 per cent) and Oudomxay (4 per cent), and interestingly, those with tertiary education (4 per cent) (Figure 5.11).

Figure 5.8.
Antenatal care coverage (at least one visit by trained health professional)



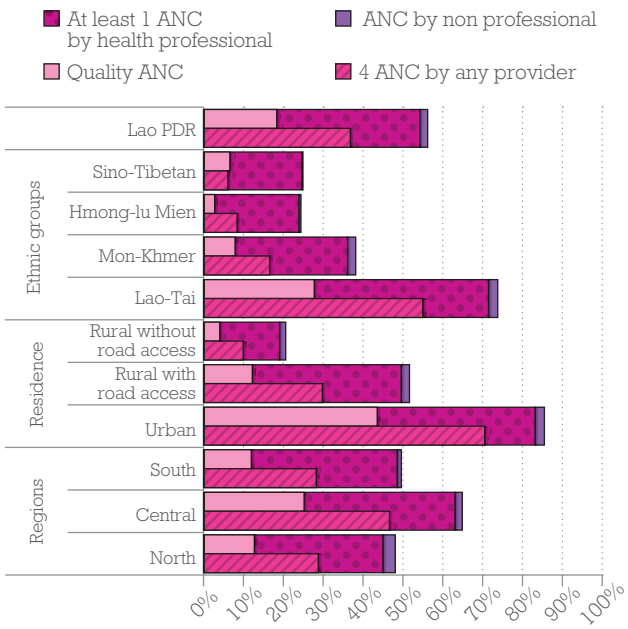
Source: LRHS 2000, 2005; MICS 2006, LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.9.
Antenatal care coverage & quality, by socio-economic characteristics



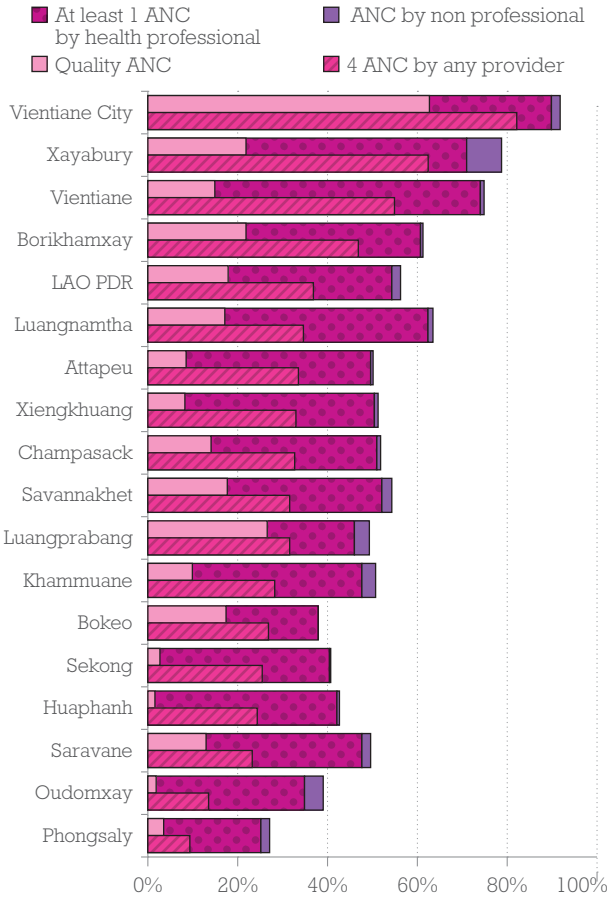
For the two year period preceding the survey. Proxy for quality antenatal care: blood pressure measured; urine and blood samples taken. Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.10.
Antenatal care coverage & quality, by socio-economic characteristics



For the two year period preceding the survey.
Proxy for quality antenatal care: blood pressure measured; urine and blood samples taken. Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.11. **Antenatal care coverage & quality, by province**



For the two year period preceding the survey.
Proxy for quality antenatal care: blood pressure measured; urine and blood samples taken. Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

The frequency of antenatal care visits is improving. Two-thirds of the women receiving antenatal care had more than 4 antenatal care visits. Calculations were not available on the percentage of four antenatal care visits that were with trained health personnel rather than with non-health personnel (such as traditional birth attendants), but the overall statistics on the types of care provider (above) indicate that nearly all antenatal care visits were conducted by health personnel.[13]

The quality of antenatal care services still needs improvement (Figure 5.12). Only 18 per cent of pregnant women[14] received all three antenatal care services recommended by WHO[15] (blood pressure checked; urine sample taken; blood sample taken). Nearly half had their blood pressure checked but the blood and urine samples were relatively uncommon. The proportion of women who had received all three services tends to be highest amongst the same groups where the coverage by 4 antenatal care visits is also high. Clearly, however, not all women who received 4 antenatal care visits received the recommended quality of services.

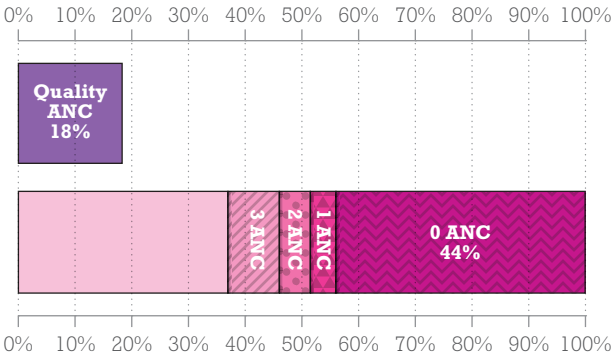
Pregnant women in Lao PDR are especially at risk of iron deficiency anaemia. This can contribute to complications during childbirth such as haemorrhage, premature delivery, and low birth weight. During antenatal care visits, health personnel advise women to take at least 90 iron pills during their pregnancy (one a day for three months). Amongst women having had a live birth in the two years preceding the survey, nearly half (48 per cent) did not take any iron pills during their pregnancy. Only 25 per cent took the recommended dosage during their pregnancy (Figure 5.13). As expected, the percentages of pregnant women taking this recommended dosage was much lower in rural areas without road access, amongst women with no education or only primary education, women from households in the poorest quintiles and those from the remote ethnic groups.

Postnatal care

Thirty-eight per cent of mothers with newborns received postnatal care within two days following delivery (Figure 5.14). Most maternal and neonatal deaths occur during the first two days after birth, and postnatal care is necessary to treat complications following the delivery. Good postnatal care also provides the mother with important information on how to care for herself and her newborn.

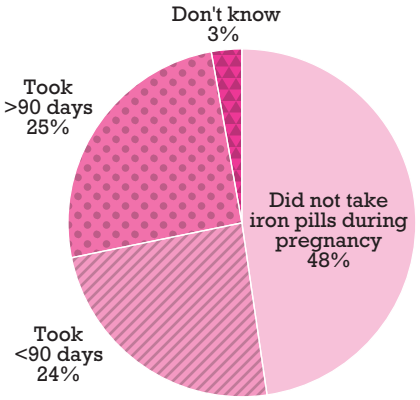
The likelihood of effective postnatal care is higher when the woman delivers at a health facility. 65 per cent of women who gave birth in a health facility stayed on in the facility for 12 hours or more after their delivery, 44 per cent stayed on for one day and 17 per cent stayed on for two or more days. In general, stays of 12 or more hours increased with education and wealth. As may be expected, the duration of stay is also related to whether a woman had caesarean section or not: 93 per cent of women with caesarean section delivery stayed on for 12 or more hours, compared to 62 per cent of women without caesarean delivery.

Figure 5.12.
Number of antenatal care visits received & quality ofthose antenatal care services* as a proportion of all women who had live births during the two preceding years



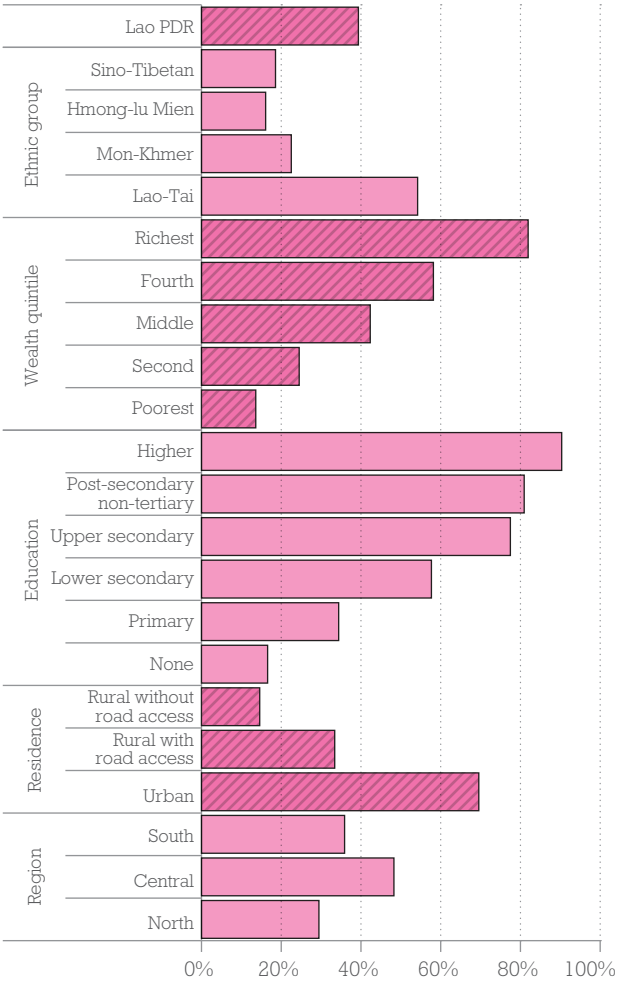
For the two year period preceding the survey. Proxy for quality antenatal care: blood pressure measured; urine and blood samples taken. Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.13.
Iron pills taken during pregnancy, Lao PDR



For the two year period preceding the survey. Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.14. **Percentage of women who gave birth receiving postnatal care visit or health check within 2 days of delivery, by socio-economic characteristics**



For the two year period preceding the survey. Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

5.4.3. Determinants of reproductive health

There is significant progress in modern contraceptive usage, consistent with the decline in fertility in Lao PDR.

Contraceptive knowledge and prevalence

Knowledge of modern contraceptive methods is higher than that of traditional methods[16] (Figure 5.15). Amongst currently married respondents and sexually active but unmarried respondents[17] of ages 15-49 years, 94 per cent of women and 95 per cent of men knew at least one modern contraceptive method. The respondents were most familiar with the male condom, the pill and injectables. On the other hand, 68 per cent of women and 69 per cent of men knew at least one traditional method. There was no significant difference between the married population and the unmarried but sexually active population. Amongst traditional methods, a greater proportion of women were more familiar with the rhythm method (or periodic abstinence), whilst a greater proportion of men were more familiar with the withdrawal method.

The trend in contraceptive prevalence is on the rise (Figure 5.16). The percentage of women age 15 to 49 years, currently married or in union, who are using (or whose partner is using) a contraceptive method – whether modern or traditional – has increased from 38 per cent in 2005 to 50 per cent in 2011/12. Of this 50 per cent, 42 per cent of women reported using modern methods and 8 per cent of women reported using traditional methods. The pill and injectables are the most used methods. Contraceptive prevalence is lowest in rural areas without road access, amongst poor and remote

ethnic groups, amongst adolescents (15-19), amongst women with no children yet, amongst those with only one child, amongst women with no education and amongst the poorest quintiles. The public health sector is the major source of modern contraceptive methods, serving 71 per cent of users. Some 26 per cent of current users reported obtaining their contraceptive from the private medical sector, whilst 3 per cent reporting obtaining their contraceptive from shops, friends and other sources.

Traditional contraceptive methods are more prevalent in urban than in the rural areas (Figure 5.17). 12 per cent of the urban women use traditional methods compared to less than 6 per cent of rural women. The Hmong-Lu Mien group also uses a greater proportion of these traditional methods more than the other ethnic groups. Women in the richest quintile use the largest proportion of traditional methods (13 per cent) compared to other quintiles (Figure 5.18). Those with higher education use the largest share of traditional methods (19 per cent).

In 2005, some 10 per cent of married women mentioned disapproval by husbands as a reason for not using contraception. The desire for more children (14 per cent) and concerns about health (12 per cent) were other reasons given.[18] Women with no or primary education were slightly more likely to report husband disapproval as a reason for not using contraception, compared to women with upper secondary education.

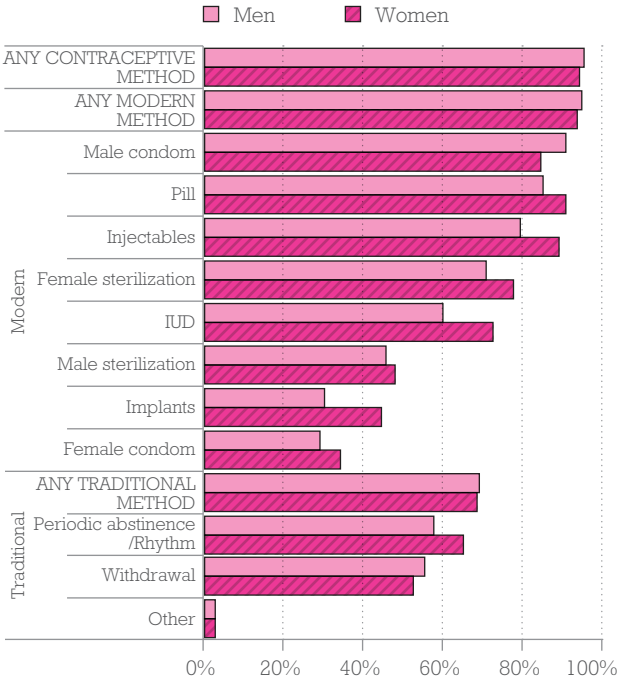
Unmet Need for contraception

The unmet need for contraception[19] ***has declined by half over the past decade; however, it is still 20 per cent*** (Figure 5.19). The decline shows not only increased access to contraceptives but also changing behaviour patterns. A far greater proportion of women who want to use contraceptives are now able to do so. The 20 per cent of married women or women in union who still have an unmet need for contraception comprise 12 per cent who do not want any more children and 8 per cent who wish to delay having a child or another child.

The pattern of disparities in unmet need follows socio-economic trends in general (Figures 5.20, 5.21 and 5.22). It is strongly influenced by gender and behaviour norms and is therefore not as predictable as other indicators in health, education and nutrition. The unmet need is highest amongst women in remote rural areas (28 per cent), the poorest quintiles (26 per cent), the Hmong-Lu Mien (30 per cent) and Sino-Tibetan (25 per cent) groups. Amongst the provinces, the unmet needs are highest in Champasack, Vientiane and Sekong (25 per cent each), with Saravane and the capital city of Vientiane is not far behind (23 per cent). The unmet need for contraception is lower in urban areas, amongst women with some education (but not in those with higher education), and amongst women in the fourth quintile (but not in the richest quintile) and in the Lao-Tai group.

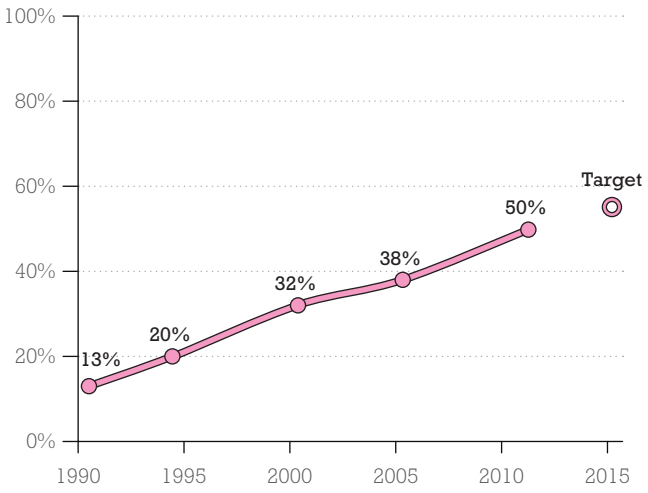
The total demand for contraception, which is the sum of unmet need and met need, is 70 per cent . In other words, 7 in 10 women in the country either use or wish to use contraception. It is highest amongst women of the age group 35-39 years (84 per cent) followed by the younger age group 30-34 years (79 per cent). It is lower amongst women in the poorest quintile (65 per cent) and those with no education (64 per cent) compared to richer and more educated women. Overall, however, the differences between the different groups are not as stark as in the case of health indicators. For example, the total demand for contraception amongst women in urban areas and in rural areas without road access is respectively 72 per cent and 64 per cent (Figures 5.20, 5.21, 5.22)

Figure 5.15.
Percentage of married & sexually active unmarried population age 15-49 who have heard of contraceptive methods



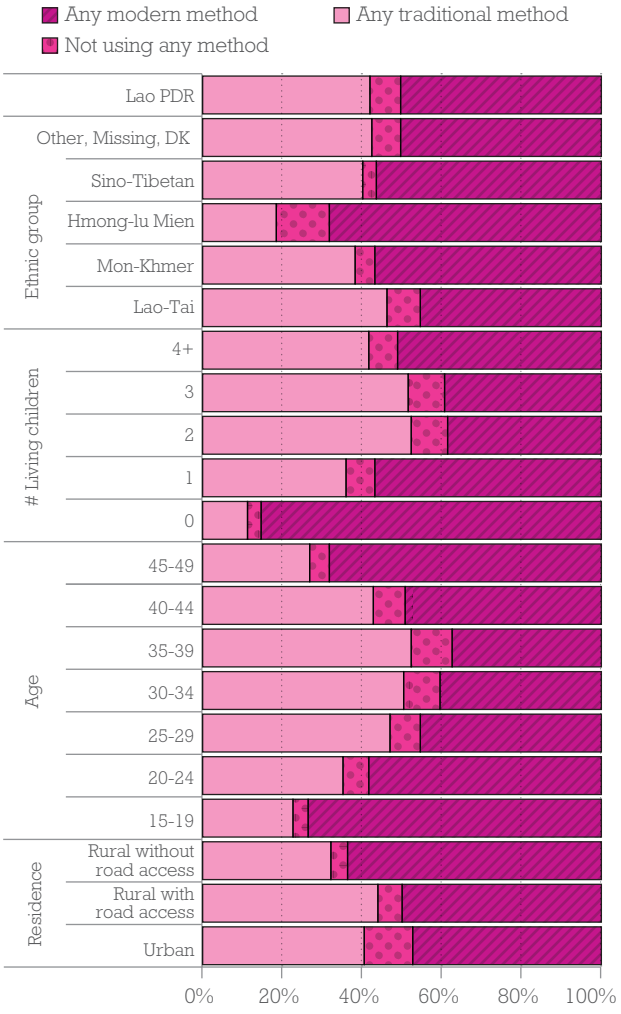
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.16.
Percentage of women age 15-49 married or in union who are using (or whose partner is using) any contraceptive method



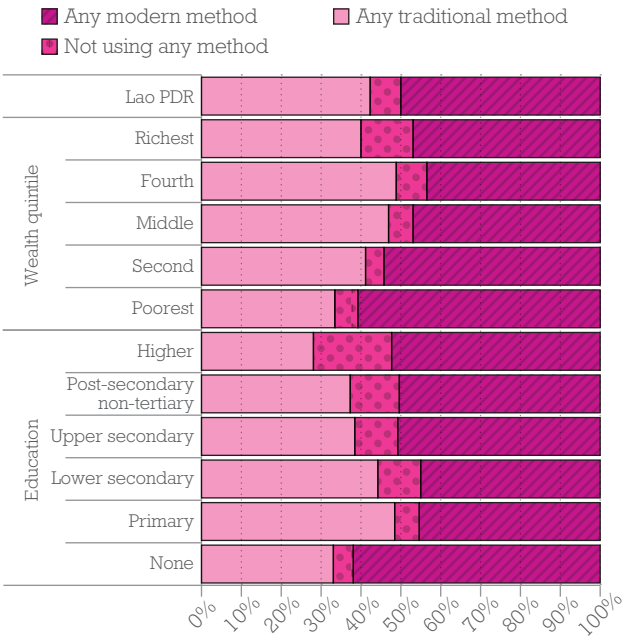
Source: RTIM 2012 for 1990 baseline; LFBSS 1994; LRHS 2000 & 2005, LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.17.
Percentage of women age 15-49 married or in union, by group and use of contraceptive method



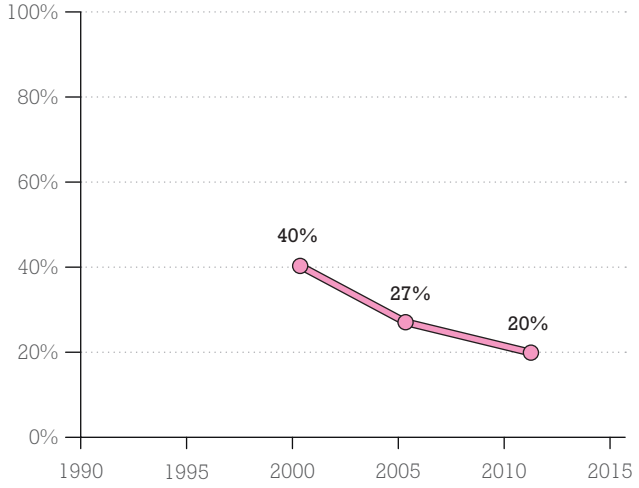
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.18.
Percentage of women age 15-49 married or in union, by group and use of contraceptive method



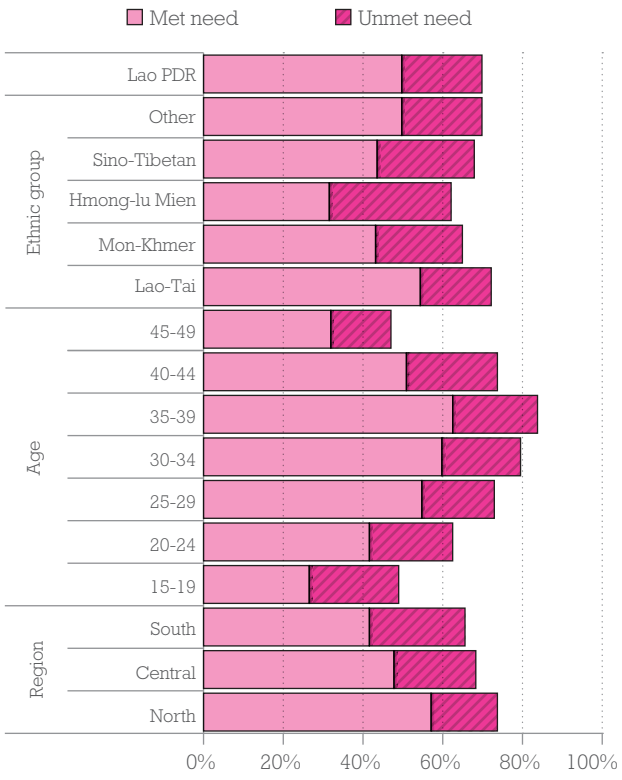
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.19.
Percentage of currently married women with unmet need for family planning



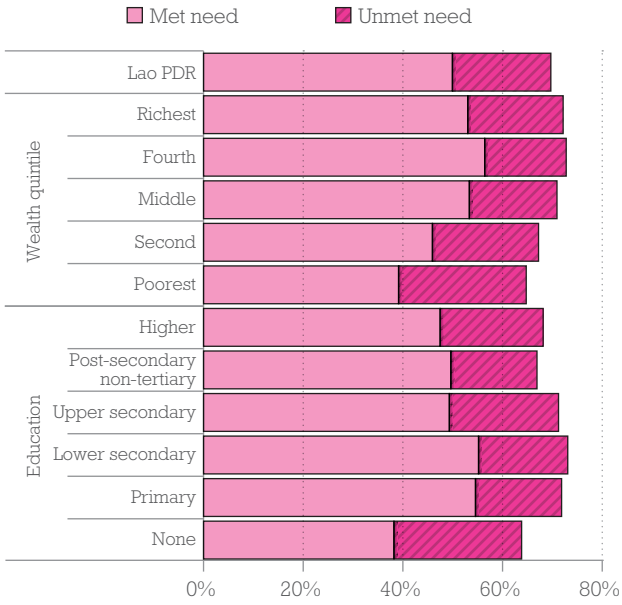
Source: LRHS, 2000 & 2005, LSIS 2011-2012. Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.20.
Percentage of women age 15-49 married or in union with met & unmet need for contraception & total demand



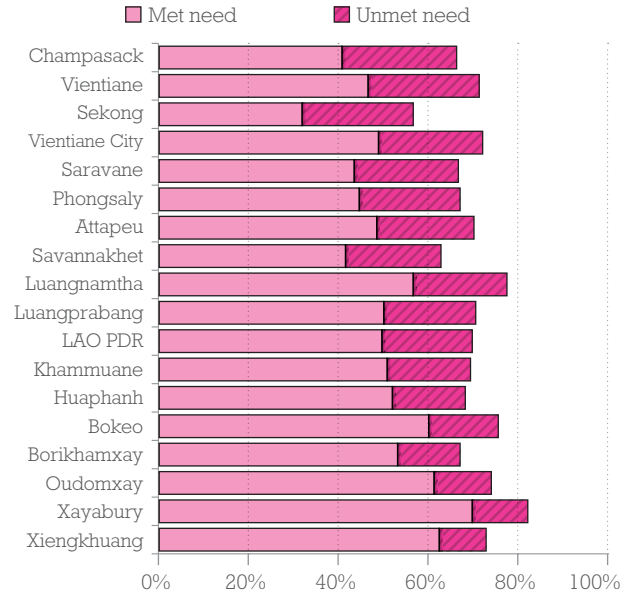
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.21.
Percentage of women age 15-49 married or in union with met & unmet need for contraception & total demand



Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 5.22.
Percentage of women age 15-49 married or in union with met & unmet need for contraception & total demand



Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

5.4.4. Demographic determinants

The median birth interval in Lao PDR is 34 months, or just under three years. The patterns are linked to the availability and use of contraception and cultural norms. The median interval for births amongst urban women is 14 months longer than that amongst rural women (46 and 32 months, respectively). The birth interval is also longest in women with upper secondary but non-tertiary education. The shortest median birth intervals are seen in women in rural areas with no road access (29 months), women with no education (29 months), amongst adolescents 15 to 19 years old (22 months), amongst women whose child from the preceding birth is no longer alive (24 months), amongst women from the poorest quintile (28 months), and amongst Hmong-Lu Mien women (27 months). The median birth interval increases to 54 months in the richest quintile.

The average age of first birth for Lao PDR is 21.1 years. This is an important determinant of the health and welfare of the mother and the child, as well as of girls' education. Three per cent of reproductive aged women (15-49) report having had a live birth before age 15. Some 19 per cent have done so before age 18. This implies that one in five girls is in an early marriage (Box 5.3). Some 39 per cent of women have become mothers by the time they turn age 20. The age at first birth is two years older amongst urban women than that amongst rural women. It is around 4 years older amongst women with secondary or higher education than that amongst women with primary or no education. It is 2 to 3 years older in women from the richest quintiles than in women from the poorer quintiles.

Box 5.3. Child Marriage

'Child marriage' or 'early marriage' is defined as the marriage of a girl or boy before the age of 18. The term refers to both formal marriages and informal unions in which children under 18 years of age live with a partner as if married. Child marriage affects both boys and girls, as it may disrupt and stop education, but it affects girls disproportionately because of the reproductive health implications.

Girls who give birth before the age of 15 are five times more likely to die in childbirth than women in their twenties. The risk of an infant dying in the first year of life is 60 per cent greater for mothers under the age of 18 years.[a]

Article 9 of the Lao PDR Family Law (1990) states that men and women can marry at 18 years of age. In special cases, this limit may be lowered to less than eighteen years of age, but not less than fifteen years of age. Marriage must be based on mutual consent from both sides without coercion from any side or individual.''[b]

[a] UNICEF (2009). State of the World's Children

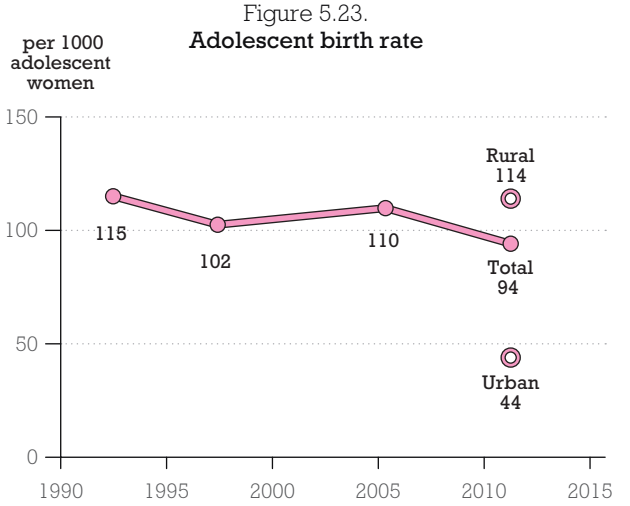
[b] Decree of the President of the Lao People's Democratic Republic on the Promulgation of the Family Law No. 07/90/NA dated 18 December 1990. 24 December 1990. http://www.vientianetimes.org.la/Con_titution/Constitution_familyLaw.htm

There is a strong inverse relationship between early childbearing and women's education. 25 to 35 per cent of young women with primary or no education reported having had a child before age 18. In contrast, only 0.2 per cent of women with post-secondary education reported having done so. Thirty-six per cent of women aged 20-24 years in the lowest wealth quintile have had a child before they turned age 18, compared to 4 per cent in the highest wealth quintile who have done so.

The adolescent birth rate in Lao PDR[20] is still high at 94 live births per thousand adolescent women (Figure 5.23). However, it has fallen to 44 per thousand in urban areas, which is no longer high according to the UN standard (Box 5.4). It is 114 in rural areas, and is much higher in remote rural areas (137), amongst young women with primary or no education (136 and 190), amongst women in the poorest quintile (183) and those in the poorer remote ethnic groups. The highest adolescent birth rates are seen in the North Region. Amongst provinces, Bokeo, Phongsaly, Oudomxay, Huaphanh and Luangnamtha have the highest adolescent fertility rates, ranging from 149 (Bokeo) to 124 (Luangnamtha).

The total fertility rate (TFR) for Lao PDR is 3.2 children per woman.[21] That is, a woman in Lao PDR would give birth to three children by the end of her reproductive period if she were to bear children at currently observed rates throughout her childbearing years. The TFR in rural areas is significantly higher than the urban TFR (3.6 and 2.2 respectively). Amongst the poorest, the TFR is 5.3 and amongst the Hmong-Lu Mien, it is 5.5. For women with no education, TFR is 4.8. TFR is also relatively high in Huaphanh, Saravane and Sekong (3.8 to 4.5). In contrast, TFR is 1.9 in the highest wealth quintile, 2.6 amongst the Lao-Tai, 2.0 or less in women who have completed secondary education, and 2.0 in Vientiane city.

Figure 5.23.
Adolescent birth rate



Number of live births to adolescent women (aged 15-19) per 1,000 adolescent women. Sources: UN Statistical Division (earlier years) & LSIS 2011-12 (for the three-year period preceding the survey), Lao Statistics Bureau, Ministry of Planning & Investment

5.5. Government policies, programmes and strategies

Several laws and policies provide the framework for maternal and reproductive health. These include the 2005 National Reproductive Health Policy, the 2004 Women's Development and Protection Law, the 1999 National Population and Development Policy revised in 2006, and the Strategy and Planning Framework for the Integrated Package of Maternal, Neonatal and Child Health Services (2009-2012). Moreover, the 1999 Prime Ministerial Decree on the Establishment of the National Commission for Mother and Child articulates the Government's commitment to the well-being of women and children. The Seventh NSEDP emphasizes the importance of health in the development of the country and in poverty eradication.

Box 5.4. Adolescent Birth Rate

Worldwide, the levels of the adolescent birth rate range from less than 2 to approximately 230 births per 1000 adolescent women.

The UN considers values of 50 or more per 1,000 women as high, and values of 10 or less per 1000 women as low. Higher values of the adolescent birth rate might indicate an unmet need for family planning amongst young women, or it may indicate cultural preferences, influenced in part by high infant and under-five mortality rates.

Very early motherhood not only increases the risk of death for both mothers and their children, but also makes it more likely that the young mothers will forego education and socio-economic opportunities.

The National Population and Development Policy set population and health targets for 2010 and 2015, which have since been incorporated into the NSEDP. The Policy encourages couples to decide the number and spacing of their children according to their circumstances, promotes equality in family responsibilities and decision-making, and seeks to ensure that women's health in particular is improved. It calls on the Government to provide adolescents with reproductive health information in schools and communities, with a focus on reducing the number of pregnancies amongst girls under 18 years of age and educating young people on the prevention of sexually transmitted infections (STIs), including HIV.

The National Reproductive Health Policy provides a framework for improving women's reproductive health and wellbeing. The Policy has a strong rights focus. It encourages men to take greater responsibility for their own sexual behaviour, as well as to respect and support women's reproductive rights and health. It calls for the elimination of all forms of discrimination against women and children. It emphasizes the access to and the sustainability of quality family planning services for all couples and individuals of reproductive age. It promotes health and nutrition interventions that reduce maternal and child morbidity and mortality. To reduce the short- and long-term impact of unsafe abortions, it emphasizes the prevention and management of induced abortion. It calls for youth-friendly reproductive health services to provide information, education and counselling to youth on dealing with sexuality and reproductive health issues in a satisfactory and responsible manner. It aims to reduce breast and reproductive tract cancers, and reduce the prevalence and psychosocial burden of infertility. It highlights the prevention and control of reproductive tract infections, STIs and HIV-AIDS.

Maternal health targets are given by the Strategy and Planning Framework for the Integrated Package of Maternal, Neonatal and Child Health (MNCH) Services (2009-2015).[22] These targets are to reduce MMR to 260 per 100,000 live births by 2015 and reduce anaemia in women of reproductive age from 37 per cent in 2009 to 25 per cent by 2015. The Framework also sets out the strategies, expected results and activities under three strategic objectives. The two first objectives, related to the supply of health services, aim to improve the leadership, governance and management capacity for programme implementation and strengthen the efficiency and quality of health service provision. The third objective relates to increased demand and utilization and aims to mobilize individuals, families and communities in the promotion of maternal, neonatal and child health.

In 2012, the Prime Minister issued a Decree on free delivery and free health care for all children under five years old (Box 5.5) . This is expected to dramatically increase the facility based delivery rate and improve the access to and quality of health care for poor women and children. A pilot project operating since 2009 in two districts of Savannakhet found that offering free deliveries at facilities increased the facility delivery rate by 3 times.[23]

5.6. Challenges and Opportunities

Overall, health financing issues need priority attention. These are covered under MDG 4, Chapter 4.

The health workforce capacity needs to be strengthened. The Strategy and Planning Framework for the Integrated Package of MNCH Services 2009-2015 highlights the insufficient investment in the health workforce and the weaknesses in supervision and staff motivation. The distribution of existing staff is inequitable, with high concentrations in urban areas. Most staff working in health facilities at district level are low-level cadres. It was found that provinces deploying more and higher level staff to district level had better health outcomes. Stepped-up training, monitoring and supervision are needed, especially in the remote areas. Capacity strengthening efforts will need to give special attention to service quality issues. For example, a 2008 assessment of birth attendance in Lao PDR showed that skills needed strengthening in the management of the third stage of labour.[24]

Box 5.5. Free delivery for women and free health care for under-fives

The 2012 Prime Ministerial Decree 178/PM[a] makes all pregnant women and children under the age of 5 years exempt from fees related to deliveries and child health at all health centres and public hospitals. Implementation is being rolled out in 2013, first in poor districts and governmental focus sites for development. It will later expand to urban and other areas.

For pregnant women, the policy provides free health care for four antenatal care visits, all vaccinations, postnatal care and facility based deliveries, including referral and hospitalization where needed, Caesarean deliveries and treatment of complications related to childbirth. Importantly, the operational guidelines issued by the Ministry of Health[b] stipulates maternal death audits, with investigations into the cause of death for all maternal deaths in or outside any health facility.

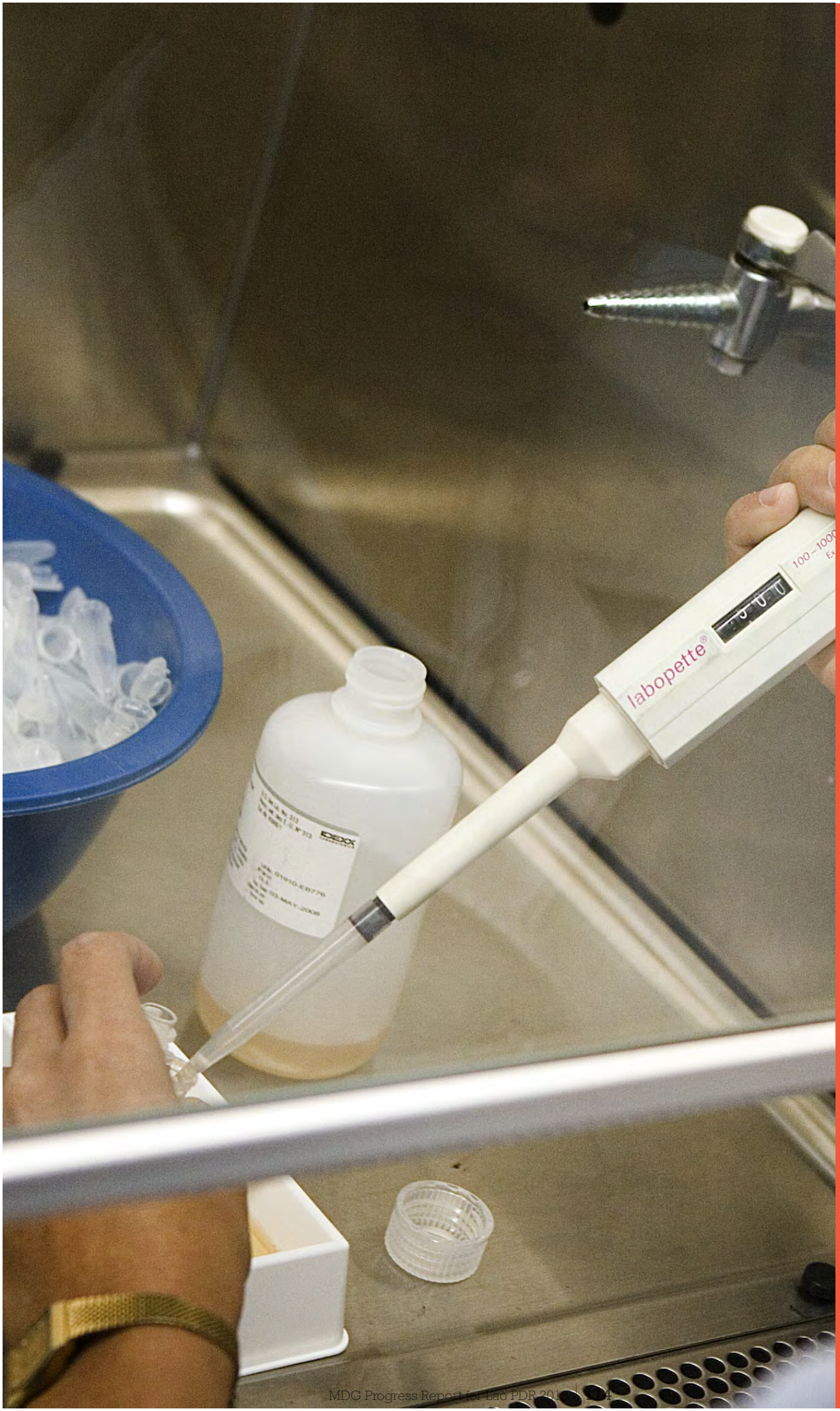
For children up to 5 years old the benefits cover medical checks after birth, vaccinations in accordance with the national vaccination protocol (see Chapter 4), health checks, costs of treatment, referral and surgery.

For both women and children, the guidelines provide for food allowance and transport costs up to a maximum calculated for 6 kilometres distance from the health facility. To encourage community participation, the operational guidelines include a financial incentive for village health workers who bring pregnant women and children under the age of one year to the health facility. Additionally, the guidelines specify that each participating village be paid LAK 100,000 a year for collecting data on the target population, including reports on births and deaths in a timely manner. The initiative is still heavily reliant on external funding.

[a] Government of Lao PDR (2012b). Prime Minister's Decree No. 178/PM on The Implementation of Free Delivery and Free Health Care for Children Under 5 years old, 5 April 2012.

[b] Ministry of Health (2013). Agreement of the Minister of Health on the implementation of Free Delivery and Free Health Care for Children Under 5 years old. No. 167/ MoH, 17 January 2013. Vientiane: Ministry of Health

Despite the positive trend of maternal and reproductive health service indicators, the country's progress towards this goal is not on track. The issues are (i) the still-low levels of achievements in all these indicators; (ii) the relatively low rate of facility-based delivery; and (iii) the poor quality of health services. Interventions that are required are those that can achieve high population coverage, improve the quality of services and promote facility-based delivery and family planning amongst marginalized groups. On the demand side, advocacy, mobilization and health education activities will need to target women and men from communities living in the remote rural areas; these are often the same groups as those in the poorest quintiles and those with the lowest education.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MDG6. Combat HIV/ AIDS, Malaria and Other Diseases

6.1. Summary

HIV and AIDS

The number of new HIV cases has steadily increased at an estimated rate of three new infections a day, and 1,000 cases each year. There is thus little reason for complacency, although current HIV prevalence is low.

Heterosexual contact fuels much of the epidemic in Lao PDR. The patterns of groups engaging in high-risk behaviour influence the geographic spread of HIV. Such groups include men who migrate for work without families; returning migrant workers, especially females; and sex workers, who are at highest risk, especially those not working in entertainment establishments. The clients of sex workers are a heterogeneous group, and are at intermediate risk of HIV.

The inequities seen in other MDG areas extend to HIV knowledge as well. Men are better informed on HIV than are women. The knowledge levels have not increased significantly over the past decade. The higher groups at higher risk of HIV exposure have greater levels of HIV knowledge. Condom use rates are high in commercial sex, but lower in casual sex. Stigma and discrimination make it much hard to control the epidemic. Only 17 per cent of women and 14 per cent of men who were surveyed expressed accepting views of people living with HIV.

Anti-retroviral therapy (ART) coverage has increased but still needs to improve. The problem appears to be inadequate reporting and identification, and insufficient demand. People come for treatment only when they are sick, as they are not accustomed to testing. Adherence and survival rates are reportedly good, but intake for treatment is low. To reach the national targets by 2015 on HIV and AIDS, a number of actions are recommended. These include building on the momentum created by the health reforms, building partnerships with key affected populations, groups and networks, strategically addressing the needs related to mother-to-child transmission, securing access to treatment for all, and increasing the domestic financial contribution.

Malaria

Recent years have seen steep declines in malaria mortality and incidence. Malaria incidence has decreased to one-third of 2000 levels. The malaria mortality per 100,000 population declined from 7.1 in 2000 to 0.3 in 2011, meaning that the country has almost achieved its 2015 MDG target. Malaria prevention strategies are also achieving success, leading to the widespread use of bed nets amongst adults and children. The National Bed Net Survey found that 81 per cent of children under five years of age slept under insecticide-treated bed nets and that 98 per cent of children slept under one kind of bed net or another. Nearly all children with confirmed malaria were treated.

Since December 2011, malaria outbreaks in the five southern provinces have become a concern. The outbreaks are associated with large-scale development projects. There is a strong probability of drug-resistance malaria strains amongst certain local populations. The expansion of certain livelihoods is increasing the exposure to malaria.

The impressive scale and pace of development in the country needs to be matched by the required investments in health to tackle the new challenges brought by rapid development. Effective strategies are needed to address the external (non-health) risks to health, such as changes in land use. In the malaria-endemic areas, the achievable objective would be to ensure 100 per cent prevention coverage for populations at risk and establish zero tolerance measures for stock outs and malaria-associated mortality.

Tuberculosis

The incidence, prevalence and mortality rates of tuberculosis in Lao PDR show a steady decline. Both the detection and cure rates have surpassed the earlier targets set for 2015. In 2010-2011, Lao PDR successfully completed the first-ever national TB prevalence survey in the country conforming to an international standard. The findings of the survey indicated the scale of challenges faced by the national TB programme. The prevalence has been found to be nearly two times higher than previously estimated. The survey and the programme review suggest that many TB cases remain undiagnosed and untreated.

Strategies recommended include:

- ensuring universal access to quality TB control services for all types of TB, particularly for children and vulnerable groups;
- strengthening the management capacity of the National Reference Laboratory;
- urgently implementing drug resistance surveillance; and
- strengthening overall programme management and planning capacity to ensure timely availability of anti-TB drugs and laboratory supplies and to ensure adequate support at all levels.

6.2. MDG 6 at a glance

Goal 6: Combat HIV/AIDS, malaria and other diseases

Target 6A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS

	2000	2005	2009	2010	2012	Target* 2015
6.1 a) HIV prevalence amongst population aged 15-24 years — Female			0.20%			<1%
6.1 a) HIV prevalence amongst population aged 15-24 years — Male			0.10%			
6.1 b) HIV prevalence in general population aged 15-49 years	0.10%	0.18%		0.25%	0.28%	<1%
6.1 c) HIV prevalence in female sex workers (FSWs) aged 15-49 years	0.03%	1.83%		1.38%	1.20%	<5%
6.1 d) HIV prevalence in men having sex with men (MSM) aged 15-49 years	0.38%	1.26%		2.12%	2.44%	<5%
		2000	2005	2010	2012	
6.2 Condom use at last high-risk sex: Percentage of female sex workers aged 15-49 years reporting the use of a condom with their most recent client		91.4%	78%	95%	92.5%	95%
					2012	
6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS						
Young women aged 15-24					24%	
Young men aged 15-24					28%	

Target 6B: Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it

			2005	2010	2012	Target* 2015
6.4 Percentage of eligible adults and children currently receiving antiretroviral therapy			40.8%	50.8%	55.4%	>90%

Target 6C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

	2000	2003	2005	2010	2011	Target* 2015
6.5 Incidence and death rates associated with malaria						
Malaria incidence (per 1,000)	8.1	3.5	2.4	3.5	2.7	0.6
Death rate associated with malaria (per 100,000)	7.1	3.5	1.4	0.4	0.3	0.2
			2000	2006	2011	Target* 2015
6.6 Incidence and death rates associated with malaria						
Insecticide-treated bed nets			18%	41%	81.2%	90%
Any bed net			82%	87%	97.9%	
			2009	2010	2011	
6.7 Proportion of children under age 5 testing positive for malaria who are treated with appropriate anti-malarial drugs**			98%	95%	93%	
	1990	1995	2000	2005	2011	Target* 2015
6.8 Incidence, prevalence and death rates associated with tuberculosis (per 100,000)						
Tuberculosis incidence	492	403	330	270	213	240
Tuberculosis prevalence	1490	1220	961	739	540	750
Death rate associated with tuberculosis	41	29	21	16	11	22.5
	1990	1995	2000	2005	2010	Target* 2015
6.9a Proportion of tuberculosis cases detected under directly observed treatment (DOTS) short course	50%	20%	49%	74%	72%	70%
	1994	2000	2005	2007	2009	Target* 2015
6.9b Proportion of tuberculosis cases cured under directly observed treatment (DOTS) short course	48%	77%	90%	92%	93%	85%

Notes:
*Targets for HIV will need to be reviewed in line with Lao PDR's commitment to the 2011 Political Declaration at the United Nations
**Indicator 6.7 replaces "Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs," following WHO recommendation.

The international indicator on "Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years" is not relevant for Lao PDR.

Data sources:

Indicator 6.1. a) UNAIDS Report on The Global AIDS Epidemic, 2010, AIDS data hub: UNAIDS, UNICEF, WHO & ADB http://www.aidsdatahub.org/. b) Spectrum projection of country data, UNAIDS. c) and d) Asian Epidemic Model (AEM) projection, UNAIDS.
Indicator 6.2. Lao PDR Integrated Behavioural Biological Surveillance (IBBS 2011), Ministry of Health, 6 programme provinces.
Indicator 6.3. Lao Social Indicators Survey (LSIS 2011/12), Lao Statistics Bureau (LSB), Ministry of Planning & Investment
Indicator 6.4. Programme Report & Spectrum projection of country data, UNAIDS
Indicator 6.5. Malaria Information System (MIS), Centre for Malariology, Parasitology and Entomology, Ministry of Health (CMPE-MoH)
Indicator 6.6. National Bed Net Survey, December 2010, CMPE, MoH. Multiple Indicator Cluster Surveys (MICS 2000 & 2006), LSB
Indicator 6.7. Malaria Information System (MIS), CMPE-MoH
Indicator 6.8. WHO TB database and National Tuberculosis Control, Ministry of Health. Recalculations following the first National TB Prevalence Survey in 2010/12, WHO TB database.
Indicator 6.9 a and b: National Tuberculosis Control, Ministry of Heath, Lao PDR

6.3. Introduction

HIV, malaria, TB and other MDGs

HIV/AIDS, malaria and tuberculosis (TB) have a direct impact on a country's human development. All three diseases undermine the productivity and quality of human resources, harm children's health and development, and cause a significant proportion of illness and death amongst the working age population. All three diseases are among the six leading infectious killers worldwide.[1]

Not stopping the spread of the HIV epidemic undermines the progress towards all other MDGs. Many countries have found this out at heavy cost. Prevention and timely treatment of HIV is closely linked to knowledge, education and wealth. HIV has strong links with gender and gender-based violence: most women become infected because they are not empowered with knowledge or power to decide on issues affecting their own health and well-being.

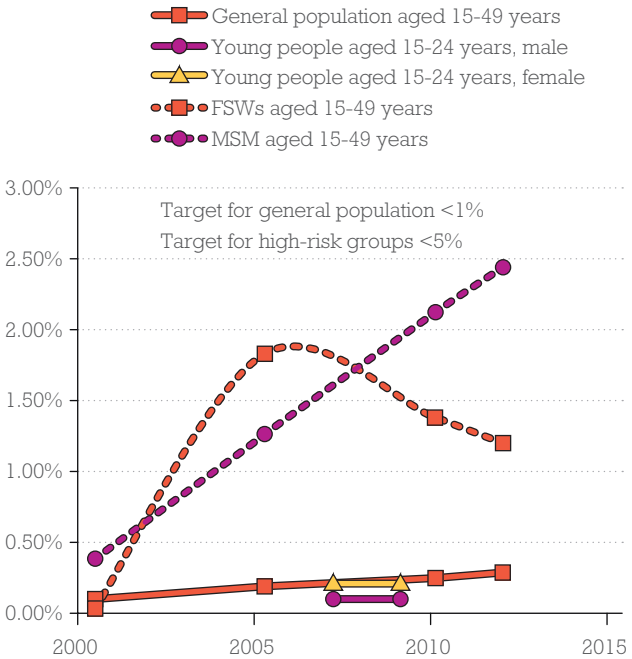
Combatting malaria is closely linked to achieving the MDGs on nutrition, maternal health, and child survival. Malaria contributes to anaemia amongst children and pregnant mothers. Interventions to reduce malaria infection in pregnant women, such as preventive treatment and insecticide-treated bed nets, reduce undernutrition and improve birth outcomes.[2] Malaria saps the health and vitality of the child and therefore has a negative impact on children's school attendance. In turn, malaria control depends on progress towards the targets on water, sanitation and urban slums under MDG 7. In malaria endemic regions, the poor are worst affected by malaria, since the disease thrives in conditions of poor sanitation and crowding, and since the poor are least able to afford treatment and preventive actions against the disease.

TB remains a challenge in Asia, affecting millions of people each year. TB affects mostly adults in the economically productive age groups, commonly more men than women. Yet most cases of TB are curable and have been so since the 1980s. This highlights the link between TB and poverty: poor people are less likely to be educated, less likely to have health-seeking behaviour and therefore less likely to be diagnosed. They are also more likely to drop out of the treatment regime than are educated people. People living with HIV are much more likely to develop TB.

Linkages with LDC graduation

MDG 6 has links to all three criteria used by the UN to define a country as LDC. This is because HIV, malaria and other major diseases affect the quality of a country's workforce and its economic productivity, influencing the HAI, EVI and GNI per capita (see Box 1.1). These diseases also have a direct impact on under-five mortality rate and on the nutrition of the population, which are two of the four components in the HAI. The diseases also have an indirect impact on secondary enrolment, the third indicator forming the composite index of HAI..

Figure 6.1.
HIV prevalence amongst general population & high-risk groups



Source: General population: Spectrum projection. Young people: UNAIDS Report on The Global AIDS Epidemic, 2010, AIDS data hub. Female sex workers (FSWs) and men having sex with men (MSM): Asian Epidemic Model (AEM) projection.

Box 6.1. Global HIV Indicators and the Lao PDR context

• The global indicator of HIV prevalence amongst population aged 15-24 years reflects the fact that a significant proportion of all new HIV cases are amongst young people. Moreover, trends in HIV prevalence for younger age groups are a reflection of a country's overall trend in HIV incidence and risk behaviour. In Lao PDR, the populations who are most at risk are the youth usually belonging to marginalized groups, e.g. men having sex with men (MSM), sex workers & people who use and inject drugs.

• The global indicator of Condom use at last high-risk sex is defined as the percentage of young men and women aged 15–24 who reported using a condom the last time they had sex with a non-marital, non-cohabiting sexual partner of those who had sex with such a partner in the last 12 months. However, in countries where national HIV surveillance system is under developed, it may not be possible to monitor this indicator properly at the national level. In the case of Lao PDR, therefore, proxy indicators were used, such as condom use amongst sex workers in a limited area under surveillance. The data on sex workers relate to only six provinces, whilst the data on MSM relate to two provinces.

• The proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS means that the population can correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), know that a healthy looking person can transmit HIV, and reject the two most common local misconceptions about HIV transmission. In Lao PDR, people commonly have the misconception that HIV is transmitted by mosquito bites, by supernatural means and by sharing food with someone with AIDS.

• The proportion of population with advanced HIV infection with access to antiretroviral drugs: The denominator for this indicator is all adults and children who are eligible for ART The eligibility is based on the 2010 updated recommendations by WHO, which raised the CD4 threshold from 200 to 350 cells per mm3, at which antiretroviral therapy is deemed necessary for adults. The WHO treatment guidelines for infants and children provide the eligibility criteria for initiating antiretroviral therapy amongst infants and children. However, the CD4 threshold could be raised in the near future (see text), meaning that many more people would become eligible.

Most of the HIV data are from the Ministry of Health's Centre for HIV/AIDS and STIs. Reliable data is further needed for triangulation purposes. The way the data are collected may lead to bias, since marginalized groups are difficult to access. Experience elsewhere indicates that some health workers tend to discriminate against such groups. In Lao PDR, HIV-AIDS data representative of the national level are relatively scarce, because of the low prevalence and the need to strengthen national data collection systems. The Asian Epidemic Model (AEM) was used to project future HIV trends based on population size and risk behaviour. Although such projections must be viewed with caution, they are nonetheless useful in understanding how new infections are distributed amongst different key populations in the Lao PDR.

Data on knowledge and attitudes about HIV/AIDS and risk behaviour are available from household surveys, notably the Lao Social Indicators Survey (LSIS) 2011/12, Lao Statistics Bureau, Ministry of Planning and Investment. Other data on prevalence and behaviour of specific population groups are also available from the HIV and AIDS Data Hub for Asia Pacific supported by UNAIDS, UNICEF, WHO & ADB (http://www.aidsdatahub.org/)

6.4. Accelerating the HIV/AIDS response

6.4.1. HIV prevalence and trends

HIV prevalence shows a rising trend (Figure 6.1). Amongst young people aged 15-24 years, the prevalence was estimated as 0.15 per cent (0.2 per cent for females and 0.1 per cent for males) in 2009.[3] For the population aged 15-49 years, it was estimated as 0.28 per cent in 2012. This is an increase of nearly three times from the 2000 levels.[4] The HIV prevalence amongst pregnant women (another measure of general levels in the population) was estimated as 0.3 per cent in 2009[5].

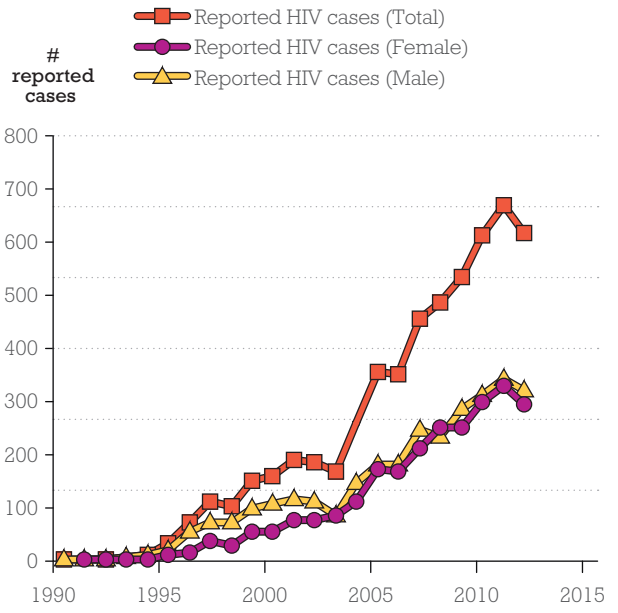
The number of new HIV cases has steadily increased at an estimated rate of three new infections a day, and 1,000 cases each year (Figure 6.2). There is thus little reason for complacency, although current HIV prevalence is low. As noted by the Minister for Health and Chairperson of the National Committee for the Control of AIDS,[6] the HIV epidemic in the country is by no means under control. By 2010, some 9,000 people were estimated to be living with HIV,[7] up from less than 1,000 in 2001. The estimated number of women living with HIV increased from less than 500 in 2001 to 3,500 in 2009. In 2011, Lao PDR reported 670 HIV cases, 369 AIDS cases and 120 deaths due to AIDS-related illness. From

1990 to 2012, the cumulative number of reported cases was 5,559, of which children below the age of 5 years accounted for 3 per cent and those below the age of 15 years accounted for 5 per cent. Some 45 per cent of the total cumulative cases occurred in children and young people below the age of 30 years.

The share of women in reported HIV cases has increased from 25 per cent of the total in 1996 to 49 per cent of the total in 2011[8] (Figure 6.2). Recent data on domestic violence (LSIS 2011/12) may be one of the factors explaining this.

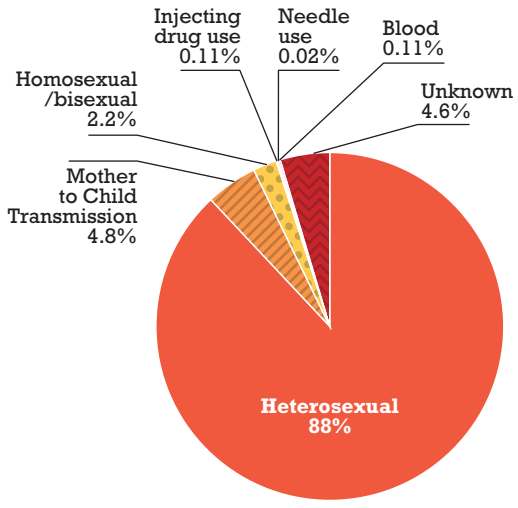
Much of the epidemic in Lao PDR is fuelled by heterosexual contact (Figure 6.3). From 1990 to 2012, this accounted for 88 per cent of cumulative HIV infection.

Figure 6.2.
Reported HIV cases



Source: Lao PDR Center for HIV/AIDS/STIs (CHAS), Ministry of Health

Figure 6.3.
Percentage of reported HIV cases by transmission mode - 1990-2012



Source: Lao PDR Center for HIV/AIDS/STIs (CHAS), 2013.

Homosexual transmission accounted for 2.2 per cent. The proportion of reported cumulative HIV cases due to mother-to-child transmission has increased from 2 per cent in year 2000 to nearly 5 per cent in 2012.[9] The infection spreads into the general population largely through those who engage in high-risk behaviour.

Amongst high-risk groups, men having sex with men (MSM) are estimated to have higher prevalence. In fact, the prevalence amongst MSM is estimated to be twice as high (2.4 per cent) as that amongst female sex workers (FSW) (1.2 per cent).[10] A 2011 survey of FSW in six provinces found 1 per cent of female sex workers living with HIV. One survey in Vientiane city found 5.6 per cent HIV prevalence amongst MSM.[11]

A survey of people using drugs in two Northern Provinces reported an HIV prevalence of 1.5 per cent in 2010.[12] Lao PDR conducted a survey amongst people who use or inject drugs relatively recently. The prevalence trends for high-risk groups have increased much more steeply than that amongst the general population. Even so, in comparison with other countries in the region, the HIV prevalence is estimated to be low amongst most-at-risk populations, with so far no concentrated epidemic.

6.4.2. Vulnerabilities and risks

The geographic spread of HIV is influenced by the patterns of groups engaging in high-risk behaviour. Such groups include men who migrate for work without families and returning migrant workers, especially females. The National Committee for the Control of AIDS reported that more than half of registered people living with HIV in Lao PDR were migrant workers and their partners. Most of them had acquired the virus through unprotected sex. Cumulative migrant cases of HIV are predominantly female, specifically in the younger age groups.[13] Male migrant workers who migrate for work are usually the main clients of sex workers: these groups are concentrated in urban areas, along transport corridors, mine sites and construction sites. Transgender and gay-identified men tend to form networks in urban areas. The geographical patterns of drug use depend on the drug. Methamphetamine type substances (Yaba) are used mainly by young people in urban areas, and opiates (opium and heroin) are used in rural areas along the northern borders with Myanmar, China and Vietnam. Methamphetamines are usually in a pill form and not injected, and therefore less of a risk factor.

The most vulnerable groups are sex workers, especially those not working in entertainment establishments because they are harder to reach. These sex workers may solicit clients in streets, or through cell phones servicing migrant workers, and are much more difficult to reach with services and information than are sex workers operating out of establishments.[14] MSM who are transgender and male sex workers are also at high risk.

Most sex workers and high-risk MSM are young (some younger than 18 years of age), have fewer negotiation skills, and are more exposed. Further data will be needed on all high-risk groups to design effective interventions, especially because these groups exist outside government-monitored systems and programmes.

The clients of sex workers are a heterogeneous group, and are at intermediate risk of HIV. Men who purchase sex include migrant and immigrant workers, transport workers, business travellers and civil servants. Another group at risk are the spouses and regular sexual partners of most-at-risk populations, since condom use with spouses or regular partners is generally lower than that with casual or commercial partners.

The general population is still at low risk of HIV infection. Even if HIV awareness and knowledge remain low amongst certain rural and ethnic populations, and condom use is negligible within spousal relations, the risk of an average Lao person being infected by HIV is estimated to be low. Nonetheless, this could change as more and more of the general population are infected through the regular partners of people in the high-risk groups.

Socioeconomic and cultural factors fuel transmission. First, the rapid economic development of Lao PDR, beneficial for its economy, also brings risks. The development brings increased flows of migrant workers and an increased demand for commercial sex along transport networks, in urban areas and in border areas next to countries with higher HIV prevalence. Second, certain cultural and gender norms allow men to engage in extramarital relations, especially during the wife's pregnancy. Third, stigma prevents those who are stigmatized or criminalized from having access to information and services that could prevent HIV. These are the groups in sex work, in same-sex relations and those using drugs.[15]

Countering the trends of increased transmission, two factors tend to reduce transmission. First, sex workers in Lao PDR, when compared with those in some other countries in the region, have relatively few clients, high rates of condom use and good negotiation skills. They also stay in the business for a shorter period. Second, programmes to promote and provide condoms have led to increased availability and relatively frequent use.

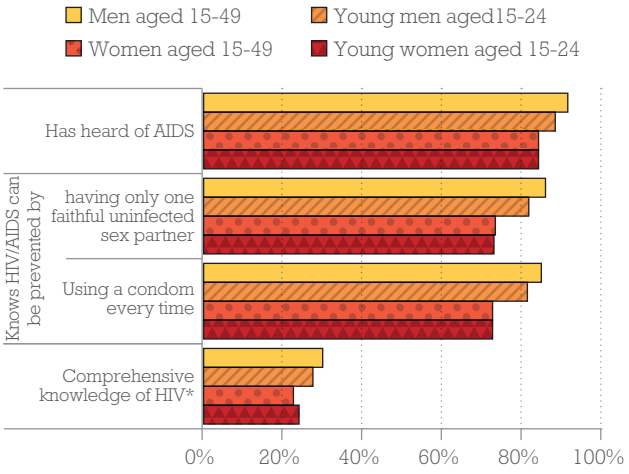
6.4.3. Preventing HIV/AIDS

HIV/AIDS knowledge amongst the general population

Men are better informed on HIV than are women. In 2011/12, amongst young people aged 15-24 years, 24 per cent (women) and 28 per cent (men) had comprehensive correct knowledge of HIV/AIDS (Figure 6.4). 84 per cent of young women and 89 per cent of young men had heard of HIV/AIDS. Three out of four young women and four out of five young men knew that HIV transmission could be prevented by consistent use of condoms and by having only one faithful uninfected sex partner. Older men were slightly more knowledgeable: 30 per cent of men in the age group 15-49 years had comprehensive correct knowledge of HIV/AIDS compared to 23 per cent of women in the same group.

Men also have higher levels of knowledge about vertical transmission. A greater proportion of men aged 15-49 years (82 per cent) knew HIV could be transmitted from mother to child, compared to women (77 per cent). Lower proportions of both men and women (57 and 55 per cent respectively) were able to correctly identify all three means of HIV transmission from mother to child.

Figure 6.4.
Knowledge about HIV transmission* amongst men & women aged 15-49 and 15-24 years

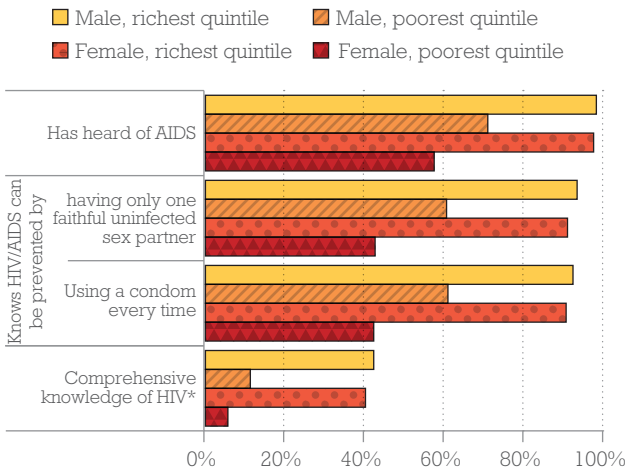


** Comprehensive knowledge: knows prevention; knows a healthy looking person can have HIV, rejects common misconceptions. Source: LSIS 2011-2012, Lao Statistics Bureau, Ministry of Planning & Investment*

The inequities seen in other MDG areas extend to HIV knowledge as well (Figure 6.5, 6.6, 6.7). The knowledge levels of HIV/AIDS were much lower amongst men and women from rural areas without road access, those with no education, those from the poorest quintile and amongst the ethnic groups living in remote areas. The differences between men and women are small amongst the educated and the wealthy, but much more pronounced amongst poorer and less educated groups. The knowledge differentials between the richest and the poorest, and those between the educated and non-educated are much starker than are those between the men and women. There is a marked difference between those with primary education and those with secondary education, as well as between those without any education and those with primary education.

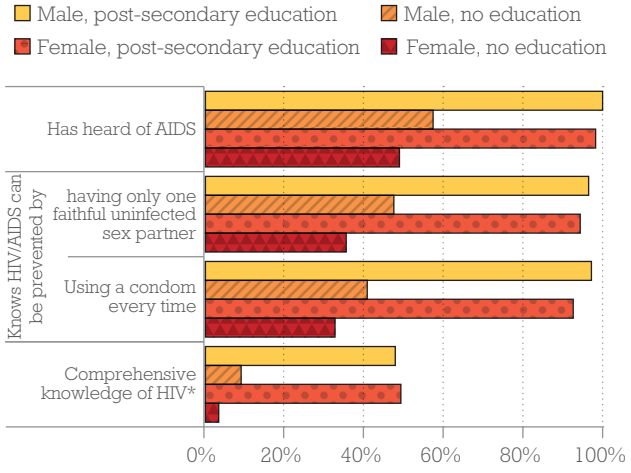
The knowledge levels have not increased significantly over the past decade. The MICS survey from 2000 indicates that 22 per cent of women of reproductive age

Figure 6.5.
Inequities in HIV knowledge, young people aged 15-24 years



** Comprehensive knowledge: knows prevention; knows a healthy looking person can have HIV, rejects common misconceptions. Source: LSIS 2011-2012, Lao Statistics Bureau, Ministry of Planning & Investment*

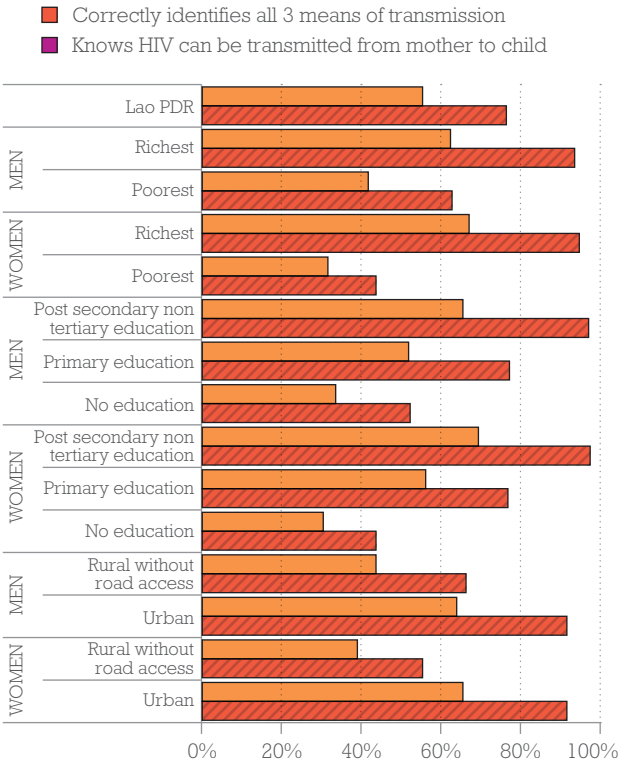
Figure 6.6.
Inequities in HIV knowledge,* young people aged 15-24 years



** Comprehensive knowledge: knows prevention; knows a healthy looking person can have HIV, rejects common misconceptions. Source: LSIS 2011-2012, Lao Statistics Bureau, Ministry of Planning & Investment*

had comprehensive correct knowledge about HIV/AIDS (regional and age group variations were between 15 to 30 per cent). Not much progress has been made over the past decade: the recent LSIS data showed that 23 per cent of women of reproductive age had comprehensive correct knowledge of HIV/AIDS. In the 2000 survey, 93 per cent of women of reproductive age had heard about HIV/AIDS, whilst 76 per cent of women of the same age group knew HIV could be transmitted from mother to child. In LSIS 2011/12, 84 per cent of women had heard about HIV/AIDS,[16] whilst 77 per cent knew HIV could be transmitted from mother to child.

Figure 6.7.
Knowledge about mother-to-child transmission of HIV, men & women aged 15-49 years



Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

HIV/AIDS knowledge amongst the higher-risk population

The higher risk groups have greater levels of HIV knowledge. In four provinces in 2008, 48 per cent of FSWs and 57 per cent of electricity workers had comprehensive knowledge of HIV,[17] although they still had misconceptions about HIV transmission.[18] The ''electricity workers'' were used as a proxy for clients of sex workers, since information on the clients of sex workers have not been collected since. The 2009 surveys[19] found that whilst 45 per cent of FSWs had comprehensive knowledge of HIV, only 25 per cent of MSM did so. Amongst the high-risk population, therefore, MSM had less knowledge of HIV at the time of the surveys.

Condom use at last high-risk sex

Condom use rates are high in commercial sex, but lower in casual sex. The following are indicative of such behaviour; however, the data are not nationally representative:

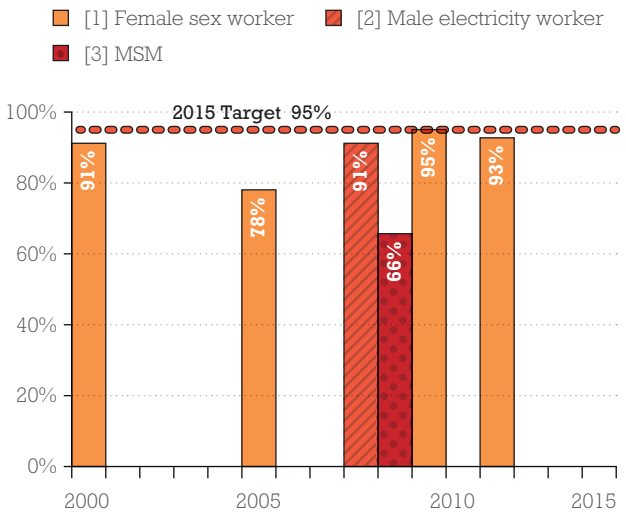
• The condom use at last high-risk sex amongst FSWs was 93 per cent in 2011[20] (Figure 6.8), whilst the use rate was 33 per cent with regular partners (2008), 81 per cent with casual partners (2009) and 49 per cent with their regular clients (2009).[21]

• Housewives comprised 18 per cent of reported HIV infections in 2010.[22] Many were infected by husbands who did not use condoms with wives, but had nonetheless kept multiple sex partners or engaged with sex workers.

• MSM have variable rates of condom use. Data from 2009 show that 66 per cent of MSM used condoms at last high-risk sex with a male client (Figure 6.8), whilst 78 per cent of MSM reported condom use at last sex with a male sex worker. When MSM had sex with women – whether with their regular female partner, a FSW, female client or casual female partner – condom use was lower (52-64 per cent). Only 13 per cent of MSM reported condom use at last sex with a regular transgender partner.[23]

• The 2008 Integrated Behavioural Biological Surveillance (IBBS) results indicated that a high proportion of electricity workers had sex with multiple partners as well as with female sex workers and, to a lesser extent, other casual partners. This survey provided the only data on clients' condom use. Amongst a sample of electricity workers in 2008, condom use at last sex with casual partners was low (50 per cent in 2008), whilst 91 per cent of electricity workers reported condom use with FSWs (Figure 6.8).[24]

Figure 6.8.
Condom use at last high risk sex*



** [1] % of female sex workers reporting condom use with most recent client. [2] % of electricity workers reporting condom use at last sex with a female sex worker. [3] % of men having sex with men reporting condom use at last sex with a male client.*
Sources: [1] Lao PDR Integrated Behavioral Biological Surveillance data. [2] Lao PDR Integrated Behavioral Biological Surveillance 2008; [3] Lao PDR Behavioral Survey among service women & Integrated Biological & Behavioral Surveillance Survey among MSM in Luang Prabang, 2009

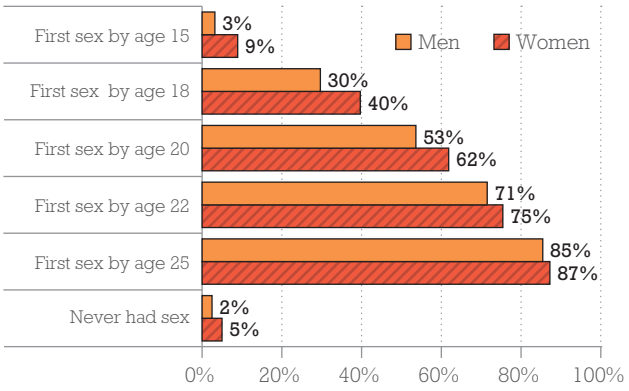
6.4.4. Age at First Sexual Intercourse

Sex at too young an age increases the risks for HIV and other sexually transmitted diseases. The young person is less able to withstand pressure to adopt high-risk behaviour, less able to negotiate her own terms, and less capable of judging risks,

The age of first sexual intercourse is earlier for women than for men. The median age at first sex is 18.8 years for women and 19.6 years for men. At every age until 25, a slightly greater proportion of women have already engaged in sex compared to men (Figure 6.9). Amongst women age 25-49, nine per cent first had sexual intercourse before age 15, 40 per cent before age 18, and by age 25, the majority of women (87 per cent) have had sexual intercourse.[25] Rural men and women tend to have first sex about two years younger than do urban men and women. LSIS reports that the age of first sex has not changed appreciably over the past two decades.

The age of first sex varies with residence, education, wealth and ethnic group. The percentages of women and men who reported having sex before age 15 is higher amongst those with no education (6 per cent of boys, 17 per cent of girls) and amongst the poorest (6 per cent of boys, 15 per cent of girls). The median age at first sexual intercourse rises with levels of education and wealth. Women with post-secondary education have their first sexual intercourse five years later on average than women with no education (22.8 years versus 17.4 years). A similar pattern is seen amongst men, although the difference is only about two years. Similarly, the median age at first sex is almost four years later amongst women in the richest wealth quintile than amongst women in the poorest, and the same pattern is seen amongst men

Figure 6.9.
Age at first sexual intercourse*



** Percentage of women/men (aged 15-49) who had first sexual intercourse by a specific age. Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment*

6.4.5. Stigma and discrimination

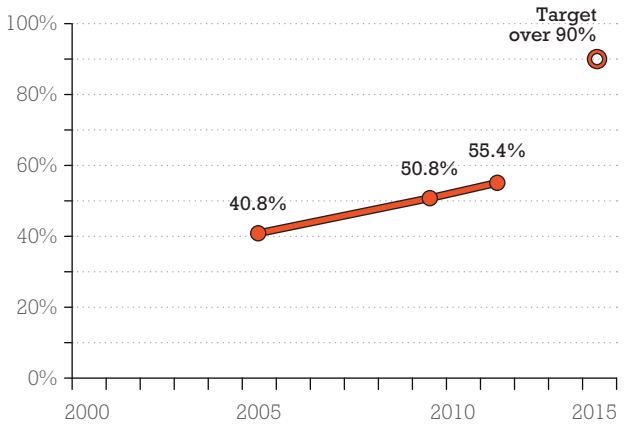
Stigma and discrimination make it much hard to control the epidemic. In societies where HIV is heavily stigmatized, people are less willing to be tested or treated.

Only 17 per cent of women and 14 per cent of men expressed accepting views of people with HIV. The four criteria of acceptance used in the survey were the willingness to care for an HIV-positive family member in their own home; the willingness to buy fresh vegetables from a shopkeeper or vendor whom they know has the virus; the belief that a female teacher with the virus, but not sick, should be allowed to continue teaching; and the willingness to be open about a family member living with HIV. Some 94 per cent of both women and men expressed acceptance of at least one criterion. Out of the four criteria, the greatest proportion of both men and women expressed willingness to be open about a family member living with HIV.

6.4.6. HIV response

ART coverage has increased but still needs to improve (Figure 6.10). The proportion of eligible adults and children currently receiving ART went from 41 per cent in 2005 to 55 per cent in 2012. The problem appears to be inadequate reporting and identification, and insufficient demand. People are not accustomed to testing. Usually they come for treatment only when they are sick. Treatment with antiretroviral therapy is free, although transport costs remain a barrier. The programme does not cover collateral costs, such as the loss of revenue, the cost of drugs other than anti-retroviral drugs (ARV), the cost of hospitalization and costs incurred for treatment of opportunistic diseases. The access to social protection is generally limited: in 2013, the Association of People Living with HIV/AIDS will assess the adequacy and availability of social protection.

Figure 6.10.
Percentage of eligible adults and children currently receiving ART



Source: Programme Report & Spectrum projection, UNAIDS

Adherence and survival rates are reportedly good but the intake for treatment is low. Since 2006, ART centres have been scaled up from two to five regional sites and three satellite sites in two additional provinces. Five support centres for people living with HIV have been established at ART regional sites. The Lao Network of People Living with HIV/AIDS (LNP+) provides peer counselling in ART sites.

6.4.7. Government policies, programmes and strategies

The 2011-2015 National Strategic and Action Plan (NSAP) on HIV/AIDS/STIs Control and Prevention guides the national response to HIV/AIDS. The NSAP was developed in a participatory approach with contributions from government, civil society, people living with HIV, and development partners. The NSAP is aligned with the Seventh NSEDP (2011-2015) and the related NHSDP. The NSAP is harmonized with international commitments made by Lao PDR, such as the Millennium Declaration, the Declaration of Commitment by the United Nations General Assembly Special Session on HIV/AIDS[26] (2001), and the Paris Declaration for Aid Effectiveness (2005). The NSAP aims to maintain the present low level of HIV prevalence in the general population and ensure that HIV seroprevalence amongst most-at-risk populations is lower than 5 per cent. It focuses on increasing the coverage and quality of services for prevention, treatment, care and support, and on improving the effectiveness and performance of national programme management, including the implementation of laws and policies containing non-discrimination principles. The Government has authorized a first-time external review of the national response.

The National Committee for the Control of AIDS (NCCA) is responsible for the governance of the national response to HIV/AIDS. The Centre for HIV/AIDS/STIs (CHAS) in the Department of Hygiene and Prevention, Ministry of Health is responsible for the management and coordination of the national response. At provincial and district levels, multisectoral Province and District Committees for the Control of AIDS combine coordination and implementation responsibilities. The implementation is the responsibility of several government and NGO partners. The Country Coordinating Mechanism (CCM) is the governance body for programmes supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM).

6.4.8. Challenges and opportunities

Reaching key populations at higher risk is a challenge. These groups are usually stigmatized and marginalized by society. The NSAP recognizes that civil society and the private sector are usually in a better position to reach out to these populations. Many of these are young

people and will need age-appropriate interventions and adapted services. Culture-specific approaches also need to be developed and implemented. The national HIV response should engage in interventions aiming at transforming social norms to empower people to overcome stigma and discrimination and their risk of HIV infection. This could be done through comprehensive partnership with networks of people living with HIV and other key populations.

Scaling up the response and maintaining quality is another challenge. This will require the decentralization of HIV management to province and district level where feasible, such as for treatment of opportunistic infections, and pre-ART management. However, the inadequate capacity for management and implementation at provincial and district levels needs to be addressed. The NSAP has also highlighted the need to develop a continuum of care framework with strong referral systems. To improve the quality and effectiveness of interventions, Lao PDR can draw from international initiatives such as Home and Community care programmes and the 100 per cent condom use approach. Promoting the practice of ''No condom - No sex'' in sex work will require working with sex business owners and sex workers to form sex workers' self-help groups and expand peer education activities. Promoting home care will require working with local leaders to reduce stigma, training community groups to provide support, and building community-based support systems for individuals and families affected by HIV. Such support systems may include training in business skills and facilitation of small micro-credit schemes and income generating initiatives.

Strengthening the national capacities for surveillance, monitoring and evaluation will be crucial. The NSAP underscored the importance of monitoring the emergence of concentrated HIV epidemics. A significant increase in new infections is expected in both people who inject drugs and MSM. Projections by the Asian Epidemic Model indicate that amongst low-risk men and women in the general population, women will continue to represent more than half of the new HIV infections in a pattern similar to those in neighbouring countries. Ensuring that robust service statistics are produced at a decentralised level will help to identify threats and adapt the response accordingly.

Funding needs to be more sustainable and predictable. According to WHO and CHAS estimates, the total unit cost of anti-retroviral treatment (ART) in Lao PDR in 2010 was US$ 647 per person each year. This includes the costs of ARV procurement and the logistics supply chain, laboratory costs, staff and other costs. The NSAP states that medication for HIV and opportunistic infections is free, but that the dependency on external funding is ''a challenge for sustainability.'' Currently, supplies of HIV test kits and ARV drugs are almost entirely supported by the Global Fund, which is not fully predictable and is therefore unable to ensure an adequate supply of commodities in order to respond effectively to the HIV epidemic. For example, the adoption of an appropriate testing strategy for pregnant women is being constrained by a lack of sustainable funding for supplies.

The issue of funding will grow even more pressing with a revised CD4 threshold. HIV patients become eligible for ARV treatment when their CD4 count falls below the threshold defined by WHO. WHO has recommended a CD4 threshold of 500/mm^3 (the 2012 threshold being 350/mm^3). Raising the threshold will mean that many more people will become eligible and that the overall cost of treatment will consequently increase in a situation where HIV funding is globally in decline.

Strategic partnerships with parliamentarians offer many opportunities. As opinion-leaders and decision-makers, parliamentarians play a key role in encouraging informed debate on issues related to HIV. As overseers of government activity, parliamentarians could engage in regular oversight to ensure that national commitments on HIV and AIDS are met. As overseers of national budget appropriations, parliamentarians could ensure that sustainable funding is provided to the national HIV programme, and that funding is steered towards interventions informed by the best available evidence of effectiveness.

To reach the national targets by 2015 on HIV and AIDS, Lao PDR will need to undertake the following:

• ***Build on the momentum created by the health reforms***: The reform of the health sector is a unique opportunity to reposition the HIV response and efforts should be made to ascertain that HIV-related concerns are adequately addressed during the reform process.

• ***Strategically address the needs related to vertical transmission***: The demonstration interventions related to the prevention of mother to child transmission highlight the need for new options to tackle the complex issues related to the integration of services, coordination and the definitions of roles and responsibilities.

• ***Expand the Harm Reduction Programme***: A public health approach to drug use must be further promoted within the Ministry of Public Security. This would strengthen the role of the public security in efforts to increase the impact and scale up the HIV harm reduction project. Further efforts are required to increase the benefits of south/south collaboration and secure a regional approach to dealing with challenges related to HIV and drug use.

• ***Secure access to treatment of all***: Access to treatment for all who need it can come about through simpler, more affordable and more effective drug regimens and delivery systems. Closer links between antiretroviral therapy services and primary health care, maternal and child health care, TB and sexual and reproductive health services would further reduce costs and contribute to greater efficiencies.

• ***Support the strengthening of the national HIV monitoring and evaluation system***: Defining the key population and estimating its size are recurring challenges faced by the HIV Programme. The integration of HIV into national development tools has seen good progress but further efforts are required to keep HIV on the development agenda. Efforts should be made to understand HIV better in the context of mobile populations and programmes should be piloted accordingly. All these mean that a strong national monitoring and evaluation system will be needed.

• ***Further address stigma***: The AIDS Service Associations requires support in their challenging task to engage in advocacy to fight stigma and promote comprehensive service delivery. In the media sector, the quality and relevance of reports on HIV and AIDS need to be improved to achieve a greater level of awareness.

• ***Harness new partnerships***: Building partnerships with key affected populations, groups and networks is a priority. Furthermore, the HIV response needs to be strategically positioned as an issue that requires sustained attention from the Lao Parliamentarians and other decision makers.

• ***Address the HIV-specific needs of women and girls***: The LSIS results indicate a high level of negative attitudes toward people living with HIV. Legislative reviews indicated that although there are laws and legal provisions to combat gender-based violence, enforcement is a significant concern. The IBBS indicate a high level of sexual violence within key affected populations. A comprehensive anti-Gender Based Violence legislation may therefore be needed.

• ***Increase the domestic financial contribution***: Efforts to increase domestic financial contributions should be further supported, as external funding remains largely the primary source of funding for the HIV response.

6.5. Combatting malaria

6.5.1. Malaria mortality and incidence

Recent years have seen steep declines in malaria mortality and incidence. Malaria incidence has decreased to one-third of year 2000 levels. The malaria mortality (probable and confirmed) per 100,000 population declined from 7.1 to 0.3 from 2000 to 2011, meaning that the country has almost achieved the target set for 2015 (Figure 6.11). Over the same period, the reported annual incidence of confirmed malaria per 1,000 population decreased from 8.1 to 2.7 (Figure 6.12), and the number of malaria deaths in hospitals declined

Box 6.2. Malaria indicators and data sources

• *Incidence and death rates associated with malaria* are reported per 100,000 people per year. Data on malaria incidence can be compared with levels of access to malaria treatment in order to identify underserved populations and to target treatment interventions toward high priority areas. Information on malaria death rates helps to judge the success of programme implementation and may point to failures of programmes in terms of malaria prevention or access to effective treatment.

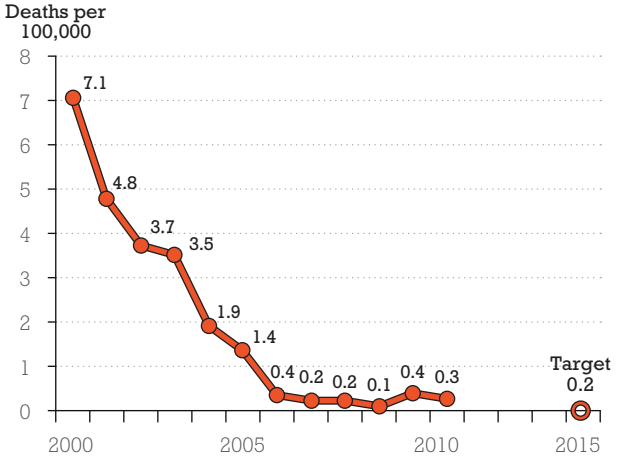
• *Proportion of children under five years of age sleeping under insecticide-treated bed nets*: An insecticide-treated mosquito net, or bed net, is a net that has been treated with insecticide within the previous 12 months or one that has been permanently treated with insecticide. In some countries, significant proportions of the population live in areas where malaria is not transmitted. Therefore, estimates of bed net use at the national level may underestimate the use amongst subpopulations living in areas where malaria is transmitted. In addition, survey sample sizes are not always large enough to offer meaningful results for sub-national areas. The seasonality of the surveys can also cause under-estimation of coverage, as data collection is often conducted during the dry season when net use is likely at its lowest.

• *Proportion of children under five years of age with fever who are treated with appropriate anti-malarial drugs*: Presumptive malaria diagnosis (based on fever) used to be the standard, especially for young children in malaria-endemic areas. Since the MDG indicator is based on all children with fever and not just children with confirmed malaria, it has become difficult to interpret since all fever cases are not necessarily malaria, and the denominator for the indicator includes non-malarial fever. In 2010, WHO recommended the universal use of diagnostic testing to confirm malaria infection before the child is treated. The WHO Office in Lao PDR has therefore recommended replacing the MDG indicator with Proportion of children under five years of age testing positive for malaria who are treated with appropriate anti-malarial drugs.

The Malaria Information System (MIS), Centre for Malariology, Parasitology and Entomology (CPME), Ministry of Health, provided much of the data.

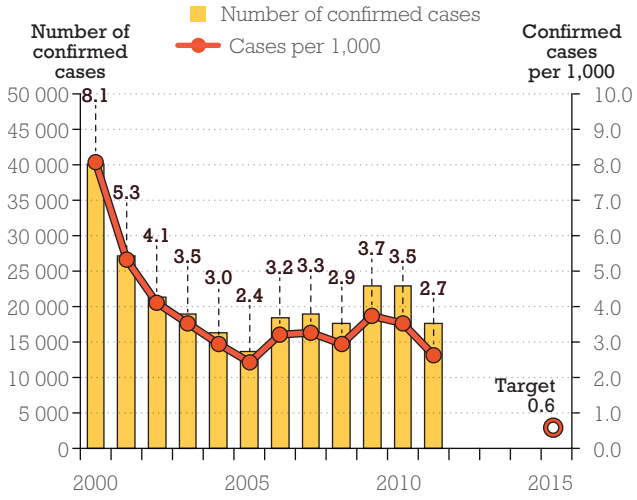
Adapted from the UN MDG guidelines http://mdgs.un.org/unsd/mdg/ and discussions with WHO in Lao PDR

Figure 6.11.
Death rates associated with malaria



Source: Malaria Information System (MIS), CMPE, MoH, Lao PDR

Figure 6.12.
Morbidity rate due to malaria (confirmed cases per year per 1,000 population)



Source: Malaria Information System (MIS), CMPE, MoH, Lao PDR

Box 6.3. Malaria vectors, risks and biting patterns

Malaria transmission is closely associated with the rainy season in Lao PDR. Rainfall encourages mosquito density, whilst high humidity increases mosquito survival. In the northern parts of the country, the cold temperature may interrupt malaria transmission. *Anopheles dirus* and *Anopheles minimus* are the primary malaria vectors in Lao PDR, although there are other types of mosquitoes.

• The *Anopheles dirus* mosquito is common in the central and southern part of Lao PDR. It feeds outdoors (exophagic) and rests outdoors (exophilic). It breeds in stagnant and shaded waters in forests, plantations and scrublands. It prefers to feed on human blood (anthropophilic) but also feeds on domestic animals. Recent studies from Attapeu province indicate that *Anopheles dirus* bites between 19:00 and 06:00 hours with a peak at 22:00 hours.

• The *Anopheles minimus* is widespread in all provinces of Lao PDR, breeding in running streams in hilly areas, irrigation ditches, and rice fields. The mosquito feeds mainly on humans but also on cattle, and prefers to feed indoors (endophagic) and rest indoors (endophilic).

In Lao PDR, the population with the highest malaria risk are certain ethnic groups, forest fringe inhabitants, temporary migrants and seasonal workers, and new forest settlers. Their different situations require different malaria control strategies:

• **Certain ethnic groups** tend to have seasonal movement patterns: families spend months away from their villages to tend crops in small farms scattered through the nearby forest, and individuals (usually young men) may spend short periods away hunting or collecting forest products. All age groups are seasonally exposed to long periods of disease transmission, at times intense. Adults are usually partially immune, but children and pregnant women are extremely vulnerable. These groups tend to have poor access to health care.

• **Forest fringe inhabitants** live in rice growing communities close to the forest. Villagers (predominantly young men) make frequent overnight visits to the forest to hunt and collect forest products, frequently resulting in contracting malaria. Cases returning to the village can infect Anopheles mosquitoes breeding in and around the rice fields. These rice field species (*Anopheles maculatus*) are less efficient vectors than the ones found in the forest, but limited local transmission can occur. All age groups are at risk but the majority of cases are found in adult males.

• **Temporary migrants and seasonal workers** often have little or no immunity to malaria. The first type of workers consists of men working in the forest for extended periods for mining, for infrastructure development projects, illegal logging and sandalwood collecting. The second type of seasonal workers includes both men and women, who harvest crops and rice in fields close to the forest.

• **New forest settlers** are those who relocate to forested areas for economic or political reasons to establish farms. These families initially have low immunity. Malaria transmission in these new communities typically diminishes year by year with continued development and deforestation of settled areas.

Adapted from: Ministry of Health (2010). The National Strategy for Malaria Control and Pre-Elimination 2011-2015.

from 350 to 17. This remarkable progress is due to the introduction of insecticide-treated nets and long lasting impregnated bed nets, as well as an artemesinin-based combination treatment (ACT),[27] which was introduced in 2004 following increasing malaria-drug resistance.

Yet around 2.6 million people in Lao PDR are still at risk from malaria. Seven provinces showed an increase of malaria caseload in 2011 relative to 2010. The provinces are Attapeu, Champasack, Vientiane province, Oudomxay, Borikhamxay, Vientiane city, and Xiengkhuang. However, the increases were more than offset by reductions in the other provinces, resulting in a net reduction of 23 per cent of cases for the country.

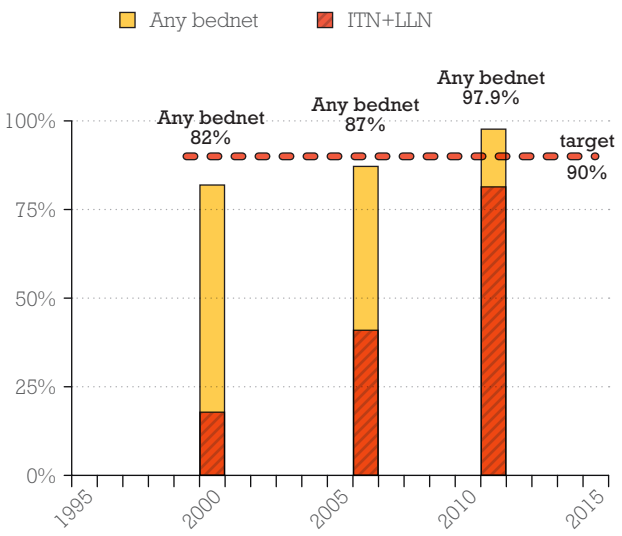
Malaria incidence is generally highest in the South Region, and lowest in the North. A detailed stratification of Plasmodium falciparum risk in Lao PDR, between December 2008 and January 2009, indicates that P. falciparum transmission is pervasive in the South, with very high incidence rates in poor remote villages inhabited by ethnic groups along the border with Vietnam. In the central part of the country, P. falciparum is sporadic and occurs in small pockets within large areas of no transmission. In the North, P. falciparum transmission is sporadic and local, mostly with low to medium incidence rates. Attapeu, Champasack, Sekong, Saravane from the South Region and Savannakhet from the Central Region all have malaria incidence above the national rate (3.2 per 1,000) and reported caseloads from over 1,000 to over 5,000. Box 6.2 provides an overview of malaria vectors, risks and biting patterns.

6.5.2. Malaria prevention

The National Bed Net Survey[28] found 81 per cent of children under age 5 sleeping under insecticide-treated bed nets. Some 98 per cent of children sleep under any kind of bed net, including a conventional untreated one (Figure 6.13). Comparisons of Bed Net Survey data with those from the LSIS or MICS surveys are not valid because the National Bed Net Survey used a sampling design stratified according to the malaria risk and disease burden. This was to avoid the weakness of most national surveys with regard to malaria-related data, since the sampling frame for most national surveys does not consider the malaria burden (see Box 6.2).

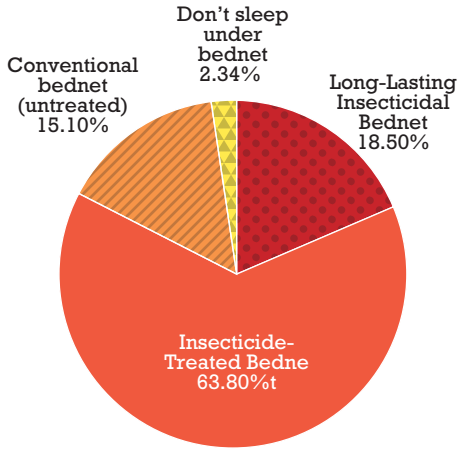
The provision of impregnated bed nets has also led to high coverage for households.[29] 90 per cent of households owned at least one of the impregnated bed nets, whether insecticide treated (ITN) or long lasting insecticidal bed nets (LLN). 26 per cent owned at least one conventional (untreated) bed net. Use rates are somewhat lower than ownership rates (Figure 6.14). 82 per cent of the population (adults and children) slept under one type or another of impregnated net (ITN 64 per cent and LLN 18 per cent). Altogether, some 97 per cent of the population used one type of bed net or another, treated and untreated.

Figure 6.13.
Proportion of children under age 5 sleeping under insecticide treated bed nets/ bed nets



ITN: Insecticide treated bednet. LLN: Long-lasting insecticidal bed net. "Any bednet" includes ITN + LLN + conventional net (untreated). Sources: 2011 data: National Bed Net Survey, December 2010, CMPE, MoH, Lao PDR. Earlier data from MICS surveys, but are not comparable because of different sampling approaches.

Figure 6.14.
Proportion of all family members (adults + children) sleeping under insecticide treated bed nets/ bed nets

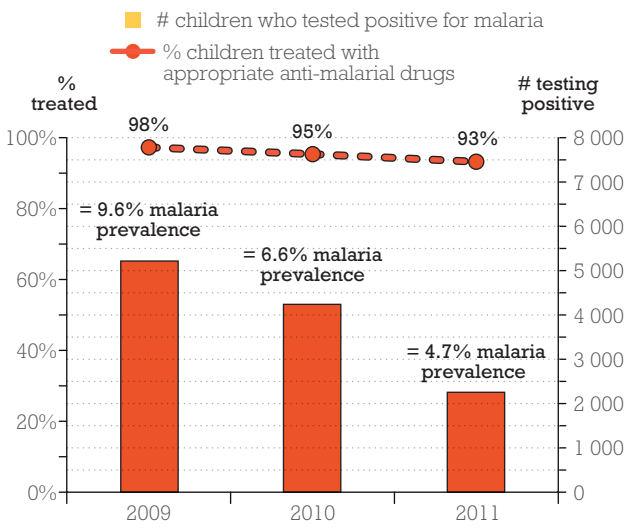


Note: total does not add up to 100% due to rounding of decimals. Source: National Bed Net Survey, December 2010, CMPE, MoH, Lao PDR.

6.5.3. Malaria diagnosis and treatment

The prevalence of fever is highest amongst children aged 12-23 months (18 per cent). Amongst children under five years of age, the estimated prevalence of fever provided by LSIS was 14 per cent.[30 31] Household surveys such as LSIS provide data on the prevalence of fever in young children. However, not every fever is malaria. Box 6.2 explains the methodological issues in

Figure 6.15.
Proportion of children under age 5 testing positive for malaria who are treated with appropriate anti-malarial drugs



Source: Malaria Information System (MIS), CMPE, MoH, Lao PDR.

using such data from household surveys as a denominator for the indicator on the treatment of young children with fever with appropriate anti-malarial drugs.

Nearly all children with confirmed malaria were treated (Figure 6.15). Determining whether young children with malaria are appropriately treated requires testing for malaria. The data from the Malaria Information System, Centre for Malariology, Parasitology and Entomology (CMPE), Ministry of Health were used. From 2009 to 2011, some 50,000 children under five years were tested each year for malaria, of which a small proportion (9.6 per cent, 6.6 per cent and 4.7 per cent respectively, see Figure 6.15) tested positive for malaria. These malaria prevalence rates, as expected, were lower than the fever prevalence rate obtained from the 2011/12 LSIS. Of those testing positive for malaria, 98 per cent, 95 per cent and 93 per cent were treated with appropriate anti-malarial drugs.

6.5.4. Government policies, programmes and strategies

The National Strategy for Malaria Control and Elimination (NSMCE) 2011-15 provides the overarching framework for intensifying malaria control efforts, targeting remaining endemic communities and key risk groups, and progressively rolling out malaria elimination in selected provinces. The NSMCE is fully in line with the Seventh NSEDP (2011-2015) and the Seventh NHSDP (2011-2015) of the Government of Lao PDR.

The NSMCE is based on principles of sustainability and equitable access. Malaria control efforts by their very nature cater to the needs of the most vulnerable groups – those with the greatest burden of disease and poverty. The NSMCE also aims to maximize access to effective vector control and personal protection measures and improve access to early effective diagnosis for malaria. It supports routine case management for malaria in all public sector health facilities, at community level in Stratum 3 villages (those having malaria incidence rates of more than 10 cases per 1,000 population) and in selected private sector health facilities in more endemic districts. It also emphasizes strengthening the routine Malaria Information System and maintaining malaria epidemic preparedness and response capabilities. It aims to roll out malaria elimination progressively in selected provinces. Last, on the demand side, it aims to maximize the use of malaria services through community mobilization and behaviour change communication, especially in provinces slated for elimination.[32]

6.5.5. Challenges and opportunities

The malaria outbreaks since December 2011 in the five southern provinces are associated with large-scale development projects. Outbreaks are defined as incidence rates higher than a three-year mean by 2 standard deviations or above. The progress of indicators towards the MDG targets up to 2011 indicates that the outbreaks in 2012 were a deviation in the trend over the past decade. Large-scale development projects have an impact on vector behaviour, as well as human mobility and migration. These factors pose a serious threat of drug resistant malaria emerging in Lao PDR as discussed below.

Three factors are combining to produce a strong probability of drug-resistance malaria strains amongst local populations. First, in the malaria resurgence in the south, studies revealed in 2010 a different pattern of mosquito biting, just before dusk. Previous studies had shown that the malaria mosquito generally bit at night. The new biting pattern poses a challenge to the use of insecticide-treated bed nets as a preventive measure, since people are bitten before they retire to sleep. Second, in Attapeu, sizeable numbers of migrants come from neighbouring countries with pockets of known drug resistance. Third, there are reports of fake or substandard drugs, produced elsewhere, circulating in areas where these migrants work. The impact of these three factors – infection by drug-resistant malaria – will be particularly severe for those of the local population who have been displaced from the highlands to lower altitudes, as they will have lower immunity to the disease.

The expansion of certain livelihoods is increasing exposure to malaria. The demand for rosewood (mai kha yung), locally and in China, Thailand and Vietnam, fuels a lucrative illegal trade based in Champasack, Saravane and Savannakhet. The trade brings in large numbers of migrant workers and the harvesting of rosewood drives people into the forest on an unprecedented scale. The work is carried out in the evening or at night to avoid detection by army patrols. This means that impregna-

ted bed nets or hammock nets are no longer effective tools for prevention. Army personnel in some areas account for the majority of malaria cases seen in health centres and district hospitals. The remoteness of these areas and consequent delay in obtaining health services increased the probability of severe malaria developing.

The impressive scale and pace of development in the country needs to be matched by the required investment in health for tackling the new challenges brought by rapid development. The resultant consequences of population migration and changes in environment are already posing a serious threat to reaching MDG targets. Malaria is in the forefront of the impact, because of its close association with the environment. However, if the threats are not controlled, the impact will be seen on other diseases as well. Since development projects and migrant worker patterns are economically driven and cannot be stopped, the achievable objective would be to ensure 100 per cent prevention coverage for populations at risk and implement zero tolerance measures for stock outs and malaria-associated mortality.

Effective strategies are needed to address the external (non-health) risks to health.[33] Changes in land use have an impact on the transmission of vector-borne diseases, water and food availability, water quality, crop patterns and livelihoods. The health sector will need to work with other relevant ministries (energy, mines, agriculture, forestry, transport, etc.) to conduct comprehensive and health mapping exercises to assess the risks related to deforestation, plantations, mining, hydroelectric dams and road development projects. Large development projects are normally required to undertake environmental impact assessments. The Attapeu case highlights the additional and urgent need for health mapping and health impact assessments. To bring the malaria outbreaks under control, the Ministry of Health, other ministries and local authorities need to work together to support policy and enforcement issues related to private sector project development.

A 100 per cent prevention goal will require behaviour change actions that are informed by evidence. Most of the population own and sleep under a treated net, but less than 3 per cent of respondents in the National Bed Net Survey knew what a treated net was. Behaviour change interventions should use such facts to develop focused messages adapted to the different cultures, languages and livelihoods amongst the different ethnic groups. The current trend of mostly male migrant workers in development projects requires the messages to target both sexes and not just women and children. To reach the maximum coverage and effectiveness, these initiatives should take into account the biting patterns of mosquitoes and the timing of migrant and seasonal movements, as messages delivered months ago may be easily forgotten. Awareness raising and behaviour change interventions will also require strengthening the capacity of village health volunteers and local authorities for educating their communities.

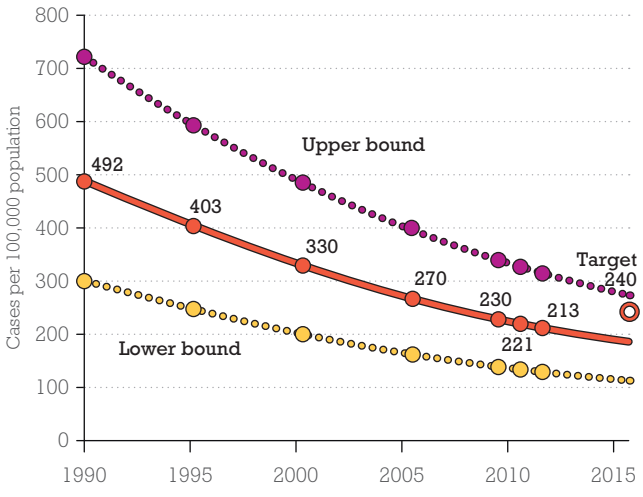
6.6. Combatting tuberculosis

6.6.1. TB disease burden

The incidence, prevalence and mortality rates of tuberculosis in Lao PDR show a steady decline (Figures 6.16, 6.17, 6.18). Following the First National TB Prevalence Survey conducted from July 2010 to January 2012, the TB burden estimates in Lao PDR were revised upwards. The revised estimates for prevalence and mortality allowed the halving of the 1990 burden estimates for the 2015 MDG target. The new estimate of mortality is at 11 (7–17) deaths per 100,000. The revised prevalence estimate is at 540 (353–767) per 100,000 and revised incidence is at 213 (131–313) per 100,000. These show that Lao PDR has already achieved the targets set by halving the 1990 TB burden.[34] The new estimates were consistent with the results of other surveys in ASEAN countries.[35]

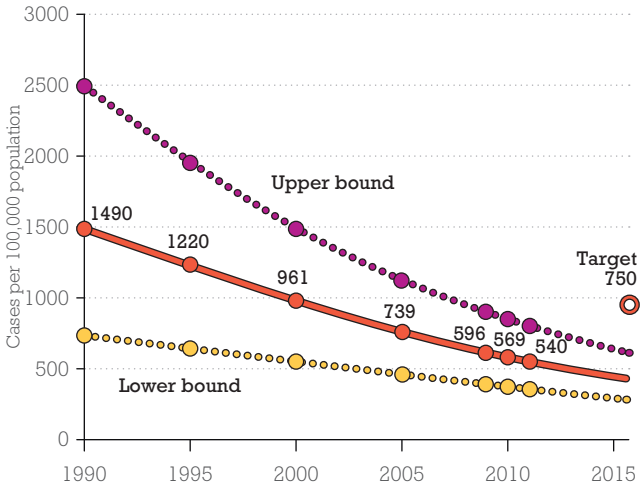
In 2010/12, Lao PDR successfully completed the first-ever national TB prevalence survey in the country conforming to an international standard (WHO). TB prevalence showed variation with age, sex and residence of those tested. The survey found an increase in prevalence with age. The median age of cases was 55 years. The TB prevalence was some 10 times in the older age groups compared to that amongst young adults. The survey estimated that the prevalence of TB disease in those aged 65 years and above was as high as 2.4 per cent. The older trend in cases could also be a result of longer life expectancy. For these older cases, reactivation of old TB infections could not be excluded. Having increased TB prevalence amongst the older groups increased the risk that these older people could infect their grandchildren.[36] The survey also found a higher prevalence rate amongst males and the rural popula-

Figure 6.16.
Incidence of tuberculosis (per 100,000 population)



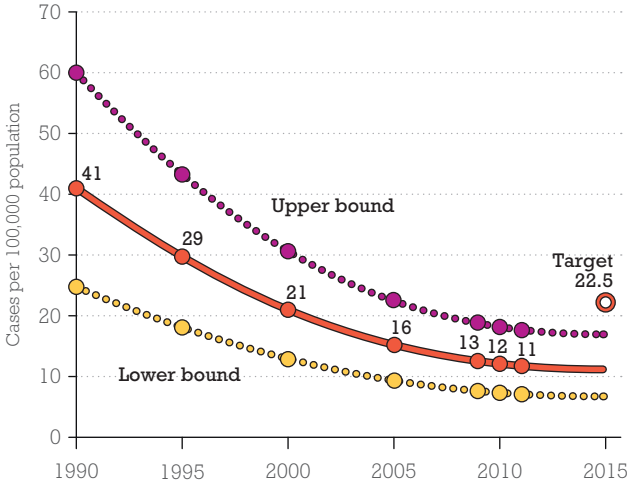
Source: WHO TB database and National Tuberculosis Control, Ministry of Heath, Lao PDR.

Figure 6.17.
Prevalence of tuberculosis (per 100,000 population)



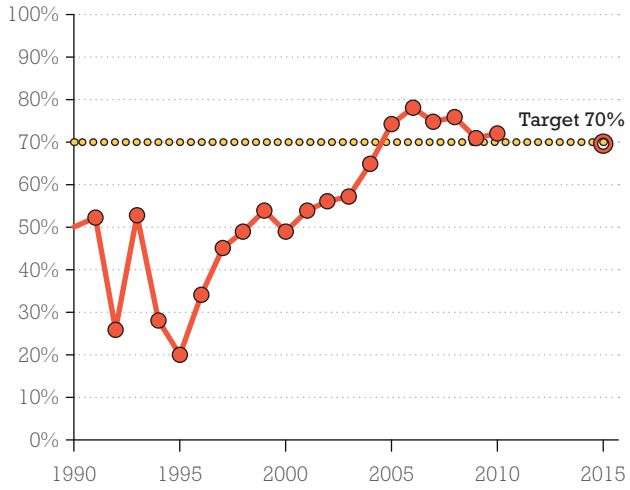
Source: WHO TB database and National Tuberculosis Control, Ministry of Heath, Lao PDR.

Figure 6.18.
Death rate associated with tuberculosis (per 100,000 population)



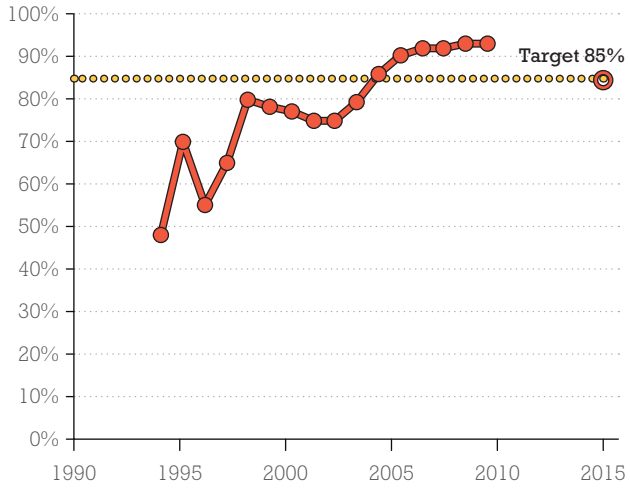
Source: WHO TB database and National Tuberculosis Control, Ministry of Heath, Lao PDR.

Figure 6.19.
Proportion of tuberculosis cases detected under Directly Observed Treatment Short Course (DOTS)



Source: National Tuberculosis Control, Ministry of Heath, Lao PDR

Figure 6.20.
Proportion of tuberculosis cases cured under Directly Observed Treatment Short Course (DOTS)



Source: National Tuberculosis Control, Ministry of Heath, Lao PDR

tion. Bacteriological TB prevalence was 2.3 times higher amongst males compared to females, and 1.7 times higher in rural than in urban clusters. In 2011, of the 2,058 cases of TB patients whose HIV status was known, 11 per cent were HIV positive, all of whom were given co-trimoxazole preventive therapy. In the same year, WHO estimated the prevalence of multi-drug resistant TB at 4.9 per cent amongst TB cases never treated before and 23 per cent amongst those previously treated.[37 38]

6.6.2. TB detection and cure

Both the detection and cure rates have surpassed the earlier targets set for 2015. The proportion of tuberculosis cases detected under Directly Observed Treatment Short Course (DOTS) shows a steady increase from 50 per cent or less in the early 1990s to over 70 per cent in recent years (Figure 6.19). The cure rate (proportion of tuberculosis cases cured under DOTS) has been over 90 per cent since 2005 (Figure 6.20).

6.6.3. Challenges in TB Control and the way forward

The National TB Control Programme (NTCP) covers 100 per cent of the country from central to village level. Since 1995, it has successfully treated more than 30,000 contagious TB cases, reduced TB transmission in communities and decreased prevalence rates. The NTCP has mobilized several successive GFATM grants since 2003, some of which continue until 2016. NTCP has introduced new interventions such as Programmatic Management

Box 6.4. TB indicators and data sources

Incidence, prevalence and death rates associated with tuberculosis. TB incidence is defined as the number of new TB cases per 100,000 population per year. The prevalence of tuberculosis is defined as the number of TB cases in a population at a given point in time (sometimes referred to as "point prevalence") per 100,000 population. Death rates associated with tuberculosis are defined as the estimated number of deaths due to TB in one year per 100,000 population. Prevalence and deaths are more sensitive markers of the changing burden of tuberculosis than incidence (new cases), but data on incidence are more comprehensive and give the best overview of the impact of tuberculosis control. Routine surveillance data provide a good basis for estimating incidence in countries where the majority of incident cases are treated and notified to WHO. However, in most countries with a high burden of tuberculosis, incidence can only be estimated indirectly, usually with a large uncertainty.

Proportion of tuberculosis cases detected and cured under directly observed treatment short course (DOTS). The first indicator, also known as the TB detection rate, is the number of new TB cases detected (and notified to WHO) in a given year (using the DOTS approach) expressed as a percentage of all estimated new TB cases for the same year. The proportion of TB cases detected and cured, also known as the TB treatment success rate, is the number of new TB cases in a given year that were cured or that completed a full treatment of DOTS. It is expressed as a percentage of all new registered TB cases.

TB data were obtained from the National TB Control Programme under the Ministry of Health and relevant estimates calculated by WHO.

Adapted from the UN MDG guidelines http://mdgs.un.org/unsd/mdg/

of Drug-Resistant TB (PMDT); TB-HIV collaboration; the management of TB in children and ensuring an uninterrupted supply of anti-TB drugs at all levels.

The TB programme faces major challenges, with the prevalence found to be nearly two times higher than previously estimated. Case detection has stagnated during recent years (Figure 6.19). The findings of the survey and the programme review suggest that many TB cases remain undiagnosed and untreated.

The NTCP and its partners conducted the first joint external TB programme review from 28 January to 8 February 2013. The review recommended the following:

- Ensure universal access to quality TB control services for all types of TB, especially smear-negative TB, TB-HIV, multi-drug resistant TB, and particularly for children and vulnerable groups (e.g. migrants, prisoners);
- Strengthen the management capacity of the National Reference Laboratory in designing and supporting the overall TB laboratory network and urgently implement drug resistance surveillance;
- Strengthen linkages between the TB control programme and existing public and private health services and programmes at all levels. These include primary health care services, maternal and child health services, HIV-AIDS services, outpatient departments in hospitals, paediatric departments.
- Strengthen overall programme management and planning capacity to ensure the timely availability of anti-TB drugs and laboratory supplies, and to ensure adequate support at all levels, especially for the care of for patients and for strengthening human resources development for TB control.

6.7. Other diseases

Infectious diseases remain the greatest cause of morbidity and mortality in Lao PDR. Amongst the most common are acute diarrhoea, dengue, acute respiratory infections, parasitic diseases, and vaccine-preventable diseases. The key determinants of these diseases include the limited access to health services in remote rural areas, malnutrition, poor education, poor sanitation and water supply, sub-standard food safety and poverty.

Further preparedness is needed for specific disease situations and public health emergencies. Lao PDR has responded to past outbreaks of avian influenza (H5N1), pandemic influenza A (H1N1) and epidemic-prone diseases such as cholera by enhancing its surveillance capacity and posting a purpose-trained epidemiologist in every province. The country also has a multi-sectoral national disaster management committee chaired by a vice-prime minister. Nonetheless, Lao PDR needs to improve its response capacity for public health emergencies to be in line with the standards of the 2005 International Health Regulations (IHR).

Neglected tropical diseases remain a serious issue throughout the country. Nearly half the total population of the country are at risk of soil-transmitted helminthiasis (2010).[39] The traditional consumption of raw fish facilitates opisthorchiasis, which continues to be widespread.[40] Additionally, schistosomiasis and lymphatic filariasis remain endemic in Champasack and Attapeu provinces respectively.

Table 6.1. Number of cases and deaths of reportable diseases/syndromes in Lao PDR, 2011

Disease/syndromes	Number of cases	Number of deaths
1 Acute Flaccid Paralysis	43	0
2 Fever & Rash	499	0
3 Neonatal Tetanus	6	1
4 Tetanus	23	5
5 Diphtheria	3	0
6 Pertussis	27	0
7 Dengue without warning signs	3,818	0
8 Dengue with warning signs	53	0
9 Severe Dengue	19	7
10 Acute Watery Diarrhoea	24,399	7
11 Acute Bloody Diarrhoea	4,411	1
12 Food Poisoning	877	6
13 Typhoid Fever	3,347	2
14 Anthrax	28	1
15 Acute Jaundice Syndrome	618	1
16 Meningitis	341	14
17 Acute Encephalitis Syndrome	36	4
18 Plague	0	0
19 Severe Acute Respiratory Infection	10,059	13

Source: Ministry of Health

Building up the core capacities of the health system is an on-going challenge. Lao PDR aims to implement the IHR by 2014. The IHR Monitoring Framework defines eight core capacities, and provides the operational meanings of the capacities required to detect, assess and report events, and to respond promptly and effectively to public health risks and potential emergencies of international concern. By mid-2012, Lao PDR had made substantial progress in improving health system core capacities to be in line with the international health regulations. However, 60 per cent of indicators remained at levels below 1, which is a prerequisite foundation level. The core capacity areas which remain weak (<1) are surveillance, rapid response (including infection prevention and control, preparedness and risk communication), laboratory capacity, capacity at points of entry to the country, chemical events and radiation emergencies.

MDG7. Ensure Environmental Sustainability

7.1. Summary

Forests and biodiversity

Forest cover in 2012 stood at 9.5 million hectares or an estimated 40 per cent of the area of the country. The forest cover has declined, although the rate of loss seems to have slowed from that between 1992 and 2002. Overall, the Ministry of Agriculture and Forest calculates that the loss of forest cover is 1.4 per cent per annum. The main drivers of forest degradation are unsustainable wood harvesting, a result of illegal logging, poorly regulated timber harvesting by rural households and shifting cultivation. The main contributors to deforestation are agricultural expansion, hydropower, mining, infrastructure and urban expansion.

Lao PDR is rich in biodiversity; however, several species are threatened with extinction. Protected Areas now cover 14.2 per cent of the country's area. If the areas under provincial and district protection are added, the coverage increases to around 20.2 per cent of the land area. The drivers of deforestation and forest degradation also lead to biodiversity loss.

Efforts to address deforestation and environmental degradation focus on protecting forests for sustainable ecosystem services, smallholder forestry projects and participatory sustainable forest management. Community livelihoods are closely linked to forests and the participation of forest-dependent communities is consequently crucial for successful forest management. The 2012 Presidential Decree on benefit sharing of timber revenue harvested from production forest areas will significantly increase the flow of regular revenue to these communities as well as to the local government for forest management. The role of communities is being expanded to all types of forests.

Sustainable forest management plans are being promoted to address deforestation. The Government has committed to bringing all 51 production forest areas under sustainable forest management plans that apply Forest Steward Council standards. In 2012, 1.3 million out of 3.1 million hectares in 18 production forest areas were under sustainable forest management with approved Forest Management Plans. The Government aims to expand this into other production forest areas.

The long-term management of Lao PDR's hydropower potential is critical to meeting the country's socio-economic development and poverty reduction goals. Thus, the Government's strategy is to develop hydropower resources to earn export revenues as well as to meet rising domestic needs. The challenge lies in working with the private sector to maximize the benefit generated from infrastructure and hydropower development projects while achieving sustainable natural resource management. To this end, the Government has undertaken several innovative measures to compensate for the loss of forests from such development projects. The measures include an introduction of payment for ecosystems services and the 2010 Prime Ministerial Decree on Protection Forests requiring projects that affect protection forests to contribute funds for the management, maintenance and development of the protection forests and protection forestry land. In particular, hydropower projects are required to contribute one per cent of the total value of the sale of the electricity per annum.

The Forest Resource Development Fund established in 2005, forms the primary funding source of long term investments in sustainable forest management. It is funded by the Government's annual budget with added contributions from timber revenues from harvesting of Production Forests; the fees obtained for forest, forest land and forest resources; a share of the sale of illegal timber seized by the Department of Forest Inspection; and contributions from businesses and organizations engaged in forestry, forest products and wildlife. The Forest Resource Development Fund holds much promise. For its long term financial sustainability, it will be crucial to operationalize benefit sharing from production forests and enhance revenue stream collection from private sector investment in forest resources and infrastructure projects. The future holds opportunities for the Government to further develop a system that captures and shares benefits from revenues derived from the Payment for Ecosystems Services and REDD+.

Summing up, a start has been made in terms of processes and institutions for limiting the loss of forests, but the country is not yet on track to achieving the targets for increased forest cover.

Emissions of greenhouse gases

Lao PDR was a net sequester of CO2 in 1990. The second greenhouse gas inventory showed that the country had become a net emitter of CO2 by year 2000. The Government is undertaking several mitigation strategies – amongst these, reforestation and other land use changes – to reduce carbon emissions. The main challenges lie in financial and capacity constraints. Clearly, progress in this area is linked to progress in reversing the loss of forests.

Ozone-depleting substances

The consumption of ozone-depleting substances declined to near-zero in 2012 in line with the phase-out of these substances under the Montreal Protocol, and as part of the Government's socio-economic plan. Lao PDR is on track with this target.

Drinking water and sanitation

Lao PDR has steadily increased the access to safe drinking water, but will need to accelerate progress to achieve its 2015 target. In 2011/12, some 70 per cent of the total population had access to improved sources of

drinking water, an increase of two-and-a-half times from the coverage in 1990. Both the urban and rural areas have made steady progress, but the rural-urban gap has not decreased since 2005.

The coverage by improved sanitation has increased three-fold from the 1990s. The urban sanitation coverage has progressed rapidly and has already achieved a high coverage of 88 per cent. The rural coverage, however, has lagged behind. The high prevalence of open defecation (38 per cent) means that sanitation targets and plans will need to address this risk. Even if Lao PDR achieves the MDG target of 60 per cent, the proportion of the population practising open defecation will still be large. Consequently, the Government is stepping up initiatives to reduce this risk. The approach called Developing Model Healthy Villages will contribute significantly to improving the sanitation, hygiene and health of the villages and will bring the sanitation goal closer.

7.2. MDG 7 at a glance

Goal 7. Ensure environmental sustainability						
Target 7A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources						
		1982	1992	2002	2010	Target 2015
7.1. Proportion of land area covered by forest		49.10%	47.20%	41.50%	40.34%	65%
		1990		2000		Target 2015
7.2 a Net CO2 emissions in gigagram (Gg)*		-104,570 Gg		+41,764 Gg		
7.2 b CO2 emissions (Gg)		+10,291 Gg		+43,811 Gg		
7.2 c CO2 emissions removal /sink (Gg)		-121,614 Gg		-2,047 Gg		
	1995	2003	2005	2006	2010	Target 2015
7.3 Consumption of ozone-depleting substances (in Ozone-depleting potential-weighted metric tons)	43.3	23.1	23.3	19.4	2.5	0
Target 7B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss						
					2011	
7.4.* Number of fish conservation zones					197	
7.5. * Proportion of renewable internal freshwater resources used					1.3%	
7.6. * Proportion of land area under protection:						
a) Conservation forests (national, provincial, district), of which:					20.18%	
b) Protected Areas					14.2%	
					2012	
7.7. * Number of species threatened with extinction						
Mammals					44	
Reptiles					8	
Birds					36	
Fish					7	
Amphibians					1	
Target 7C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation						
	1990	1995	2000	2005	2011	Target 2015
7.8 Proportion of population using an improved drinking water source	28%	39%	45%	57%	70%	80%
		1995	2000	2005	2011	Target 2015
7.9 Proportion of population using an improved sanitation facility		17%	26%	45%	57%	60%

Target 7D: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers						
					2011	
7.10* Proportion of urban population living in inadequate housing					20%	

***Notes:**
Indicator 7.4 replaces "Proportion of fish stocks within safe biological limits" to adapt to the Lao PDR context as agreed by Government and UN representatives at the MDG Report workshop, 17 December 2012.
Indicator 7.5: Data on total (external + internal) water resources is not available; the calculation includes only internal water resources.
Indicator 7.6 replaces "Proportion of terrestrial and marine areas protected" as agreed by participants at the MDG Report workshop, 17 December 2012, to adapt to the Lao PDR context.
Indicator 7.7 replaces "Proportion of species threatened with extinction" since the denominator was not available.
Indicator 7.10 replaces the global indicator "Proportion of people living in slums" and is measured by the proportion of urban population living in households lacking one or more of the following: an improved drinking water source; improved sanitation facilities; a roof and proper flooring.
Data sources:
Indicator 7.1. Department of Forest Resource Management, Ministry of Environment & Natural Resources (MoNRE)
Indicator 7.2. Lao PDR First Communication Report & Second Communication Report to United Nations Framework Convention on Climate Change (UNFCCC)
Indicator 7.3. UNEP Ozone Secretariat, based on country reports
Indicator 7.4. Department of Livestock and Fishery, Ministry of Agriculture and Forests (MoAF)
Indicator 7.5. FAO AQUASTAT, based on 2005 withdrawal data. http://www.fao.org/nr/water/aquastat/countries_regions/LAO/CP_LAO.pdf
Indicator 7.6. Department of Forest Resource Management, MoNRE
Indicator 7.7. MoNRE
Indicator 7.8. Lao Social Indicators Survey (LSIS 2011/12), Lao Statistics Bureau (LSB), Ministry of Planning & Investment and Joint Monitoring Programme (JMP) of UNICEF and WHO, based on country reports
Indicator 7.9. LSIS 2011/12, LSB and JMP (UNICEF & WHO) based on country reports
Indicator 7.10. LSIS 2011/12, recalculated by LSB.

7.3. Introduction

Environmental sustainability and other MDGs

Environmental sustainability is critical for Lao PDR's progress towards all other MDGs. Lao PDR is rich in natural resources, with relatively dense forest cover; abundant renewable water resources, mineral resources and rich biodiversity. Most of the country's population are dependent on the natural resource base for their livelihoods and sustenance. The dependence is highest amongst the poor. Some 55 per cent of the total income of the rural communities in Lao PDR is derived from non-timber forest products, excluding the income used for daily consumption.[1] Forests also perform vital functions, such as providing ecosystems for biodiversity, performing carbon sequestration and ensuring watershed protection and soil and water conservation. These functions are important for human health and wellbeing. Lao PDR and the whole region therefore have a stake in protecting the environment. The remote and mountainous areas inhabited by ethnically diverse and vulnerable populations are particularly vulnerable to environmental degradation.

Unsafe water, poor hygiene and lack of sanitation contribute to 88 per cent of deaths from diarrhoea amongst young children worldwide.[2] Frequent diarrhoea episodes in a child contribute to malnutrition, which prevents a child from reaching his or full potential in growing up, which has serious implications for the quality of human capital and the future earning capability of a nation.[3] Diarrhoea rates are significantly higher amongst young children from households using an open well or surface water for drinking, compared to those from households using piped water or water from a protected well. Diarrhoea rates amongst children are also higher in families without proper sanitation facilities.

Incorporating gender concerns and women's viewpoints will benefit water and sanitation policy development and water management decisions. The burden of limited access to water and sanitation usually falls heavily on women and girls. This is typically a heavy physical burden, which reduces the time available for attending school or child care. Improved sanitation and hygiene reduce the disease burden in communities, easing women's workload in child care and freeing up their time for productive work.

UXO and herbicides such as Agent Orange used in the Indochina war are significant sources of environmental degradation in Lao PDR. Dioxin, which had been present in the parts-per-million range in Agent Orange, is extremely toxic and known to cause multiple health problems and birth defects. The spraying of herbicides had a military purpose of clearing land around roads and trails, resulting in serious environmental and human consequences. In total, missions flown over Lao PDR sprayed an estimated 500,000 gallons or more of herbicide.[4] Reforestation was difficult or impossible in many areas.

Linkages with LDC graduation

Unsustainable exploitation of the resource base and lack of diversification increases economic vulnerability. Environmental degradation is linked to increased potential for natural disasters, instability in agricultural

production and eventually affecting the economy. Thus, MDG 7 is linked to EVI and GNI per capita, two of the three criteria used for assessing a country's status vis-à-vis LDC graduation (see Box 1.1 on LDC criteria). The protection of the environment also influences the third criteria, the HAI, notably the under-five mortality rate and undernourishment in the population.

7.4. Protecting forest resources

7.4.1. Assessment and analysis

Land use type	Area	
	Million hectare	Per cent
Current forest area	9.6	40%
Potential forest area (<20% canopy, including areas classified as degraded forests)	8.3	35%
Other land uses (including agriculture, urban areas, etc.)	5.9	25%

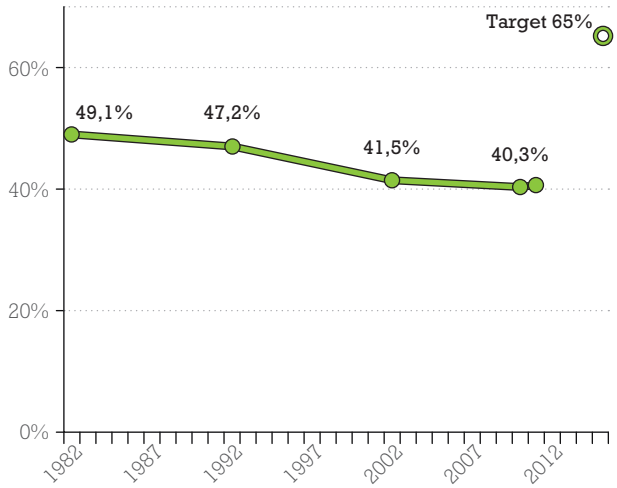
Table 7.1. Forest and land use in Lao PDR

Source: Ministry of Agriculture and Forestry (2011). *Forest Investment Program (FIP) Lao Investment Plan*. Presentation of the Ministry of Agriculture and Forestry to the FIP Sub-Committee Meeting, Washington D.C., October 31, 2011.

The status of forest cover

Forest cover in 2012 stood at 9.6 million hectares or an estimated 40 per cent of the area of the country (Table 7.1, 7.2). The forest cover has declined, although the rate seems to have slowed from that between 1992 and 2002, as reported in 2012.[5] Overall, the Ministry of Agriculture and Forest calculates that the loss of forest cover is 1.4 per cent per annum (Figure 7.1).

Figure 7.1.
Proportion of land area covered by forest



Source: Department of Forest Resource Management, Ministry of Environment & Natural Resources (MoNRE)

For effective forest management, the Government of Lao PDR classifies forest areas into three different types for preservation and development purposes.[6] These are conservation, production and protection forests (Table 7.2, box 7.1). The conservation forest areas, also called the Protected Areas, are dedicated to conserving nature and to preserving plant and animal species, forest ecosystems and other valuable sites of natural, historical, cultural, environmental or scientific interest. These also include forest areas at the Provincial, District

Table 7.2. Proportion of land covered by forest

Forest Categories	Total Area (million ha)	Forest cover (Forested area)		
		Million hectare	% within Category	% of total land area
Protection Forest Area	8.2	3.13	38.2%	13.2%
Conservation Forest Area	4.7	2.64	56.2%	11.1%
Production Forest Area	3.1	1.48	47.7%	6.3%
Areas outside the above three forest categories	7.68 (including plantation)	2 (excluding Plantation)	26.0%	8.4%
Plantation	--	0.3		1.3%
Total, all land types	23.68	--		--
Total, forest cover	--	9.55		40.3%

Source: MoAF (2011). Forest Investment Program (FIP) Lao Investment Plan. Presentation of the Ministry of Agriculture and Forestry (MoAF) to the FIP Sub-Committee Meeting, Washington D.C., October 31, 2011.

Box 7.1. Forests: definitions for Lao PDR

According to the Food and Agricultural Organization of the United Nations (FAO), the definition of ''Forest'' is

''*Land with tree crown cover (or equivalent stocking level) of more than 10 per cent and area of more than 0.5 hectares. The trees should be able to reach a minimum height of 5 metres at maturity in situ.'' It also includes ''plantations primarily used for forestry purposes, including rubber wood plantations*.'' Forest area excludes land that is predominantly under agricultural or urban land use.

The Lao PDR definition sets a higher standard for tree crown cover than the FAO definition.

Definition of forest and Land types in Lao PDR

Current Forest includes natural forests and plantation forests. It refers to land with a tree canopy cover of more than 20 per cent and an area of more than 0.5 hectare. The trees should be able to reach a minimum height of 5 metres. The basis for the distinction between forest and other land use groups is the crown density. Oil palm plantations and bamboo forests, however, are not considered as forests.

Potential Forest is a previous forest area where the crown cover has been reduced below 20 per cent for one reason or another, such as logging or shifting cultivation. It includes temporary unstocked areas (below) and bamboo.

Unstocked Forest Areas are previously forested areas where the crown density has been reduced to less than 20 per cent because of logging, shifting cultivation or other reasons. If the area is left to grow undisturbed, it will become a forest again. Unstocked Forest Areas include abandoned ray[a] and disturbed stands with a crown density less than 20 per cent. Old ray where vegetation has grown back into sapling and trees covering more than 20 per cent of the area should be classified as Current Forest.

Plantation Forests include all sustainable plantations, including young ones with a crown density less than 20 per cent. Rubber plantations are also classified as Plantation Forest. However, coffee, tea and shade-providing trees for coffee and tea, as well as fruit trees, are not classified as Plantation Forest.

[a] Ray are areas where the forest has been cut and burnt for temporary cultivation of crops; these areas have been abandoned for less than a year after the cutting and clearing.

Adapted from ''Forestry Strategy to the Year 2020'' and Forestry Law 2007, Lao PDR

and Village levels that are administered in the specific regulation. Conservation forests account for over a tenth of Lao PDR's total land area. The production forests refer to natural and planted forests for sustainable utilization purposes, including the harvesting of wood and forest products for local people's livelihood and for national socio-economic development. Protection forests comprise (i) forests and forestry lands located in the areas of water resources, watershed areas, wetland and riverbank forests, (ii) roadside forests, (iii) forests in municipalities or outskirts of cities, and (iv) the sacred forests of villages. These forests protect watershed areas, reduce soil erosion and reduce the risk of natural disasters, and therefore are deemed to be in the interests of national and public security. Together, these three types of forest comprise nearly a third of the country's land area. It is important to note that apart from the three forest categories managed by the Government, approximately 7.68 million hectares of forests that include plantations (Table 7.2) are undesignated, and are currently managed by smallholders and individuals. The Government intends to bring these remaining or unclassified forests into a management system that will maintain the remaining forest cover and realize its economic and environmental potential.

Drivers of deforestation and degradation

The main drivers of forest degradation are unsustainable wood harvesting due to illegal logging, poorly regulated timber harvesting by rural households, and shifting cultivation, whilst deforestation is caused by agricultural expansion, hydropower, mining, infrastructure and urban expansion.[7] Large forest compartments (larger than 1,000 ha) have decreased from 88 per cent to 54 per cent of total forest area, whilst small forest compartments have increased from 0.9 per cent in 1992 to 6.7 per cent at present.[8] The hydropower potential of Lao PDR provides opportunities for revenue to support socio-economic development but it also puts additional pressure on the resource base.[9]

Population and land pressure have shortened the shifting agriculture cycle, contributing to forest degradation. FAO defines shifting agriculture as ''a system in which relatively short periods of continuous cultivation are followed by relatively long periods of fallow.''[10] On a small scale and with no population pressure, shifting or swidden agriculture may be sustainable if the old plots are left fallow for a sufficient number of years to allow the forest and soils to replenish. However, many areas in Lao PDR employ the slash-and-burn method, where the land is cleared by fire and is not allowed to lie fallow

Table 7.3. Soil degradation in rural areas as perceived by local residents

	Percentage of rural villages reporting on the state of soil degradation in or around their villages			
	No soil degradation	Soil degradation		
		Light	Moderate	Severe
Total rural areas, Lao PDR	70%	20%	8%	1%
Upland	63%	25%	11%	1%
Plateau	70%	18%	10%	2%
Lowland	78%	17%	5%	1%
Mixed land types	82%	11%	7%	-

Source: Ministry of Agriculture and Forestry (MoAF) (2012). Lao Census of Agriculture 2010/11: Highlights. Vientiane: Ministry of Agriculture and Forestry, Agricultural Census Office, May 2012.

for long periods. Shortening the fallow period beyond a certain critical threshold leads to soil degradation and decreasing yields. In Lao PDR, the steep slopes and high rainfall compound the effects of the shortened fallow periods. Over time, the degradation of forest land leads to deforestation.

Around 18 per cent of all rural villages and 29 per cent of upland villages in Lao PDR practice shifting cultivation to some degree.[11] In the 2010 Agricultural Census, 30 per cent of all rural villages reported some degree of soil degradation (including 9 per cent reporting moderate or severe degradation). In Sekong, 55 per cent of rural villages reported soil degradation, including 11 per cent and 24 per cent respectively reporting severe and moderate degradation. A higher proportion of upland villages reported soil degradation than did lowland villages (Table 7.3). Note, however, that these are reported perceptions and not based on soil surveys. Since 1996, strategies to eradicate shifting cultivation have included stabilizing slash-and-burn agriculture, and promoting more sustainable agriculture in the uplands.

7.4.2. Government policies, programmes and strategies

Box 7.2 provides the policy and regulatory framework governing the forest and related sectors.

The Government aims to achieve around 70 per cent of forest cover by 2020 as highlighted in the Forest Strategy 2020. This will be achieved by preserving the existing forest cover, restoring an estimated 6.6 million hectares of degraded or potential forest, and providing alternative ways of agricultural production to control shifting cultivation.[12] The projects and programmes addressing deforestation and environmental degradation focus on protecting forests for sustainable ecosystem services, smallholder forestry projects and participatory sustainable forest management (PSFM).

The participation of forest-dependent communities is crucial for successful forest management. In 2002, the Prime Minister approved a Decree on the Sustainable Management of Production Forest Areas. The Decree and its associated guidelines and regulations guide the implementation of PSFM in all 51 designated Production Forest Areas. Recognising the role of communities and

Box 7.2. Policy and legislative framework for protecting forests

- Forestry Law, 1996 and revised 2007
- Land Law, 1997 and revised in 2007
- Environment Protection Law, 1999 and revised in 2013
- Prime Ministerial Decree on Forest Resource Development Fund, 2005
- Prime Ministerial Decree on the Sustainable Management of Production Forests, 2002
- Prime Ministerial Decree on Protection Forests, 2010
- Prime Ministerial Decree on Protected Areas, 2013
- Presidential Decree on Benefit Sharing of Timber harvested from Production Forests, 2012
- Wildlife and Aquatic Law, 2007
- Ministerial regulation on Village Forest Management, 2001
- Prime Minister's order No. 17/PM 2008 on strengthening the governance, protection of forests and collaboration in governing forests and timber business
- Prime Ministerial Decree on Environmental Impact Assessment, 2010
- Forestry Strategy to the Year 2020
- Draft National Biodiversity Strategy and Action Plan, 2011-2020
- Climate change strategy, 2009

local government in sustainable forest management, the President subsequently signed a Decree in January 2012 on benefit sharing of timber revenue harvested from Production Forest Areas. This will significantly increase the flow of regular revenue to the communities, as well as to the local government for forest management. The role of communities is being expanded to all types of forests, including village forests that are currently outside the three types of forest categories managed by the state.

Sustainable forest management plans are being promoted. Since 1999-2000, Lao PDR has introduced a certified forest management system applying Forest Steward Council (FSC) principles. The Government has committed to bringing all 51 Production Forest Areas under sustainable forest management plans.[13] In 2012, 1.3 million out of 3.1 million hectares in 18 Production Forest Areas were under sustainable forest management, with approved Forest Management Plans. The areas under sustainable forest management include a certified area of 3,378 square km, of which FSC forest management standards apply to 806 square km and FSC-controlled wood standards apply to 2,572 square km.[14] It is estimated that from the remaining Production Forest Areas, an additional of 1 million hectares will be brought under sustainable forest management by 2016, with support from the Scaling-up Participatory Sustainable Forest Management Project.[15] Furthermore, several protected areas are piloting initiatives such as payment for environmental/ecosystem services (PES) and payment from preserving forests for carbon sequestration (e.g., REDD+[16 17]) .

7.4.3. Challenges and opportunities in protecting forest resources

Unsustainable forest harvesting practices persist, including illegal logging and harvesting at a rate greater than recovery. The Government has sharply reduced the annual harvest of logs from a peak of 734,000 m^3 in 1999 to 150,000 m^3 in 2004/05. However, this progress has been overtaken by unsustainable practices. By 2010, the rehabilitation of forests and the demarcation and protection for natural growth had achieved only about 2.2 million hectares. In addition, only 18 out of 51 production forest sites have approved management plans that apply sound sustainable practices following FSC principles. Wood demand is expected to increase, both domestically and for export. Other challenges include poor law enforcement and governance, the inadequacy of financial and human resources, the persistence of poverty, and the unsustainable conversion of forestland to development projects without proper management of the environmental and social consequences.

The challenge lies in working with the private sector to maximize the benefit generated from infrastructure development projects, while achieving sustainable natural resource management. Surrounded by high energy demand neighbours, Lao PDR's long-term management of its 23,000 MW of exploitable potential hydropower is critical to meeting the country's socio-economic development and poverty reduction goals by 2020. Thus, the country's strategy is to develop its hydropower resources to earn export revenues as well as to meet rising domestic needs. The need to increase the exploitation of hydropower potential is putting additional pressure on natural resources, especially as forest areas have to be cleared for reservoir and other associated facilities. The Government has undertaken measures to compensate for the loss of forests due to hydropower development. These include an introduction of PES and the 2010 Prime Ministerial Decree on Protection Forests. Article 31 states that projects that have an impact on and profit from protection forests and protection forestry lands directly and indirectly must contribute funds for the management, maintenance and development of the protection forests and protection forestry lands. Specifically, hydropower projects are required to contribute funds to the amount of one per cent of the total value of the sale of the electricity per annum.'' The implementation of this Decree is being discussed by key ministries.

Budget allocations for forest management, capacity development and law enforcement are limited. The 2005 Prime Ministerial Decree approved the establishment of a Forest Resource Development Fund under the overall management of the Fund Management Council chaired by the Ministry of Agriculture and Forestry, comprising representatives from Ministry of Agriculture and Forestry and Ministry of Natural Resources and Environment. This fund will be the primary source of the Government's long-term investments in sustainable forest management, including forest inventories, demarcation and mapping for the preparation of forest management plans, forest law enforcement and forest regeneration activities. Article 12 of the Prime Ministerial Decree specifies that the Forest Resources Development Fund receive contributions from a number of sources including:

- A share of the proceeds from the competitive bidding for timber harvested from Production Forests,[18]
- Fees for forest, forest land and forest resources inventory,
- A share of the sale of illegal timber seized by the Department of Forest Inspection,
- The contributions of domestic and international organizations or businesses engaged in forests and forest products, including non-timber forest products and wildlife; and
- The Government's annual budget

The Forest Resource Development Fund holds much promise. For its long-term financial sustainability, it will be crucial to operationalize the Presidential Decree on Benefit Sharing on timber revenue from production forests, and to enhance revenue stream collection from

private sector investment in forest resources and infrastructure projects. The future holds opportunities for the Government to develop further a system that captures and shares benefits from PES and REDD+ revenue

7.5. Reducing emissions and consumption of ozone-depleting substances

7.5.1. Climate change and greenhouse gases

Assessment and analysis

Lao PDR faces significant threats from climate change, given its dependence on agriculture and natural resources. Lao PDR is subject to floods and droughts with significant impact on agriculture, forestry, water resources, health and economic growth. Impact assessments have concluded that recent regional changes in temperature have had discernible impacts on the country's physical and biological ecosystems, and that the frequency and severity of floods and droughts are on the rise.[19]

The Lao National Greenhouse Gases Inventory Project takes stock of the sources and sinks of greenhouse gases emissions. It assesses mitigation options and formulates a National Action Plan and Strategy on mitigating greenhouse gases emission. In 1997, the Project conducted the first national greenhouse gas inventory (GHGI), using 1990 as the base year. The results of this were submitted in Lao PDR's First National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) in November 2000.

Table 7.4. CO2 emissions reported by Lao PDR to the UN Framework Convention on Climate Change

Year for which greenhouse gases were inventorized:	First National Communication	Second National Communication
	1990	2000
CO_2 sequestration in forest sinks (in Gigagrams)	**-121,614**	**- 2,047**
CO2 emissions (in Gigagrams):		
Land use change and forest conversion	+6,753	+42,758
Forest burning	+628	
Emissions from biomass	+9,248	
Energy use, transport	+415	+442
Domestic energy use		+116
Manufacturing energy use		+446
Industrial processes & production		+48
Net result	**-104,570**	+41,764

Source: The First and Second National Communications (2000 & 2013) of Lao PDR to the UNFCCC [21 22]

Box 7.3 The MDG indicator on CO_2-emissions

This indicator is defined as the total carbon dioxide (CO_2) emissions from energy, industrial processes, agriculture and waste (minus CO_2 removal by sinks). It is presented as total emissions, emissions per unit population of a country, and emissions per unit value of a country's gross domestic product (GDP), expressed in terms of purchasing power parity (PPP).

The sectors and activities that produce emissions include:

- The energy sector: the consumption of solid, liquid and gaseous fuels and emissions from oil/gas flaring,
- Industrial sector: emissions from cement production and other industrial processes,
- The waste sector: emissions from waste incineration and
- The agriculture sector: methane releases from cattle and other livestock.

Sinks are processes, activities or mechanisms that remove a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere. Forests and other vegetation are considered sinks because they remove carbon dioxide through photosynthesis.

The Intergovernmental Panel on Climate Change has developed methodologies for estimating carbon dioxide emissions, which are used by the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) and the Carbon Dioxide Information Analysis Center of the US Department of Energy to produce estimates of emissions. However, due to a lack of data relating to emissions from land use, land-use change and forestry, the estimates of CO_2 emissions in these calculations are made without accounting for CO_2 emissions/removals from forests and land-use changes.[a]

On the other hand, the current MDG Progress Report reports on the estimates by Lao PDR itself, which do account for forests and land-use changes, and hence are not comparable with international estimates. Further explanation is given in the text.

[a] Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013

The first GHGI concluded that Lao PDR was a net sequester of CO_2. The net annual CO_2 removal was calculated to be 121,641 Gg, making the country a net sink of 104,570 Gg in 1990 (Table 7.4).

By year 2000, the GHGI showed that the country had become a net emitter of CO_2 (Table 7.4). Using year 2000 as the base, the second inventory examined the emission by sources and removal by sinks of Greenhouse Gases in five sectors: energy, industrial processes, agriculture, land use change and forestry, and waste. Lao PDR emitted a total CO_2 of 43,811 Gg from all activities and removed about 2,047 Gg through carbon sequestration by its forests. Hence, the net emission was 41,764 Gg.[20] The emissions have therefore increased substantially compared to that in 1990. Of the total CO_2 emissions, nearly all were emitted by land-use change and forestry. The agriculture sector produced the greatest share of methane (CH_4) and N_2O. The Second National Communication submitted these findings to the UNFCCC in 2013.

Government policies, programmes and strategies and strategies

Lao PDR has set up institutional mechanisms and policy frameworks to address climate change. Lao PDR acceded to the UNFCCC in 1995, and ratified the Kyoto Protocol in 2003. In 2008, Lao PDR established a National Steering Committee on Climate Change and a National Climate Change Office to follow up on its international commitments. Three main elements form the policy framework for climate change interventions:

• The National Adaptation Programme of Action (NAPA), submitted to UNFCCC in May 2009, forms the first element of the framework. The NAPA set four criteria for prioritizing climate change adaptation projects. These were the capacity to deal with different degrees of severity in the impact from climate change, the contribution to poverty reduction, the linkages with other multilateral environmental agreements, and the value for economy and society. The first five-year NAPA project was launched in 2011.

• The second element is the National Strategy on Climate Change (NSCC), which was approved in early 2010. The NSCC identifies seven priority areas for adaptation and mitigation: agriculture and food security; forestry and land use change; water resources; energy and transport; industry; urban development; and public health. The NSCC also ensured that climate change was streamlined into Lao's Seventh NSEDP (2011-2015).[23]

• The third element, the National Action Plan on Climate Change, was launched in April 2013 by the Ministry of Natural Resources and Environment. It aims to translate the NSCC into action.

The Government is undertaking several mitigation strategies to reduce carbon emissions. The guidelines on the Clean Development Mechanism were approved in 2012. Other strategies include, but are not limited to the following:

• Strengthening regulations to minimize carbon emissions from mining and hydropower projects,

• Enforcing the existing forest laws,

• Scaling up successful forest management programmes,

• Ensuring that harvesting of wood takes place only in managed forests, and moving away from un-regulated and illegal logging,

• Developing alternative livelihoods to reduce shifting cultivation and the resulting forest degradation,

• Developing alternative livelihoods and addressing tenure security,

• Directing the expansion of cash crops and tree plantations to degraded areas,

• Leveraging private sector experience in smallholder partnerships and agroforestry best practices and

• Promoting carbon sequestration through forest regeneration and reforestation.[24]

Adaptation strategies focus mainly on water, agriculture and disaster risk management, with climate information services. The gaps in current adaptation programmes include energy and transport, urban areas, public health and gender.[25]

Challenges and opportunities

The main challenges lie in financial and capacity constraints. There is a need to improve the knowledge base with respect to climate modelling, potential im-

Box 7.4. The MDG indicator on the consumption of ozone-depleting substances

The consumption of ozone-depleting substances is the sum of all ozone-depleting substances controlled under the Montreal Protocol on Substances that Deplete the Ozone Layer. These substances are weighted for their potential to deplete the ozone layer and reported in ozone-depleting potential weighted tons (ODP-weighted metric tons). They include chlorofluorocarbons (CFCs), halons, methyl bromide and others. Countries that are Party to the Montreal Protocol report annually to the United Nations Environment Programme (UNEP) Ozone Secretariat, using agreed data reporting formats.

The Vienna Convention for the Protection of the Ozone Layer (1985) and the Montreal Protocol (1987) are recognized as having been successful in preventing the global environmental catastrophe that might have occurred following the depletion of the stratospheric ozone.

Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013

pacts and mitigation and adaptation strategies. The still-low levels of public awareness on climate change issues is another challenge, although this has improved over the past decade. Cross-sectoral coordination is another area that needs strengthening.

7.5.2. Ozone-depleting substances

Assessment and analysis

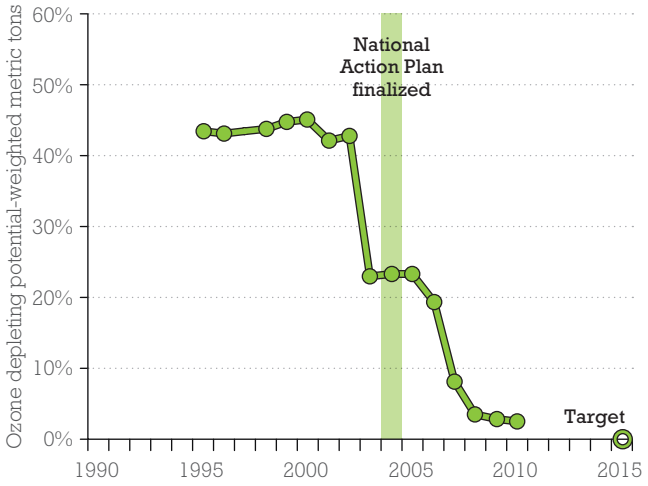
The consumption of ozone-depleting substances has declined to near-zero in 2012 (Figure 7.2). In 1998, the Government accepted accession to the "Vienna Convention for the protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer." In 2003, Lao PDR issued the Prime Ministerial Decree on the Control of the Import, Export and Use of Ozone Depleting Substances (No.162/PM). The Decree specifies the necessary principles, rules and measures to control the import, export and use of ozone-depleting substances, in line with their phase-out under the Montreal Protocol, and as part of the Government's socio-economic plan.[26] In 2004, the country finalized the National Action Plan to phase out the ozone-depleting substances. Figure 7.2 shows a sharp drop in the consumption of ozone-depleting substances starting from 2003 as a result of the Decree and the National Action Plan.

Table 7.5. Consumption of ozone-depleting substances (in ODP-weighted metric tons)

Annex	Group	Annex Group Name	2007	2008	2009	2010	2011	2012	Base-line
A	I	CFCs	6.4	2	0.9	0	0		43.3
A	II	Halons	0	0	0	0	0		0
B	I	Other Fully Halogenated CFCs	0	0	0	0	0		0
B	II	Carbon Tetrachloride	0	0	0	0	0		0
B	III	Methyl Chloroform	0	0	0	0	0		0
C	I	HCFCs (hydrochloro-fluorocarbon)	1.6	1.6	2.1	2.5	2.66		2.3
C	II	HBFCs (hydro-bromofluoro-carbon)	0	0	0	0	0		0
C	III	Bromochloro-methane	0	0	0	0	0		0
E	I	Methyl Bromide	0	0	0	0	0		0

Source: UNEP Ozone Secretariat. http://ozone.unep.org/ Database last updated: 1st March 2013.

Figure 7.2.
Consumption of ozone-depleting substances in Ozone-depleting potential-weighted metric tons



Source: UNEP Ozone Secretariat, based on country reports

7.6. Protecting biodiversity

7.6.1. Assessment and analysis

Table 7.6. Species reported as being threatened with extinction, Lao PDR

Species	Total number of species reported NBSAP, 2004*	Reported number of threatened species NBSAP, 2004*	Reported number of threatened species MoNRE, 2013*
Mammals	247	60	44
Birds	About 700-800	27 threatened 47 near threatened	36
Fish	About 500	9	7
Amphibians	At least 166	10	1
Reptiles			8

* 2004 data are not comparable with recent data. Threatened species are those listed on the International Union for Conservation of Nature (IUCN) Red List in the categories as Vulnerable, Endangered or Critically Endangered (i.e. species that are facing a high, very high or extremely high risk of extinction in the wild). NBSAP: National Biodiversity Strategy and Action Plan.

Lao PDR is rich in biodiversity. The 2004 National Biodiversity Strategy and Action Plan (NBSAP) reported an estimated 8,000 to 11,000 species of flowering plants, at least 166 species of reptiles and amphibians, 700 species of birds, with another 100 are likely to occur, and 90 known species of bats. About 500 indigenous fish species were reported to live in the Mekong and its tributaries in Lao PDR. Surveys reported 247 mammal species, including three new species: *Muntiacus truongsonesis*, the *Muntiacus vuquangesis* and *Pseudoryx nghtinhensis*,

which occur only in the Annamite range, forming the boundary between the Lao PDR and Vietnam.

Several species are threatened with extinction. Table 7.6 shows the number of species identified in 2004 and 2013 as "threatened." The 2004 NBSAP noted that since many areas in the Lao PDR had not been surveyed, more species were likely to occur, and that many species were at risk of extinction. Table 7.7 shows a list of threatened species obtained from the Ministry of Natural Resources and Environment in 2013.

Lao PDR's ecological systems also harbour unique plants, food and medicinal plants. Lao PDR is recognized as the centre of origin for several glutinous rice types. The country lies at the centre of the domestication of Asian rice (*Oryza sativa L.*). Today, the numerous varieties of rice found in the Lao PDR differ significantly. The forests of Lao PDR are rich in food products and other non-timber forest products that are used as a resource for trade. These products provide about half the cash income of rural households. However, they have received little attention so far because of their position outside the formal economy. Lao people consume edible wild plants and vegetables growing in their natural habitats, with the traditional knowledge handed down from one generation to the next.

Box 7.5. "Threatened" species

Threatened species are those listed on the International Union for Conservation of Nature "Red List of Threatened Species" in the categories as Vulnerable, Endangered or Critically Endangered (i.e. species that are facing a high, very high or extremely high risk of extinction in the wild).

The IUCN Red List is not updated for Lao PDR.

The same drivers of forest degradation and deforestation also lead to biodiversity loss. These include unsustainable wood harvesting, poorly regulated timber harvesting, shifting cultivation, agricultural expansion, and projects for hydropower, mining, infrastructure and urban expansion. Other factors include the pollution resulting from production processes, the use of chemical compounds in the agricultural and industrial sectors and the demand for biodiversity resources, including for use in Chinese and local traditional medicine and for the wild animal trade. The impact of chemicals, bombs and other weapons used during the Indochina War persists not only on human beings but also on animals and plants. Natural disasters such as floods, droughts, landslides and forest fires have added their toll. Laws have not been effectively applied and enforced, especially in the control of cross border trade in endangered species. In part, the difficulties are due to the low awareness about the importance of biodiversity at provincial and local levels.

The coverage of the Protected Areas system has increased to 20 areas at national level. The system was officially established in 1993 through the Prime Ministerial Decree No 164. The Protected Areas system aims to achieve the protection of forests, wildlife and aquatic animals, maintain the abundance of biodiversity and environmental stability; and protect areas of natural beauty for leisure and research. Protected Areas now cover 14.2 per cent of the country's area (or an area of 3,390,700 hectares). If the areas under provincial and district protection are added, the coverage increases to around 20.2 per cent of the land area. Additionally two wildlife corridors were established between three Protected Areas. These are the corridors between Nakai Nam Theun National Protected Area and Phou Hinpoun National Protected Area, and that between Nakai Nam Theun National Protected Area and Hin Nam No National Protected Area.

7.6.2. Government policies, programmes and strategies

The Draft National Biodiversity Strategy and Action Plan from 2011-2020 provides the guiding framework for the national response to the Convention on Biological Diversity. The Government signed the Convention on International Trade in Endangered Species of Fauna and Flora (CITES) in May 2004. The Member Countries of CITES act by banning commercial international trade in an agreed list of endangered species and by regulating and monitoring trade in other species at risk.

7.6.3. Challenges and opportunities in protecting biodiversity

An assessment of the NBSAP in 2011[27] ***highlighted the achievements and constraints in implementation***:

- The scale and scope of biodiversity research and recording of local knowledge had improved.
- Land use planning and land allocation had improved, despite concerns about environmental sustainability on this matter.
- There was concern about limited progress in the implementation of The Polluter Pays Principle and the Green Cities initiative.
- The expansion of ecotourism was a positive development.
- Another positive development was the accession of Lao PDR to the Ramsar Convention on Wetlands ("Wetlands of International Importance especially as Waterfowl Habitat"), on 28 September 2010, with two Ramsar sites comprising 14,760 hectares.

Table 7.7. **List of species reported as "threatened"**

Mammals: 44

Lesser One-horned Rhinoceros
Rhinoceros sondaicus et plus

Asian Twohorned Rhinoceros
Dicerorhinus sumatrensis

Kouprey
Bos sauveli

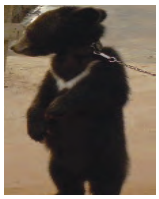
Asian Elephant
Elephas maximus

Wild Water Buffalo
Bubalus arnee

Banteng
Bos javanicus

Gaur
Bos gaurus

Sun Bear
Ursus malayanus



Asiatic Black Bear
Ursus thibetanus

Tiger
Panthera tigris

Leopard
Panthera pardus

Clouded Leopard
Pardofelis nebulosa

Asian Golden Cat
Catopuma temmincki

Marbled Cat
Pardofelis marmorata

Fishing Cat
Prionailurus viverrinus

Jungle Cat
Felis chaus

Eld's Deer
Cervus eldii

Hog Deer
Axis porcinus

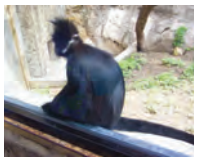
Long-tailed Goral
Naemorhedus caudatus

Southern Serow
Naemorhedus sumatraensis

Asian Tapir
Tapirus indicus

Douc Langur
Pygathrix nemaeus

All gibbon species
Hylobates spp. Nomascus spp.



Francois's Langur
Semnopithecus francoisi

Silvered Langur
Semnopithecus cristatus

Spotted Deer
Cervus nippon

Sambar
Cervus unicolor

Saola
Pseudoryx nghetinhensis

Large-antlered Muntjac
Muntiacus vuquangensis

Roosevelts' Muntjac
Muntiacus roosevelto-rum

Indian Giant Flying Squirrel
Petaurista philippensis

All otters
Lutra sp

Kha-nyou
Laonastes aenigmamus

Sunda Pangolin
Manis javanicus

Chinese Pangolin
Manis Pintadactyla

Table 7.7. **List of species reported as "threatened"**

All loris species
Nycticebus sp.

Golden Jackal
Canis aureus

Dhole
Cuon alpinus

Large Spotted Civet
Viverra megaspila

Owston's Civet
Hemigalus owstoni

Spotted Linsang
Prionodon pardicolor

Striped-back Weasel
Mustela strigidorsa

Annamite Striped Rabbit
Nesolagus timminsi

Irrawaddy Dolphin
Orcaella brevirostris

Reptiles: 8

Siamese Crocodile
Crocodylus siamensis

Chinese Threestriped Box Turtle
Cuora trifasciata

Big-headed Turtle
Platysternon megacephalum

Indochinese Box Turtle
Cuora galbinifrons

Impressed Tortoise
Manouria impressa

King Cobra
Ophiophagus hannah

Rock Python
Python molurus

Reticulated Python
Python reticulatus

Birds: 36

Green Peafowl
Pavo muticus

Great Hornbill
Buceros bicornis

Rufous-necked Hornbill
Aceros nipalensis

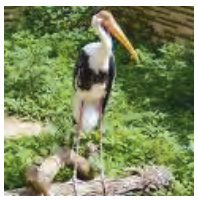
Wreathed Hornbill
Aceros undulatus

All species of vulture
Gyps, Aegyplus, Sarcogyps sp.

Crested Argus
Rheinardia ocellata

White-winged Duck
Cairina scutulata

Sarus Crane
Grus antigone



Painted Stork
Mycteria leucocephala

Giant Ibis
Pseudibis gigantea

Silver Pheasant
Lophura nycthemera

Siamese Fireback
Lophura diardi

Grey Peacock-Pheasant
Polyplectron bicalcaratum

Woolly-necked Stork
Ciconia episcopus

All adjutants
Leptoptilos sp.

Black-headed Ibis
Threskiornis melanocephalus

Spot-bellied Eagle Owl
Bubo nipalensis

Table 7.7. **List of species reported as "threatened"**


Purple Swamphen
Porphyrio porphyrio


Red-collared Woodpecker
Picus rabieri


Imperial Eagle
Aquila heliaca


Green Imperial Pigeon
Ducula aenea

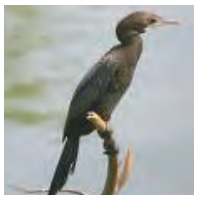

All tern species
Sterna sp.
and Chlidonias sp.


Black-necked Stork
Ephippiorhychus asiaticus

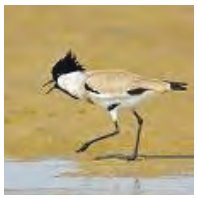

Masked Finfoot
Heliopais personata


Great Thick-knee
Esacus recurvirostris


Brahminy Kite
Haliastur indus

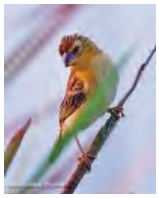

Little Commorant
Phalacrocorax niger


Cotton Pygmy Goose
Nettapus coromande-lianus


River Lapwing
Vanellus duvaucelii


Lesser Fish Eagle
Ichthyophaga humilis

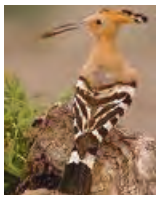

Grey-headed Fish Eagle
Ichthyophaga ichthyaetus


Asian Golden Weaver
Ploceus hypoxanthus


Oriental Darter
Amhinga melanogaster


Red-breasted Parakeet
Psittacula alexandri


Greater Coucal
Centropus Sinensis


Hoopoe
Upupa epops

Fish: 7


Giant Catfish
Pangasianodon gigas


Electric Eel
Anguilla marmorata


Mekong stingray
Dasyatis laosensis


Croaker
Boesemani microlepis


Pangasius sanitwongsei


Tiger Perche
Systomus partipenta-zona


Cat Face Fish
Setipinna melanochir

Amphibians: 1


Lao Salamander
Paramesotriton laoensis

• The expansion of National Protected Areas and the implementation of management plans in some key National Protected Areas were positive steps. However, many National Protected Areas still lack resources and do not have management plans.

• The assessment noted that stricter laws were needed on environmental and social impact assessments (ESIAs) and that a lack of enforcement of laws meant that investment projects went ahead despite assessments showing a negative impact on the surrounding environment.

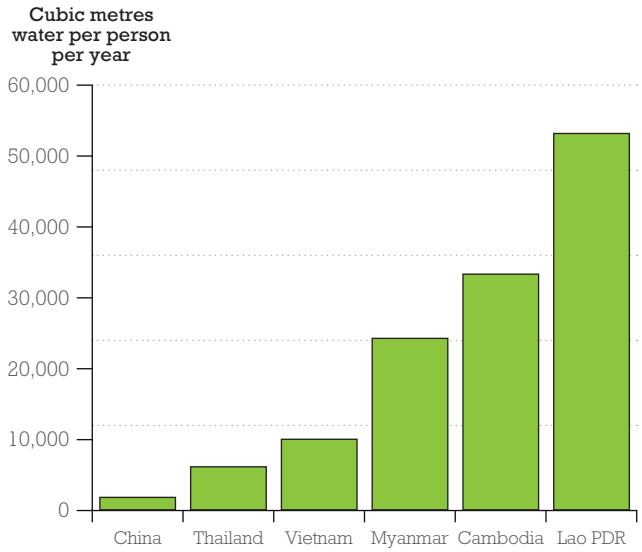
The Government has taken steps to increase oversight of development projects that might have a negative impact on biodiversity and the environment. The Government reviews and verifies ESIAs to ensure investors complies with the law. The Government also conducts studies on ground water and monitors plans for investment projects. Committees are created for daily inspection and supervision of investment projects. The Ministry has improved these mechanisms by decentralizing the responsibility for project oversight and

monitoring to district and provincial levels. The aim is to ensure that developers comply with laws and rules and those problems can be avoided or resolved in a timely manner. As investments are increasing, the Government has already amended laws and regulations to comply with the Seventh NSEDP's guidance on this issue. Investments with potentially important impact will no longer be possible. The Ministry of Natural Resources and Environment is also working on increasing public information about these issues.[28]

7.7. Protecting water resources

Lao PDR possesses the largest per-capita volume of internal renewable water resources in the region. When compared to neighbouring countries with which it shares borders, Lao PDR's renewable water resources are 1.5 to 26 times greater on a per capita basis (Figure 7.3). Some 90 per cent of the country falls in the Mekong Basin and the tributaries in Lao contribute 35 per cent of the annual flow of the Mekong River. About 75 present of the rainfall occurs during the rainy season. The water level in the Mekong river may fluctuate by up to 20 metres between wet and dry seasons. For some rivers (Nam Xebangphay, Nam Xebanghieng, Nam Xedone), the dry-season flow is reduced even further, to around 10 to 15 per cent of the annual flow.

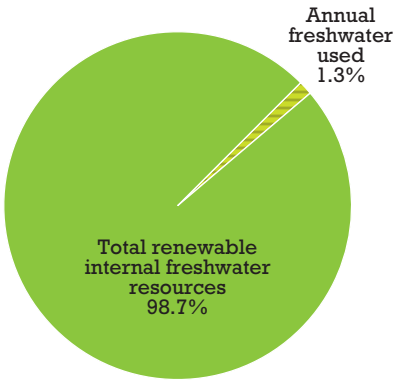
Figure 7.3.
Total annual renewable freshwater resources per capita, Lao PDRand neighbouring countries, 2011



Source: FAO AQUASTAT. Food and Agriculture Organization of the United Nations

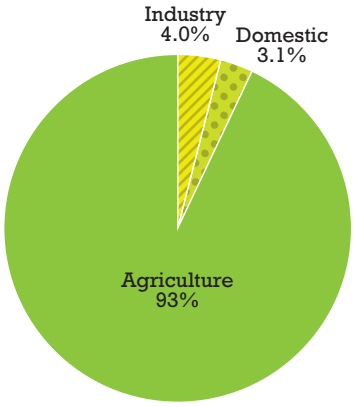
Lao PDR is currently using only 1.3 per cent of its total renewable freshwater resources (Figure 7.4). However, the country's water resources are facing severe threats. The sustainability of water resources is closely linked to the ecosystem. Water resource planning and management will need to address issues such as the increase in population, the increased access to piped water, which tends to encourage more waste, the increase in energy consumption and energy exports, the expansion in irrigation, and the increased number of mining and plantation projects that affect watershed management. Lao PDR has already suffered from both severe droughts and floods over the past 15 years. A changing climate may affect the hydro-cycle and the variability of river flow, so floods and droughts could become even more serious in the future and pose mounting challenges for sustainable water management. Figure 7.5 shows the use of water by each sector.

Figure 7.4.
Proportion of renewable internal freshwater resources used/withdrawn annually, 2005



Source: FAO AQUASTAT. Food and Agriculture Organization of the United Nations

Figure 7.5.
Proportion of total annual freshwater resources used by each sector, 2005



Source: FAO AQUASTAT Report for Lao PDR. Food and Agriculture Organization of the United Nations

Institutional arrangements for water resource management have improved. Watershed management committees have been established in key areas, such as Nam Ngum, Nam Theun and Nam Kanding watershed. These watersheds are applying an Integrated Water Resource Management approach, which is being financed by the

Box 7.6. The MDG indicator on water resources

The purpose of this indicator is to show the degree to which total renewable water resources are being exploited to meet the country's water demand. It measures a country's pressure on its water resources and therefore on the sustainability of its water use. The MDG indicator measures the total water resources used expressed as a percentage of the total actual renewable water resources.

Total actual renewable water resources are the sum of internal renewable water resources and the total external renewable water resources. The internal renewable water resources are defined as the long-term average annual flow of rivers and recharge of groundwater in a given country generated from endogenous precipitation. The external renewable water resources are the portion of the country's annual renewable water resources not generated in that country. It takes into account the quantity of flow reserved by upstream and downstream countries through formal or informal agreements or treaties. Freshwater withdrawal is estimated at the country level for the following three main sectors: agriculture, municipalities (including domestic water withdrawal) and industries.

The authoritative source on this indicator is the FAO, which compiles the information required and calculates it at the global level to enable regional and country comparisons. AQUASTAT is FAO's global information system on water and agriculture. The main mandate of the programme is to collect, analyze and disseminate information on water resources, water uses, and agricultural water management with an emphasis on countries in Africa, Asia, Latin America and the Caribbean. AQUASTAT allows interested users to find comprehensive and regularly updated information at global, regional, and national levels.

AQUASTAT is available at: http://www.fao.org/nr/water/aquastat/maps/index.stm

Nam Theun-Hinboun hydropower project to the amount of 1 per cent of total revenue from electricity sales. The National Policy, Strategy and Action Plan on Water Resources 2011-2015 provides the framework for sustainable water resource management.

In 2011, Lao PDR had 197 fish conservation zones,[29] spread across 7 provinces, 31 districts and 190 villages.

7.8. Ensuring safe water and sanitation

7.8.1. Assessment and analysis

Safe water

Lao PDR has steadily increased the access to safe drinking water, but will need to accelerate progress to achieve the 2015 target (Figure 7.6). By 2011/12, some 70 per cent of the total population had access to improved sources of drinking water, an increase of two-and-a-half times from the coverage in 1990. This proportion was slightly lower than might be expected from the trends in previous years. Unless progress is accelerated, there is a risk of not reaching the national target of 80 per cent.

Both the urban and rural areas have made steady progress, but the rural-urban gap has not decreased since 2005. From the mid-1990s to 2005, there was a tendency for the gap to narrow, with the rural population making faster progress (i.e., catching up with the urban population). Both groups have almost halved the proportion of people without sustainable access to safe drinking water although the progress is marginally less in the rural population (Figure 7.6).

Subnational disparities in safe water access are significant (Figures 7.7, 7.8). The gap between urban and remote rural populations, between uneducated families and families led by tertiary-educated household heads, and between the richest and poorest quintiles ranges from 30 to 46 percentage points. However, the patterns are variable amongst the different ethnic groups.

Amongst all ethnic groups, the Sino-Tibetan group have the highest access to safe water (83 per cent). This is due to two reasons. First, those living in easily accessible areas and those who can afford it tend to use bottled water as their drinking water. Thus 33 per cent of Lao-Tai families use bottled water as their drinking water. Second, the WHO/UNICEF JMP standards do not recognize bottled water as an improved source for the family, since bottled water does not indicate the entire household environment; nor does it necessarily indicate sustainable access. Children are still vulnerable to infections if families drink bottled water, but use unsafe water for other purposes, such as food preparation. Consequently, households using bottled water as the main source of drinking water are classified into improved or unimproved drinking water users according to the water source used for other purposes such as cooking and hand washing. The Sino-Tibetan group have the highest access to safe water (Figure 7.7), because the sources they use are protected springs (37 per cent) and public

Box 7.7. Water and sanitation indicators

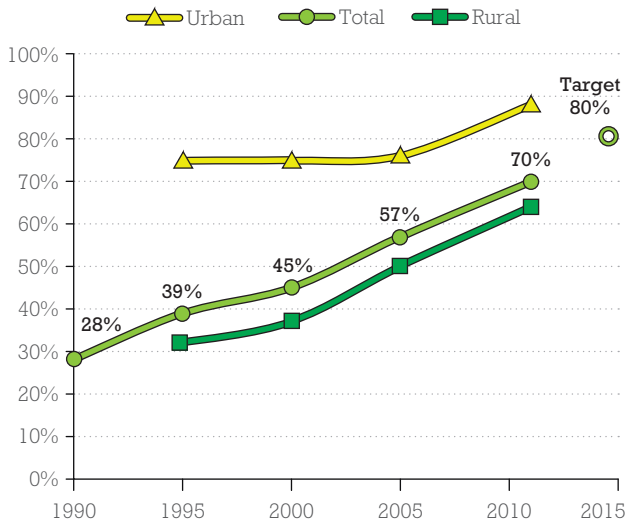
An improved drinking water source is, by nature of its construction, is protected from outside contamination, especially contamination with faecal matter. Thus, improved drinking water sources normally include all piped water, water from public taps/standpipes; borehole/tube well; protected dug well; protected spring; rainwater collection and bottled water (but only if the users have a secondary source which is of an improved type). Improved drinking water sources do not include unprotected sources and surface water taken directly (without water treatment) from rivers, ponds, streams, lakes, dams, or irrigation channels, as these are likely to be contaminated.

An improved sanitation facility is defined as a facility that hygienically separates human excreta from human, animal and insect contact. Improved sanitation facilities include flush/pour-flush toilets or latrines connected to a sewer, septic tank or pit; ventilated improved pit latrines; pit latrines with a slab or platform that covers the pit entirely, except for the drop hole; and composting toilets/latrines. Unimproved sanitation facilities include public facilities or shared facilities; toilets that discharge directly into an open sewer or ditch; pit latrines without a slab; bucket latrines; hanging toilets or latrines; and the practice of open defecation in the bush, field or bodies of water. Shared sanitation facilities are not classified as " improved sanitation facilities" according to the MDG indicator definition.

The Joint Monitoring Programme for Water Supply and Sanitation (JMP) of the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) sets the standard for these two indicators and monitors them from country reports. Household surveys in most countries, such as the LSIS in Lao PDR are designed to conform to JMP standards. For this MDG Progress Report, LSIS 2011/12 provided the current status whilst the JMP database provided past trends in water and sanitation.

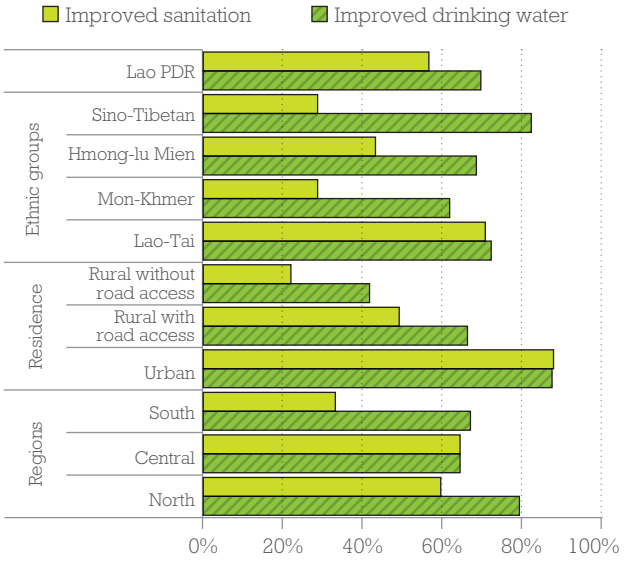
Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013

Figure 7.6.
Proportion of population using improved drinking water sources



Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment; for earlier years: JMP (WHO/UNICEF). 1990 data and 2015 target from MDG Report 2008

Figure 7.7.
Proportion of population using improved drinking water sources and improved sanitation facilities by socio-economic characteristics

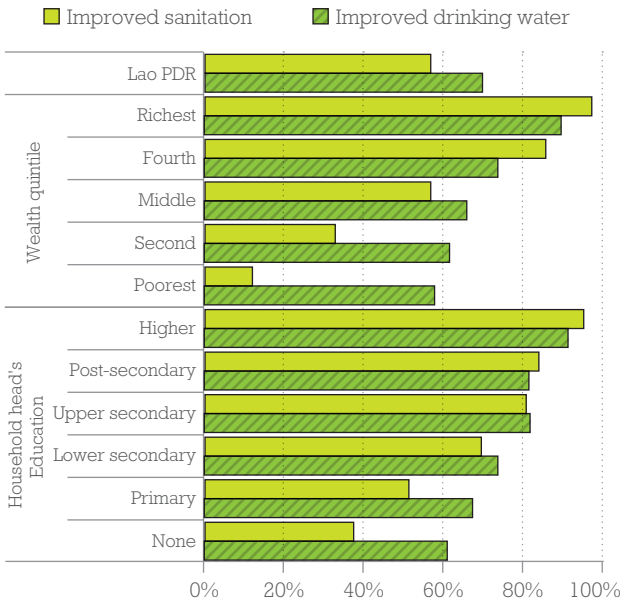


Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

taps or standpipes (28 per cent). A high proportion of the Hmong-Lu Mien (48 per cent) and Mon-Khmer (37 per cent) also use these two sources. Both sources are classified as protected sources and therefore safe for drinking. Lowland groups may be able to purchase and drink bottled water, but do not necessarily have access to an improved water source.

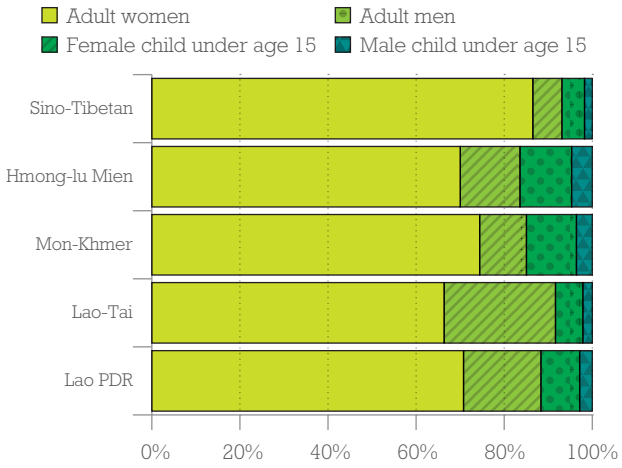
Amongst those who use unimproved (unprotected) sources for their drinking water, surface water and unprotected wells predominate. Surface water is the most used amongst the poorest quintile and in remote rural areas. Just over half (53 per cent) of those using unimproved drinking water sources treated their water, predominantly by boiling and a small percentage by fil-

Figure 7.8.
Proportion of population using improved drinking water sources and improved sanitation facilities by socio-economic characteristics



Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Figure 7.9. **Person usually collecting water, by ethnic group**

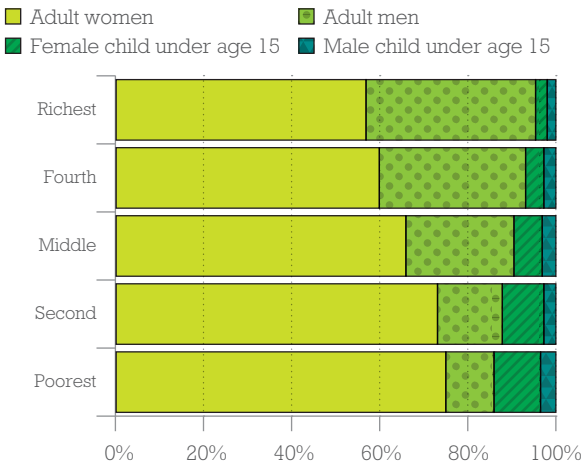


Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

tering (cloth or other filters). The Hmong-Lu Mien have a high rate of water treatment: 89 per cent of Hmong-Lu Mien who use unprotected water sources boil or filter their water.

If the water source is not on the premises, the women or girls usually collect water, not the men or boys (Figures 7.9, 7.10). This trend is more pronounced amongst the poor, rural families and families whose heads have little or no education. The women and girls of ethnic groups living in mountainous areas are the most burdened in this respect.

Figure 7.10. **Person usually collecting water, by wealth quintile**



Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

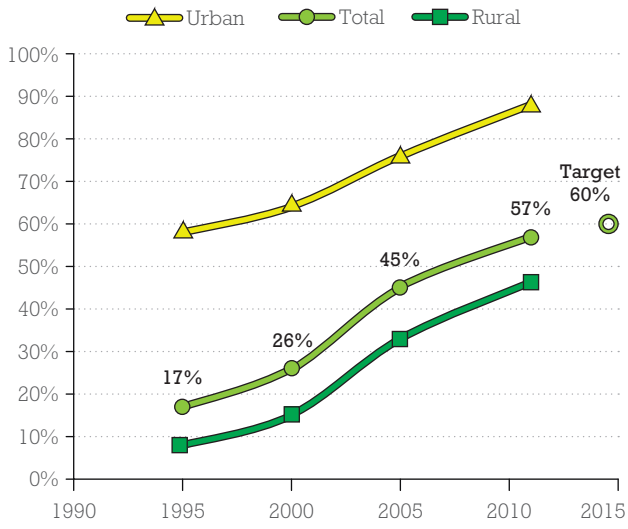
Sanitation

The coverage by improved sanitation has increased three-fold from the 1990s. If the trend continues, Lao PDR will achieve the MDG target of 60 per cent, since it is now at 57 per cent (the MDG indicator does not include shared toilets). The urban sanitation coverage has progressed rapidly and has already achieved a high coverage of 88 per cent. The rural coverage, however, has lagged behind and remains just under half of the population (Figure 7.11).

Inequities are far more glaring in sanitation than in water coverage (Figures 7.12, 7.13). This may be because sanitation is less of a priority amongst the poor. People are usually unambiguous about their desire for having cleaner water close to the house to drink, to clean, to cook. However, the perceived need for better sanitation facilities may be lower. In the case of sanitation, the differences between urban and remote rural families, between uneducated groups and groups with higher education, between the richest and poorest quintiles are much greater than is the case for water coverage. The sanitation coverage in urban areas is 4 times that in rural areas without road access. The most educated families have 2.5 times more sanitation access than those with no education. Sanitation coverage is 8 times better amongst the rich than amongst the poor. The sanitation coverage amongst the different ethnic groups follows the patterns set by the poverty quintiles and education. The lowland groups have the highest coverage, whilst those living in rural areas without road access show the lowest coverage.

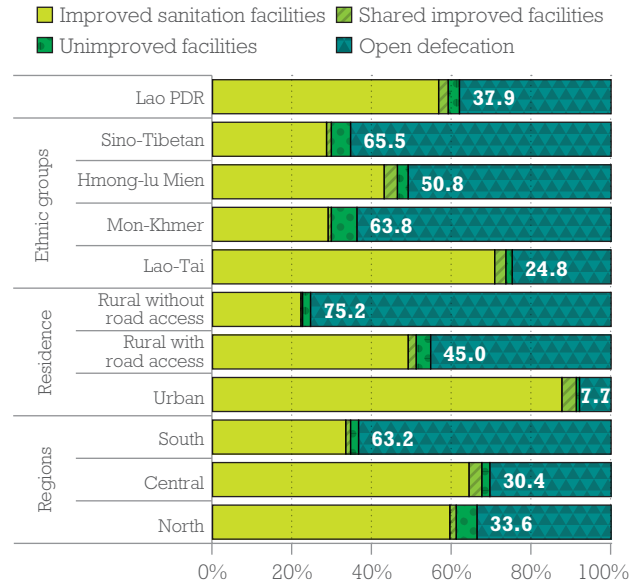
Some 38 per cent of the population still practise open defecation (Figures 7.12, 7.13).[30] The proportion is much higher amongst the poorest and least educated groups, as expected. However, a small proportion of people in the richest quintile and those with secondary or tertiary education still practise open defecation. Surveys el-

Figure 7.11.
Proportion of population using improved sanitation facilities



Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment; for earlier years: JMP (WHO/UNICEF).

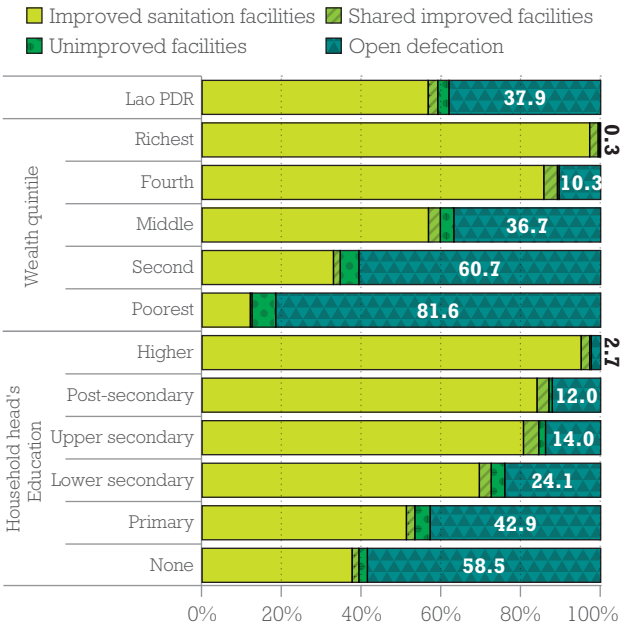
Figure 7.12.
Proportion of population using different types of sanitation facilities, by socio-economic characteristics



Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

sewhere in Asia also report such practices amongst the more affluent and better-educated groups. In Lao PDR, a significant proportion of urban people (8 per cent) still practise open defecation; these are more likely to be the urban poor. The South Region has a high proportion of population practising open defecation (63 per cent). High rates of open defecation are also found amongst the groups living in remote mountainous areas, amongst the poorest, and amongst those with only primary or no education. Amongst people who do not have improved sanitation facilities, only a small proportion use facilities

Figure 7.13.
Proportion of population using different types of sanitation facilities, by socio-economic characteristics



Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

such as open pit latrines and bucket latrines. The rest prefer defecating in the open, in fields, in the bush or forest, in lakes and rivers. Open defecation is apparently preferable to using a malodorous pit or bucket latrine.

The high prevalence of open defecation means that the sanitation targets and plans will need to be more ambitious. Even if Lao PDR achieves the MDG target of 60 per cent, this achievement is still unsatisfactory from a public health point of view, because of the large proportion of people practising open defecation. Achieving only 60 per cent coverage by safe sanitation will not substantially reduce this risk (see Section 7.8.3).

Urban areas need better sewerage and waste disposal facilities. On-site wastewater disposal and treatment facilities, mainly septic tanks, are often poorly designed, constructed and maintained, and therefore the performance is generally poor. The generation of solid waste in urban areas in Lao PDR is on the rise, and poses an emerging threat to the quality of surface and groundwater. The current annual waste generation in 2005 was estimated at 270,000 tons. The average daily urban waste production is 0.75 kg per capita. Domestic waste accounts for the bulk of it. Only Vientiane city and the four secondary towns have landfills, but the disposal areas are small and inadequate. Over two thirds of municipal waste could be recycled, but the current scale of recycling in Lao PDR is still very modest.[31]

The urban poor

The urban poor may have poorer health than the rural poor. With the urban population growing at a pace that outstrips rural growth rates, urban health issues require increasing attention from planners and decision makers. Contaminated water, poor sanitation, and crowding help to spread diseases in cities and towns. Diseases that are commonly reported amongst the urban poor include dysentery, cholera and other diarrheal diseases, typhoid, typhus, leptospirosis, malaria, dengue, hepatitis, scabies, chronic respiratory diseases and intestinal parasitic infections.[32] Repeated illnesses in mothers and young children lead to malnutrition. Studies elsewhere show that child mortality rates in certain poor peri-urban areas are higher than the urban average.[33] In such urban areas, the overcrowding, lack of space and the proximity of water sources pose challenges for standard sanitation technologies. Point-of-use water treatment methods are much more effective than centralized systems, particularly in poor urban areas, because of the range of disparate providers used by the poor.

Lao PDR's urban poor areas need to be given attention to prevent the development of slum areas as in other Asian cities. Recalculation of the LSIS data by the LSB shows that an estimated 20 per cent of the urban population live in a house that poses health risks. Safe water, hygiene education and sanitation, therefore, need to be prioritized.

7.8.2. Government policies, programmes and strategies

The National Plan of Action for Rural Water Supply, Sanitation and Hygiene[34] provides the policy framework for rural areas. The National Plan of Action aims to guide and assist sector actors and stakeholders to achieve:

• More equitable access, better use and increased sustainability of water supply systems and services, sanitation facilities and hygiene practices in all rural areas, and

• Optimal health and socio-economic benefits from improved water services and sanitation practices for the entire population.

Twelve principles guide the National Plan of Action: equity, motivation, shared responsibility, appropriate attitudes and behaviour, economics, leadership, the role of government, accountability, the role of private sector, sustainability, learning, and advocacy/social mobilization/ communication. The National Plan of Action identifies five strategic directions necessary for improved sector performance:

• Equity for all rural populations,

• Sustainability of rural water and sanitation services and hygienic behaviour,

• Responsibilities shared between key stakeholder institutions and actors,

Box 7.8. The urban poor

The UN MDG database and UN-Habitat[a] define a slum household as a group of individuals living under the same roof in an urban area who lack one or more of the following:

• Durable housing of a permanent nature that protects against extreme climate conditions,

• Sufficient living space, which means not more than three people sharing the same room,

• Easy access to safe water in sufficient amounts at an affordable price,

• Access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people, and

• Security of tenure that protects against forced evictions.

However, many developing countries may not have viable data on tenure or on the nature of the living space. Thus, for Lao PDR, this Progress Report has replaced the international MDG indicator on urban slums with a proxy indicator as follows:

''***The proportion of urban population living in inadequate housing***''

Inadequate housing is defined as a house that lacks one or more of the following: an improved drinking water source; improved sanitation facilities; a roof and proper flooring. ''Lack of proper flooring'' means that the house has a floor of earth, dung or sand. A large proportion of rural houses in South-East Asia use thatch roofs rather than tiles or metal roofs because of cost-effective reasons and coolness. Therefore, the calculation did not use thatch roofs as an indicator of inadequate housing. Rather, the calculation used the criteria of ''No roof.''

The Lao Statistics Bureau calculated the value for this indicator using the LSIS 2011/12 household data.[b]

[a] UN-HABITAT (2006). State of the World's Cities 2006/2007 and Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013

[b] LSIS: Lao Social Indicators Survey, 2011/12, Lao Statistics Bureau, Ministry of Planning and Investment.

• Recognition of the different approaches required for rural water, sanitation and hygiene, and

• Innovation and change in sector.

The National Plan of Action for rural water supply, sanitation and hygiene recognizes the significant differences between its component sectors. Water is usually in high demand and rural water services have a village-wide scope, whereas sanitation is in less demand and rural sanitation is household-based. Sanitation and hygiene behaviours are strongly influenced by socio-cultural factors and in a different way than is behaviour related to water consumption.

7.8.3. Challenges and opportunities in ensuring safe water and sanitation

The main challenge will be to change behaviour with regard to open defecation. Experience elsewhere indicates that both social and health reasons are needed to change such behaviour, since preventive health messages alone may not be persuasive enough. The links with child mortality and malnutrition need to be highlighted. Recognizing the risk that open defecation poses to health, the Government is stepping up initiatives to reduce this risk. The approach called Developing Model Healthy Villages will contribute significantly to improving the sanitation, hygiene and health of the villages in a holistic way and bring the sanitation goal closer.

Water safety and water quality need increased attention. In Lao PDR, surface water is the major water source for urban supply as most towns are located along the rivers. Groundwater is the main source for the rural population. Recent data is unavailable on the quality of the groundwater or the treated water provided by municipalities. However, as in other developing countries, it seems likely that both surface and groundwater quality will decline with industrialization unless stringent precautions are taken. Rising populations in urban and upland areas will also add to water pollution. Experience elsewhere indicates that the urban poor are especially at risk from water contaminated by waste, sewerage and faecal matter, because of overcrowding, the proximity of toilets, and leaks and negative pressures in aging pipe systems.

The levels of investment in water and sanitation are insufficient. The Government targets are to provide 24-hour access to safe drinking water for 80 per cent of the urban population by the year 2020 and ensure equitable service coverage for all regions of the country. For sanitation, on-site treatment will be pursued and the implementation and management of the facilities is the responsibility of the individual owner. To meet these targets, an estimated US$ 510 million would be required by 2020. The implied annual investment levels 2011 - 2020 would be about US$ 18 million for urban water supply, US$ 12 million for urban sanitation, and US$ 10 million for rural water and sanitation (altogether US$ 40 million a year). This is well above the current spending levels, estimated at around a quarter of the needs.[35]

7.9. The way forward

The Government has formulated a wide array of legislation and regulations for environmental conservation and protection. The Environmental Protection Law (1999), supported by its Implementing Decree (2002), is the country's principal environmental legislation. It includes measures for the protection, mitigation and restoration of the environment, as well as the guidelines for environmental management and monitoring. In addition, previous sections have discussed the laws, policies and regulations for the different sectors and sub-sectors.

Implementation and enforcement are weak. Most national agencies are making progress in devolving their authority to the provinces but are constrained by lack of human and financial resources. Low public awareness of environmental protection is also an issue.

The Government of Lao PDR has made important strides in instituting changes to slow the pace of environmental degradation. Previous sections have discussed many of these measures, such as the establishment of the Forest Resource Development Fund. Other actions include enacting the Prime Ministerial Decree on Environmental Impact Assessment; developing a policy to safeguard the environmental and social sustainability of the hydropower sector; strengthening the regulation for wildlife trade in endangered species; creating a specialized agency to protect and manage the Nam Theun Watershed; decentralizing environmental functions to provinces; improving water and air quality monitoring; and establishing a third-party monitoring protocol to report on the environmental impacts of development projects. Furthermore, the Government has incorporated the sustainable management of natural resources and the responsible governance of the benefits accrued from their use into the Seventh NSEDP.

Despite these achievements, many challenges remain, and new challenges are emerging. Rapid growth, scarcity of human resources, inadequate financing, uneven enforcement of environmental laws, and the growing demand for natural resources from neighbouring countries have all played a role.

Sufficient budget allocations are needed to cope with the increasing demand on ministries and agencies trying to stop or reverse environmental degradation. The Government has started to take some steps in instituting a governance mechanism to allocate revenues from the use of natural resources to address environmental issues. The recent example of watershed management being financed by electricity sales from the Nam Theun-Hinboun hydropower project is a noteworthy initiative and needs to be replicated. The private

sector should be further encouraged to invest in more environmental initiatives, such as reforestation, recycling and reusing waste, sewage treatment, river bank erosion, and environmentally sound technology in industrial development.

Environmental sustainability is rooted in stakeholder participation, commitment and behaviour. This is already happening but needs to be supported further and expanded. Communities and districts that have a stake in protecting ecologically fragile areas should be empowered to play an active role in safeguarding the environment and benefiting from it. The growth of high quality ecotourism and the implementation of approaches such as participatory sustainable forest management are encouraging trends. Stakeholder participation needs to start early, with young people and children.

MDG8. Develop a Global Partnership for Development

8.1. Summary

Enhancing market access

Lao PDR has made significant progress in integrating within the global trading system, becoming the 158th member of the World Trade Organization (WTO) on 2nd February 2013. It is also actively setting the pace of ASEAN integration. At the centre of many economic and transport corridors, Lao PDR is the only country to border all other countries in the Greater Mekong Sub region. Lao PDR has market access opportunities under unilateral and reciprocal preferences from 47 developed and developing countries. As an LDC, Lao PDR is granted the unilateral tariff preferences under the Generalized System of Preferences (GSP) from 36 countries. This Report looks at the tariffs imposed on exports of Lao products by two developed market economies – the European Union and the USA. Lao PDR is granted the unilateral tariff preferences under GSP from the EU but not from the USA. On the other hand, developed market economies admit free of duty a high proportion (by value) of imports from Lao PDR. Thus, in terms of value, 99.9 per cent of agricultural products, 85.7% of clothing and 89.7% of textiles from Lao PDR were admitted in 2010 into developed market economies free of duty.

Border costs for import to and export from Lao PDR are still high: cross-border transactions in Lao PDR took longer and were costlier to conduct compared to the average cost and time for land-locked developing countries. The government is making significant improvements to facilitate the movement of goods into and out of the country, committing to making Lao PDR become 'land-linked' rather than landlocked. The Government has also taken several steps to enhance the overall business-enabling environment.

Improving aid effectiveness

In line with the International Aid Transparency Initiative, the Aid Management Platform (AMP) monitors, coordinates and reports on development financing in a transparent way. Net official development assistance (ODA) and official aid to Lao PDR have increased in amount and in per capita terms over the past two decades, but have declined in terms of the proportion of GDP and GNI, owing to Lao PDR's strong GDP growth. With respect to sectors, infrastructure received the most in ODA funding in 2011/12, followed by education, then agriculture and rural development. The AMP needs to capture better the development assistance that flows through non-profit associations (NPAs) and international non-governmental organizations (INGOs).

Much more support is needed to strengthen government systems for monitoring and reporting ODA, so that development partners become more confident about direct budget support. Strengthening the Government's ability to improve the link between national planning and budgeting processes will require a higher degree of aid predictability. The imminent launch of the AMP public portal is a sign of the Government's continuing commitment to open data, transparency, and accountability.

Addressing debt

Lao PDR's debt service ratios remain comfortably within the policy-dependent indicative thresholds of the debt sustainability framework set by the World Bank and International Monetary Fund (IMF), due to the high level of concessionality of official borrowing. The World Bank and IMF assessment noted that key indicators of Lao PDR's external public and publicly guaranteed (PPG) debt stock had improved due to strong macroeconomic performance. Lao PDR has been reclassified from a high risk to a moderate risk of debt distress. The Government's position is that an important part of Lao PDR's external debt is related to viable large projects in the resource sector, which are expected to generate high economic returns upon completion. In addition, the relatively long maturity profile of the loans also helps to mitigate risks of debt distress.

Benefitting from new technologies

Lao PDR continues to show rapid progress in improving access to information communication technologies (ICT). By 2011, 87 per cent of the population had mobile cellular subscriptions. The rate of the expansion of internet access has been even more rapid, having grown at an average rate of 51 per cent annually, up to 9 per cent of the population in 2011. After mobile telephones, television has the highest penetration, reaching 76 per cent of the population. Radio reaches a third of the population. Lao PDR's rapid economic growth and increasing openness have therefore translated into rapidly expanding use of mass media and ICT, even amongst the poor.

8.2. Introduction

Partnerships and the MDGs

MDG 8 cuts across all other MDGs. Achieving progress in the MDG 8 areas will accelerate progress towards the other goals. Gaining access and integrating into world markets and benefiting from tariff reductions will enhance a country's capacity to use trade more effectively to promote growth and development, create livelihoods and reduce poverty. The social sectors of many developing countries have a high dependence on aid – and Lao PDR is no exception in this regard. The Government is primarily responsible for making headway towards the MDGs; however, ensuring aid predictability is crucial.

On the other hand, some areas of MDG 8 will require careful monitoring to avoid a negative impact on other MDG areas. The openness of borders for example, which may raise living standards in those areas, also increases the risk of trafficking, sexual exploitation, HIV-AIDS and other diseases, as previous chapters have shown.

Expanding access to ICT will have a multiplier effect in accelerating progress towards the MDGs. Previous chapters highlighted the poor knowledge, low levels of education and remoteness of communities as barriers in the efforts to improve the situation of vulnerable groups. ICT can be the key for mobilizing and educating people, and even for supporting the reach of basic social services. In areas where fixed-telephone infrastructure is limited, mobile-cellular telephony is an important technology, performing functions beyond communication between people. In rural and remote areas or in areas affected by emergencies, mobile–cellular telephony and text messages have been used effectively to support the reach of social services, perform monitoring and recording functions for health management information systems, and record a large variety of data ranging from anthropometric measures[1] to the number of children separated from their parents.[2] Internet access can help to educate young people, mobilize awareness, and expand the reach of poor schools and communities to wealthier, better-resourced schools through joint projects.

Linkages with LDC graduation

MDG 8 is indirectly linked to two of the three criteria for LDC classification and graduation. The two criteria are GNI per capita and EVI. As explained in Box 1.1, EVI is a composite index composed of a weighted average of eight indicators, or seven in the case of Lao PDR. Amongst these seven, the following are linked to trade and the structure of the economy and therefore, to MDG 8:

- The instability of exports: the capacity of countries to import goods and services from current export earnings, or simply put, the purchasing power of exports.
- The merchandise export concentration: the sectoral concentration of a country's exports, indicating the extent to which exports are dispersed across different economic activities.
- The instability of agricultural production: This indicator measures the annual fluctuations of total agricultural production.
- The share of agriculture, forestry and fisheries in GDP, which is an indication of the exposure of countries caused by their economic structure, because agriculture, fisheries and forestry are particularly subject to natural and economic shocks,
- Remoteness, calculated as the trade-weighted minimum distance for a country to reach a significant fraction (i.e., 50 per cent) of the world market. Remoteness reflects high transportation costs and limits the possibility for economic diversification, thereby reducing the ability of countries to respond to trade shocks. The indicator is calculated based on data on geographic distance between the major cities in the world and data on exports and imports of goods and services.

Conversely, MDG 8 exerts influence on trade and the economy: e.g., the proportion of ODA allocated to build trade capacity, cross-border trade, particularly the costs of export and import, the access to markets in developed economies, borrowing and debt servicing, and the new technologies.

8.3. Enhancing market access

Goal 8. Develop a global partnership for development						
Target 8A: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system						
	1997	2000	2005	2010	2011	
8.1. Average tariffs imposed by the EU (under GSP)						
On Lao exports of clothing (HS 62)	13.14%	12.37%	11.72%	11.70%	0.00%	
On Lao exports of coffee/tea/spices (HS 09)	1.25%	3.97%	0.80%	2.14%	0.00%	
Average tariffs imposed by USA (non-GSP)						
Lao exports of clothing (HS 62)	13.34%	8.48%	13.12%	14.05%	10.83%	
	1997	2000	2005	2010	2011	
8.2. Proportion of exports of agricultural products, clothing and textiles (by value) to developed market economies from Lao PDR admitted free of duty (%)						
Agricultural products	99.34%	98.22%	99.15%	97.60%	99.93%	
Clothing	82.65%	90.95%	98.28%	93.51%	85.71%	
Textiles	95.28%	84.67%	90.44%	35.50%	89.68%	

	2005	2008	2010	2011	2012	
8.3. Border cost related to importing one container (US$ per container)	$1,690	$2,040	$2,040	$2,035	$2,125	
8.4. Border cost relating to exporting one container (US$ per container)	$1,420	$1,860	$1,860	$1,880	$2,140	

Data sources:
Indicator 8.1. United Nations Conference on Trade and Development (UNCTAD) - World Trade Organization (WTO) database http://www.mdg-trade.org/Index.aspx
Indicator 8.2. UNCTAD - WTO database http://www.mdg-trade.org/Index.aspx
Indicator 8.3. World Development Indicators (WDI) database, World Bank
Indicator 8.4. World Development Indicators (WDI) database, World Bank

Box 8.1. The MDG targets on trade and finance

Amongst the many aspects of trade and financial systems, the first target of MDG 8 looks at two components. The first component concerns actions taken by industrialized countries to increase market access for developing countries, especially LDCs. The second component looks at the efforts made by the developing country to reduce financial and transaction costs for import and export of goods. The framework for this target is given by the 2011 World Trade Organization (WTO) Ministerial Conference held in Doha, where donors committed to supporting developing countries, especially the LDCs, in building the capacity to trade and integrate into world markets. The Aid-for-Trade Initiative launched at the 2005 Hong Kong WTO Ministerial Declaration aims to enable developing countries to use trade more effectively to promote growth, development and poverty reduction and to achieve their development objectives, including the MDGs. The Initiative also aims to support developing countries, particularly LDCs, to build supply-side capacity and trade–related infrastructure in order to facilitate better market access for exports.

8.3.1. Trade mainstreaming and integration

Lao PDR is the only country to border all other countries in the Greater Mekong Sub region (Cambodia, China, Myanmar, Thailand, and Vietnam). Lao PDR is therefore at the centre of many economic and transport corridors. ASEAN members have agreed to establish the ASEAN Economic Community (AEC) as the goal of regional economic integration by 2015. This will mean free internal movement of goods, services, investment, capital and skilled labour.

Lao PDR recognizes that trade needs to be mainstreamed further into the national development plans. Trade mainstreaming helps enhance policy coherence, institutional coordination and mobilization of resources for the implementation of trade-related priorities. Ultimately, it will help to enhance livelihoods. However, it will require greater inter-Ministerial and departmental coordination, especially in trade-related economic planning using the Diagnostic Trade Integration Study (DTIS) conducted by the Ministry of Industry and Commerce (MoIC).[3] The Government's Roadmap for Trade and Private Sector Development emphasizes sustainable trade and business development for poverty reduction, and LDC graduation with a modern, diversified economy. As a means of attaining this outcome, it identified three pillars: establishing an environment conducive to trade and investment, improving the competitiveness, quality and value of agribusiness, manufacturing and services, and improving the Aid for Trade governance framework for mainstreaming trade and private sector development. Improvements to trade policy include attempts to raise transparency, reduce non-tariff barriers and bring trade legislation in line with the principles of the WTO and ASEAN agreements.

Lao PDR became the WTO's 158th member on 2nd February 2013 after ratifying its membership agreement. As part of its WTO accession, Lao PDR reviewed and enacted some 26 trade-related laws, 18 decrees, and 46 other legislative measures since 2000.[4] Many markets are already open to Lao products, but the economic integration provides Lao PDR with opportunities to improve the business and investment regime, strengthen and improve trade policy institutions and coordination, and expand supply-side capacity. However, WTO accession will also bring challenges, including the need to coordinate and implement commitments. For example, implementation of General Agreement on Trade in Services (GATS) obligations will require a strong capacity to enhance transparency and to coordinate government action across different ministries and agencies. Furthermore, when Lao PDR accedes to the WTO, it will do so as an LDC, and as such, will receive special and differential treatment, but these privileges may be lost when the country graduates from LDC status.

Lao PDR is actively setting the pace of ASEAN integration. Within the framework of the ASEAN Economic Community, Lao PDR has ratified the ASEAN Trade in Goods Agreement (ATIGA) in 2009. It has submitted a full tariff reduction schedule, including a sensitive pro-

ducts list up to 2015. It has set up institutional infrastructure, developed a specific action plan for improving trade facilitation, and promulgated necessary legislation on Rules of Origin. The remaining challenges include the removal of remaining non-tariff barriers, the development of a National Single Window, the adoption of the ASEAN cargo-processing model and transit system, and other measures to facilitate trade. The main constraints are limited implementation capacity and issues related to inter-agency coordination.

8.3.2. Tariffs and cross-border costs

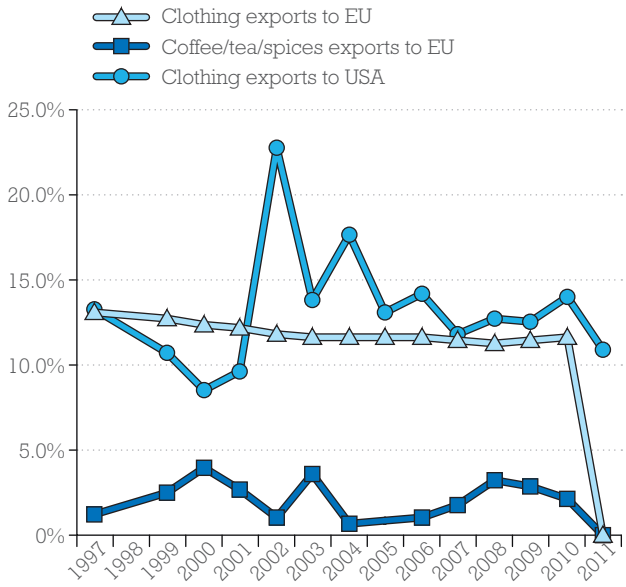
Lao PDR has market access opportunities under unilateral and reciprocal preferences from 47 industrialized and developing countries. As an LDC, Lao PDR is granted the unilateral tariff preferences under GSP from 36 countries including the European Union (EU), Australia, Belarus, Canada, Japan, New Zealand, Norway, Russian Federation, Switzerland and Turkey. Moreover, Lao PDR also obtains preferential tariff treatments from some emerging economies such as China, Republic of Korea and India. Lao PDR is also granted unilateral preferential treatments by older ASEAN members.[5]

This Report looks at the tariffs imposed on exports of Lao products by two developed market economies. Lao PDR is granted unilateral tariff preferences under GSP from the EU but not from the USA. Figure 8.1 shows the trends in the tariffs imposed on two types of Lao products: apparel/clothing and agricultural products. The trends show the drop in tariffs imposed by the EU on Lao PDR from 2010 on. The tariffs imposed by the USA have remained high.

On the other hand, developed market economies admit free of duty a high proportion (by value) of imports from Lao PDR. Thus, in terms of value, 99.9 per cent of agricultural products, 85.7% of clothing and 89.7% of textiles from Lao PDR were admitted into developed market economies free of duty.

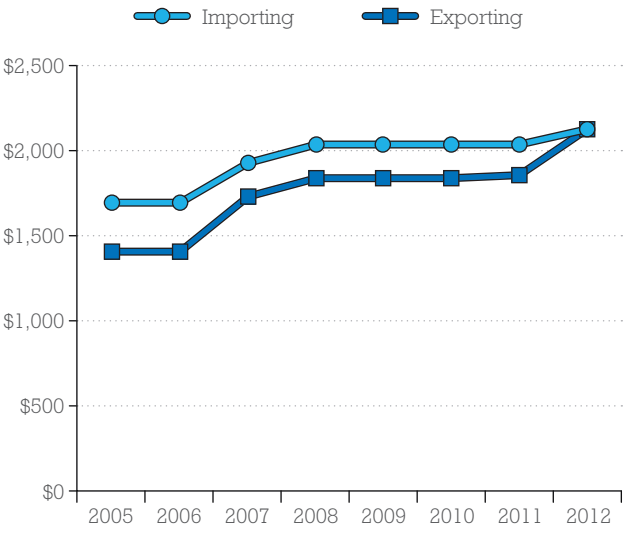
Border costs for import to and export from Lao PDR are still high (Figure 8.2). The border cost related to importing one container has increased by 26 per cent since 2005 and the border cost related to exporting one container has risen by 51 per cent since 2005. Much of this is due to lengthy procedures and regulations. A 2010 World Bank study[6] found that cross-border transactions in Lao PDR took longer and were costlier to conduct compared to the average cost and time for land-locked developing countries (LLDC). The cost penalty for Lao PDR is about 45 per cent, slightly below that of the LLDC average (53 per cent in 2009). However, the time penalty was estimated as 97 per cent, well above the average of 32 per cent for all LLDCs. Shipping a container from Vientiane to Los Angeles takes an average of 78.5 days, almost double the time taken to ship a container from Thailand to Los Angeles. Since most goods from Laos are exported via Thailand, trade and transport facilitation across that border is critical for the export competitiveness of Lao products. Road transport accounts for the greatest part of the costs, but the process taking the most time is the completion of export formalities. The study examined the cost, time and reliability of transporting exports along the Vientiane-Laem Chabang Corridor. It found that some parts of the process could take double the time. Overall, the average time for exports along this corridor was 18.5 days. Under-developed local infrastructure may add to the constraints, especially when the goods come from remote regions.

Figure 8.1.
Average tariffs imposed by the EU and the USA on Lao exports of clothing & coffee/tea/spices



Source: United Nations Conference on Trade and Development (UNCTAD) - World Trade Organization (WTO) database

Figure 8.2.
Border costs related to importing & exporting one container



Source: WDI, World Bank

8.3.3. The trade and business environment

The Government has made significant improvements to facilitate the movement of goods into and out of the country, to make Lao PDR 'land-linked' rather than landlocked. The efforts in this regard include an ambitious Trade Facilitation Strategy, the inauguration of a National Trade Facilitation Secretariat, the launch of the first Trade Information Portal, the adoption of WTO- and ASEAN-consistent legislation on import licensing procedures, extensive investment in the modernization of customs clearance procedures and improvements to the transport and logistics infrastructure. However, gaps still exist between policy and implementation. The availability, quality and usage of both international and domestic trade statistics will improve the basis for effective policy-making.

The Government has also taken steps to improve the overall business-enabling environment. This includes major changes in the taxation framework, such as the implementation of the Enterprise Law in 2006, the introduction of the unified Investment Promotion Law in 2010, and the recent revision of the General Tax Law (2011). This last introduced a number of significant growth-friendly policy changes, including the introduction of a new corporate profit tax rate of 24 per cent and the abolition of minimum tax. Important improvements were also made to the manufacturing and trading licensing regime. A number of regulations were introduced to improve predictability and transparency in international trade. A sectoral operating license is not required to engage in international trade, and the manufacturing sector only requires one operating license as opposed to the two sectoral licenses required by other sectoral agencies (establishment and operating licenses). Other steps include measures to improve the quality of the workforce, such as the collaboration between the public sector and industry associations in the garment, construction and tourism sectors on training courses for workers. Lao PDR will need to expand such initiatives, undertake comprehensive labour market studies and link up vocational and educational institutions to the business community.

FDI inflows have surged in recent years, driven by mining and hydropower. Together, these two sectors account for more than 80 per cent of total FDI.[7] Lao PDR's inward FDI flows have grown nearly 600 times since 1990, approximately ten times higher than that for Southeast Asia as a whole. However, not all have benefited from the resource boom. In some instances, natural resource development has worsened poverty through resettlement and reduced food security.[8]

Trade agreements need to be monitored and assessed for their potential environmental and social impact and for their gender sensitivity. Regional cooperation can lead to better environmental monitoring. Women need to be helped to access export markets, through women's groups, farmer's associations and trade unions. ICT such as mobile phones can support disadvantaged groups in market negotiations without the intervention of powerful intermediaries. Women, because of their lower literacy and mobility, are likely to benefit more from such technologies. The modernization and formalization of customs clearance systems could also help to overcome some of the difficulties women tend to experience at the border. Typically, border agencies are staffed by men and do not have a culture of working in gender sensitive ways. In addition, women's lower levels of knowledge about border processes can at times fuel extortion.

8.4. Improving aid effectiveness

Goal 8. Develop a global partnership for development						
Target 8B / 8C: Address the special needs of the least developed countries / landlocked developing countries						
	2001	2005	2008	2010	2012	Target 2015
8.5. Proportion of total multi/bilateral ODA allocated to education and health sectors	15.44%	23.29%	18.88%	22.89%	31.80%	
		2005	2006	2010		
8.6. Proportion of bilateral ODA of OECD/DAC donors that is untied		77%	70%	71%		
8.7. Net official development assistance and official aid received						
	1995	2000	2005	2010/11	2011/12	
• As proportion of GDP	20.6%	20.7%	13.6%	7.7%	8.0%	
	2005	2007	2009	2010/11	2010/11	
• in US$ per capita	63	73	71	99	66	

	1995	2000	2005	2009	2011	
8.8. ODA received as proportion of GNI (%)	20.6%	21.6%	13.9%	9.9%	8.2%	
					2011 /12	
8.9. Proportion of ODA provided to help build trade capacity					5.9%	
			2000 /01	2010	2011*	
8.10. Proportion of ODA to LDCs that goes to Lao PDR			2.75%	0.94%	1.41%	
				2010 /11	2011 /12	
8.11.Net ODA received from OECD/DAC donors by Lao PDR as percentage of its GDP				4.6%	2.8%	

Notes:
Indicator 8.5 is a proxy for the recommended MDG indicator "Proportion of total bilateral, sector-allocable ODA of donors from the Development Assistance Committee of Organization of Economic Cooperation for Development (OECD/DAC) to basic social services." See text.
Indicator 8.11 may include both loans and grants.
Data sources:
Indicator 8.5. Department of International Cooperation (DIC), Ministry of Planning & Investment (MPI).
Indicator 8.6. OECD (2011) Aid Effectiveness 2011: Progress in Implementing the Paris Declaration – Volume II Country Chapters: Lao PDR. http://www.oecd.org/dac/effectiveness/2011surveyonmonitoringtheparisdeclaration.htm 2011 Survey on Monitoring the Paris Declaration.
Indicator 8.7. Recent ODA data , 2000-2012, from DIC-MPI (in current US$) and 1990-1999 ODA data from World Development Indicators (WDI) database, World Bank (in constant 2010 US$). MPI updated the data from Aid Management Platform (AMP)-Foreign Aid Implementation Report (FAIR) to include non-OECD partners, 13 May 2013. GDP in 2010 and 2011 in current US$ from Lao Statistics Bureau (LSB), MPI. GDP in 2012 in current US$ estimated by Ministry of Planning & Investment for the Mid-Term Review of the NSEDP. GDP for earlier years in current US$ from WDI-World Bank. Population data from LSB, MPI.
Indicator 8.8. ODA data from DIC-Ministry of Planning & Investment in current US$ (2000-2012) and WDI, World Bank in constant 2010 US$ (1990-1999). GNI in current US$ from WDI-World Bank.
Indicator 8.9 ODA data from AMP/FAIR, DIC-MPI
Indicator 8.10. Total ODA to LDCs from the Organisation for Economic Co-operation and Development (OECD) database: http://www.oecd.org/dac/stats/ .ODA data from DIC-MPI & WDI for ODA
Indicator 8.11 AMP-FAIR, DIC-MPI

Box 8.2. Indicators for aid effectiveness

Targets 8B and 8C focus on improving aid effectiveness in three areas. First, the indicators highlight the extent to which aid is used for basic social services; second, the extent to which the aid is untied, and third, the amount of aid provided to LDCs and land-locked developing countries, in relation to their economies and population. Regarding the first area, the World Summit on Social Development at Copenhagen in 1995 had suggested the allocation of 20 per cent of Official Development Assistance (ODA) and 20 per cent of the developing country's national budget, respectively, to basic social programmes. These programmes comprise education, health, population and reproductive health programmes, and poverty-focused water and sanitation projects. Chapters 2 and 4 provide data on government expenditures for health and education.

The Paris Declaration (2005), the Accra Agenda for Action (2008), as well as the Busan High Level Forum on Aid Effectiveness (2011) all emphasize more inclusive development processes and mutual accountability.

8.4.1. Aid transparency

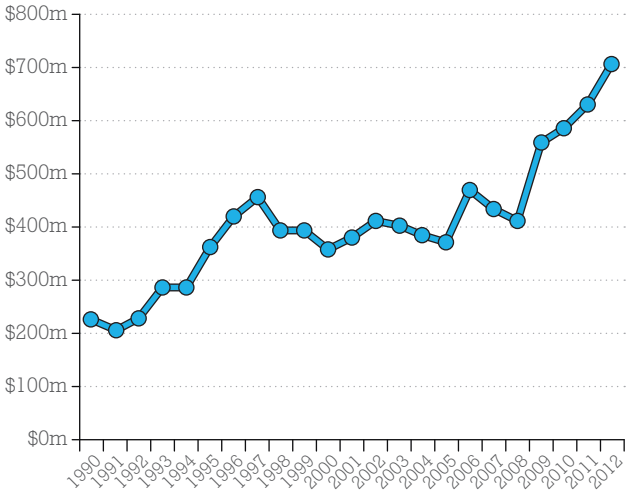
In line with the International Aid Transparency Initiative, the AMP monitors, coordinates and reports on development financing in a transparent way. The AMP is an online tool managed by the Ministry of Planning and Investment (MPI). In 2012, the Government was able to produce its Foreign Aid Implementation Report (FAIR) written almost entirely with data collected from AMP. The AMP currently covers project and programme descriptions, project activities receiving foreign funding, total commitment amounts, funding plans and disbursements, location, MDG alignment, sector, type of assistance, individual contributions from other organizations, implementing agencies, and key information for each activity. It is still being developed and needs to include some key partners, such as additional OECD/DAC members (e.g. Canada and Norway), and South-South Cooperation partners (e.g. China, India, Singapore, the Philippines, Vietnam). The development finance data from AMP might not be directly comparable with those collected in previous years,[9] but overall the data sets do provide general trends and establish baselines. The FAIR report in 2011/12 includes both official ODA as well as some development assistance received through South-South Cooperation, whereas the 2010/11 report does not contain South-South Cooperation financing.

8.4.2. ODA trends and flows

Net ODA and official aid to Lao PDR have increased in amount over the past two decades, but have declined in terms of the proportion of GDP (Figures 8.3 and 8.4). The decline in ODA as a proportion of GDP and GNI is due to the steep increase in the country's GDP, which has grown by a factor of nearly ten times from the 1990s (in current US dollar terms). Over the same period, the ODA has grown by about three times (in constant 2010 US dollar terms for the period before 2000 and current US dollar terms thereafter). The increased levels of ODA means that despite the growing population between 2005 and 2012, ODA per capita has increased, with an average value of US$ 108 ODA per capita in 2012 (Figure 8.5).

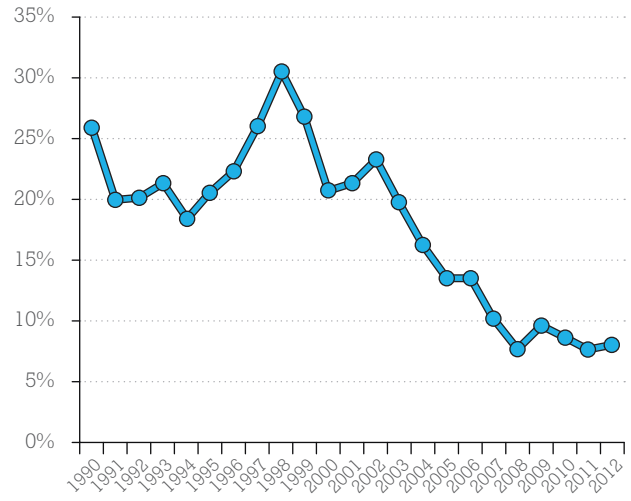
The proportion of ODA allocated to the health and education sectors has increased from 13 per cent in 2000 to 32 per cent in 2012. This is a proxy indicator for the proportion of ODA going to basic social services, as it was not possible to distinguish within the sector the ODA allocations made to basic services or other types of support; for example, between ODA allocated to primary health care services or tertiary health care (figure 8.6).

Figure 8.3.
ODA received in million US$
(current US$ for 2000-2012, constant 2010 US$ for earlier years)



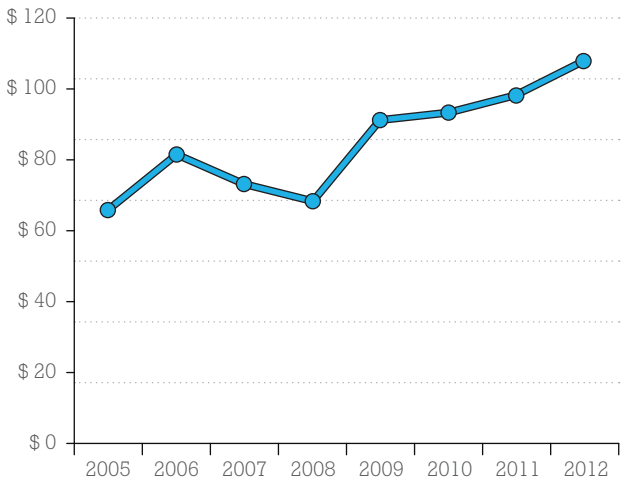
Source: DIC-Ministry of Planning & Investment (2000-2012) and WDI. (1990-1999). FAIR data updated with non OECD partners by MPI, 13 May 2013.

Figure 8.4.
ODA received as a proportion of GDP



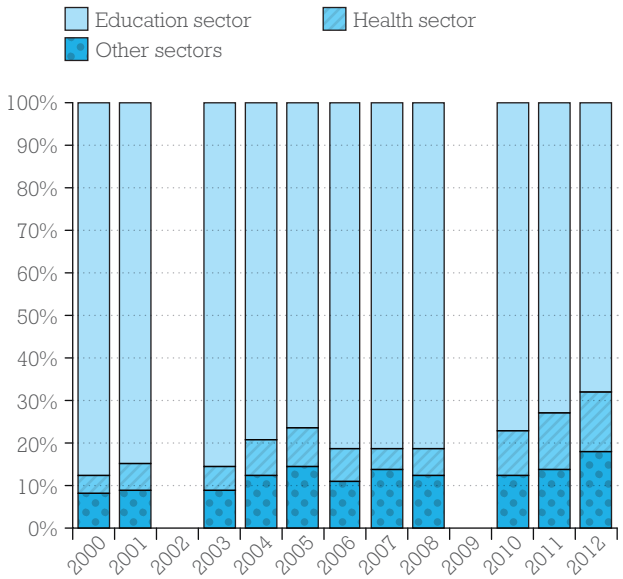
Source: ODA data from DIC-Ministry of Planning & Investment (2000-2012) in current US$ and WDI (1990-1999) in constant 2010 US$. FAIR data updated with non OECD partners by MPI , 13 May 2013. 2010-2012 GDP in current US$ from Lao Statistics Bureau and from Ministry of Planning & Investment. GDP for earlier years in current US$ from WDI-World Bank

Figure 8.5.
ODA received in US$ per capita



Source: ODA data from DIC-Ministry of Planning & Investment (2000-2012, current US$) and WDI. (1990-1999, in constant 2010 US$). FAIR data updated with non OECD partners by MPI , 13 May 2013. Population data from Lao Statistics Bureau , Ministry of Planning and Investment

Figure 8.6.
Proportion of ODA allocated to health and education sectors



Source: DIC-Ministry of Planning & Investment.

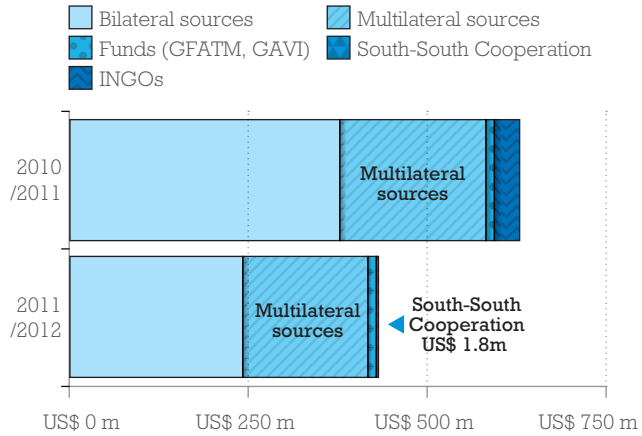
Bilateral and multilateral sources accounted for 92 per cent and 96 per cent respectively of development assistance in 2012 (Figure 8.7). Some 80 per cent of development assistance in 2011/12 was received as grants. In the same period, 93 per cent of the planned disbursements on ODA were actually disbursed. There is a much larger gap between the Government's ODA target and the ODA received: for 2011/12, the disbursed ODA accounted for only 61 per cent of ODA vis-à-vis the Government's plan of US$ 703 million, as reported to the National Assembly.

In 2011/12, some two-thirds of total development assistance were channelled directly through government line ministries as implementing agencies (Figure 8.8). Line Ministries play a crucial role in translating the NSEDP into sector strategies, and overseeing the implementation of key interventions through the effective utilization of Sector Working Groups. Those receiving the most ODA were the Ministry of Public Transportation, Ministry of Health, Ministry of Education and Sports, Ministry of Agriculture and Forestry, and Ministry of Energy and Mines.

Sector-wise, infrastructure received the most funding, followed by education, then agriculture and rural development (Figure 8.9). The difference between the funds received by ministries and the funds received by the sectors is a measure of the funding not provided through line ministries. Thus, the education and the environment sectors received significant funding, not only through the respective ministries, but also through other entities. The differences also reflect the non-equivalency of ministries and sectors: some ministries cover more than one sector, and some sectors involve more than one ministry.

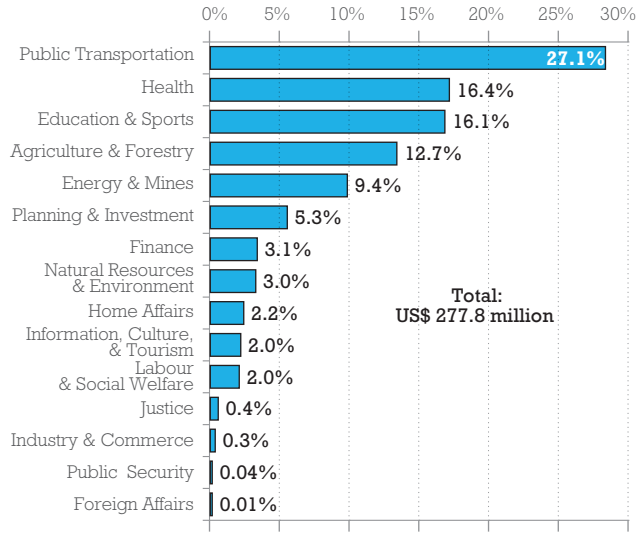
The ODA allocations by MDG show a variable pattern that may need further clarification (Figure 8.10). In some cases, the differences between sector allocation and MDG allocation are clear. MDG 7 on sustainable development and environment receives a greater share (11.2 per cent) than that in the sector chart (8.5 per cent), because Goal 7 more than one "sector." For example, MDG 7 includes part of the agriculture and rural development sector, notably forest conservation and fisheries, and may even include parts of the governance sector. Funding for health as a sector (13.5 per cent) is split into smaller amounts between MDGs 4, 5, 6 and possibly MDG 1 (nutrition). Maternal health, although it is an off-track goal, received only 3.2 per cent of total ODA for 2011/12. Clearly, more clarity would be needed on the criteria used for assigning funding to one MDG or another. Further development of the AMP should consider disaggregating Goal 1 into its three components of

Figure 8.7.
Percentage and amount of disbursed ODA, by source of funding, 2011-2012



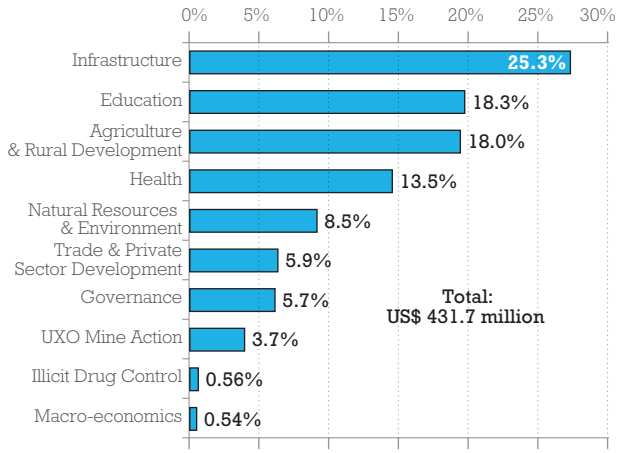
Source: Lao PDR -FAIR, Ministry of Planning and Investment, 25 April 2013. Does not include some development partners

Figure 8.8.
Percentage of ODA disbursed to ministries, by ministry, 2011-2012



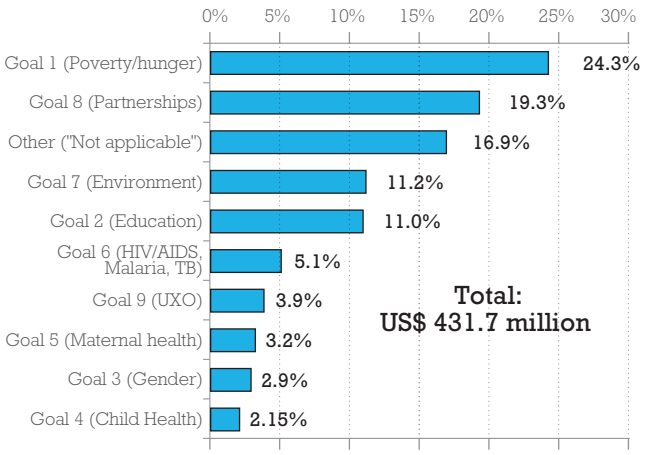
Source: Lao PDR -FAIR, Ministry of Planning and Investment, 25 April 2013. Does not include some development partners

Figure 8.9.
Percentage of ODA disbursed to sectors, by sector working group, 2011-2012



Source: Lao PDR -FAIR, Ministry of Planning and Investment, 25 April 2013. Does not include some development partners

Figure 8.10.
Percentage of ODA disbursed for each MDG area, 2011-2012



Source: Lao PDR-FAIR, Ministry of Planning and Investment, 25 April 2013. Does not include some development partners

poverty, employment and hunger/nutrition, since the progress differs markedly between these three. The AMP may also need to strengthen its linkages with the performance monitoring of outcomes in the NSEDP and refine the criteria for categorizing ODA allocations as one MDG or another.

8.4.3. Institutional strengthening

Much more support needs to be provided to strengthen government systems for monitoring and reporting ODA, so that development partners become more confident about direct budget support. Globally, the proportion of development assistance channelled through general budget support indicates the extent to which development partners are willing to place their trust in government systems. The AMP shows that only 0.9 per cent of ODA was directly channelled to the country as budget support, the rest being project support (98.9 per cent) and pooled funding (0.2 per cent). Yet the Paris Declaration, Vientiane Declaration, and the Busan High Level Forum on Aid Effectiveness all emphasize the lead role of developing countries in overseeing national development efforts.

Strengthening the Government's ability to improve the link between national planning and budgeting processes will require a higher degree of aid predictability. Aid predictability is an important component of the Cooperation for Effective Development agenda. During 2011/12, only 31 per cent of development partners achieved actual disbursement amounts within 10 per cent of planned disbursements. This low degree of predictability poses a threat to the effective implementation of the development agenda. Better projections of aid for the medium term could support the development of a fully costed NSEDP based on a realistic resource envelope.

The AMP needs to capture better the development assistance that flows through NPAs and INGOs. The Ministry of Home Affairs has registered 102 NPAs to date. In 2011/12, development partners channelled approximately 5 per cent of development assistance through NPAs and/or International NGOs as implementing agencies. The AMP only captures funds disbursed to NPAs and/or INGOs from the 33 development partners currently involved in providing regular updates through the AMP on-line system. Therefore, it does not yet provide a comprehensive picture of the NGO sector. A number of international NGOs also contributed to the implementation of development assistance by making individual contributions amounting to US$ 4.6 million in total.

The imminent launch of the AMP public portal is a sign of the Government's continuing commitment to transparency and accountability in managing aid. It is also an achievement in the quest to improve aid effectiveness in the Lao PDR. The public portal will also soon be complemented by a mapping initiative to support the push toward better planning and greater coordination. The mapping will help the Government coordinate development interventions better, reduce duplication and overcrowding, and enhance policy and strategic planning processes.

8.5. Addressing debt

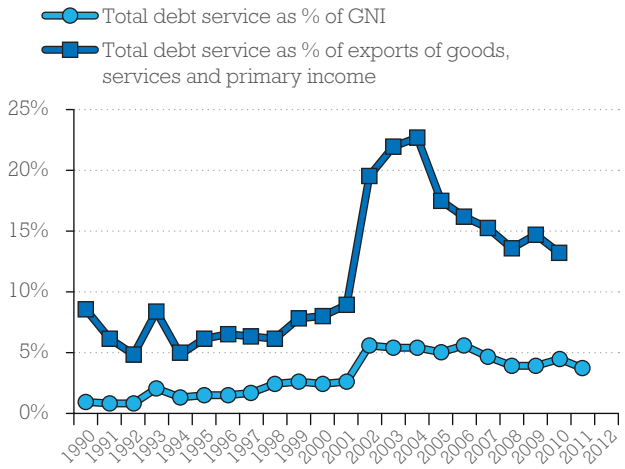
Goal 8. Develop a global partnership for development						
Target 8D: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term						
	1990	1995	2000	2005	2010	Target 2015
8.12. Total debt service as % of exports of goods, services and primary income	8.55%	6.12%	7.96%	17.41%	13.24%	

Data sources:
Indicator 8.12. World Bank International Debt Statistics

An important part of Lao PDR's external debt is related to viable large projects in the resource sector, which are expected to generate high economic returns upon completion. In addition, the relatively long maturity profile of the loans also helps to mitigate risks of debt distress. Lao PDR's debt service ratios remain comfortably within the policy-dependent indicative thresholds of the Debt Sustainability Framework (DSF) for low-income countries[10] due to the high level of concessionality of official borrowing. Figure 8.11 shows the trends in total debt service as a proportion of GNI and as a proportion of exports of goods, services and primary income.

The World Bank and IMF assessment[11] noted that key indicators of Lao PDR's external public and publicly guaranteed (PPG) debt stock had improved due to strong macroeconomic performance. The present value of debt was 37 per cent of GDP or 86 per cent of exports at end-2010, down from 43 per cent of GDP or 129 per cent of exports at end-2009. Strong economic growth, appreciation of the Lao Kip, and favourable external conditions all contributed to the decline in the ratio of external PPG debt-to-GDP over the past few years. The assessment noted that the increasing presence of emerging-market creditors underscored the need to strengthen debt management capacity, particularly to ensure that debt sustainability considerations are taken into account when new debt is contracted. Lao PDR has been reclassified from a high risk to a moderate risk of debt distress.

Figure 8.11.
Total debt service



Source: World Bank International Debt Statistics

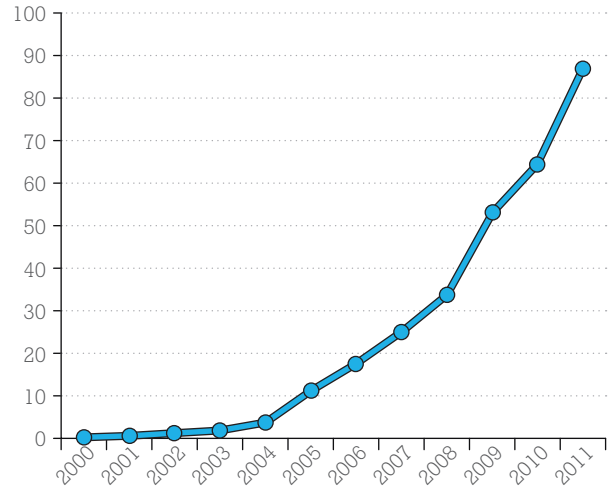
8.6. Benefitting from new technologies

Goal 8. Develop a global partnership for development						
Target 8F. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications						
	2000	2003	2005	2008	2011	Target 2015
8.13. Telephone lines per 100 population	0.7688	1.2497	1.5783	2.1222	1.7119	
8.14. Cellular subscribers per 100 population	0.2385	2.0114	11.429	33.579	87.163	
8.15. Internet users per 100 population	0.111	0.3339	0.8504	3.55	9	
					2011	
8.16. Exposure to radio* (%)						
Men					42.4%	
Women					34.3%	
					2011	
8.17. Exposure to TV* (%)						
Men					76.3%	
Women					75.7%	
8.18. Use of computer within last 12 months (%)						
Men					15.9%	
Women					13.9%	
8.19. Use of internet within last 12 months (%)						
Men					9.4%	
Women					7.5%	

Data sources:
Indicators 8.13 to 8.15. International Telecommunication Union (ITU), based on country reports
Indicator 8.16 to 8.19. Lao Social Indicators Survey (LSIS 2011/12), Lao Statistics Bureau, Ministry of Planning & Investment

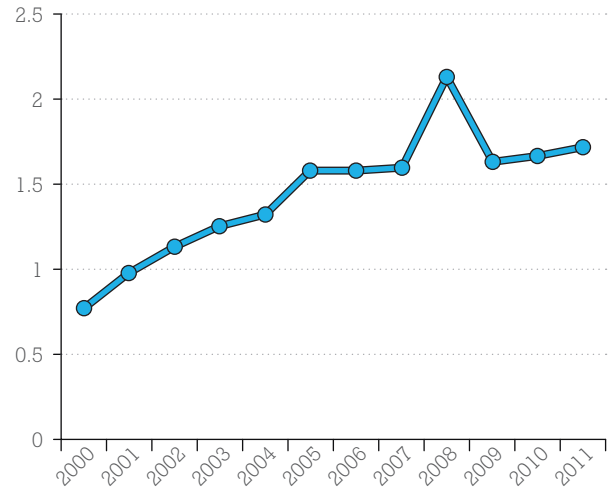
Lao PDR shows rapid progress in expanding access to ICT (Figures 8.12, 8.13 and 8.14). The access to mobile telephony, in particular, has grown rapidly. From 2005, for example, coverage increased by an average rate of 41 per cent from one year to the next. In 2011, 87 per cent of the population had mobile cellular subscriptions. The expansion of internet access has been even more rapid, having grown at an average rate of 51 per cent annually, up to 9 per cent of the population in 2011. Fixed line telephone coverage has increased at the slower pace of an average 5 per cent a year since 2005. Fixed-telephone subscriptions are still a critical infrastructure indicator, providing a basis for upgrading to fixed-broadband infrastructure.

Figure 8.12.
Mobile cellular subscriptions per 100 people



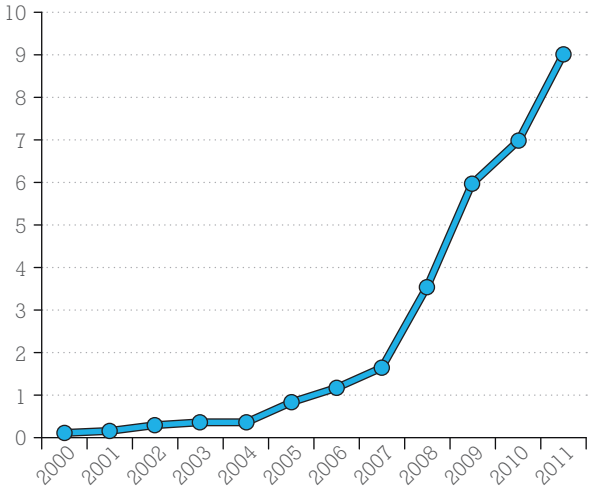
Source: International Telecommunication Union

Figure 8.13.
Telephone lines per 100 people



Source: International Telecommunication Union

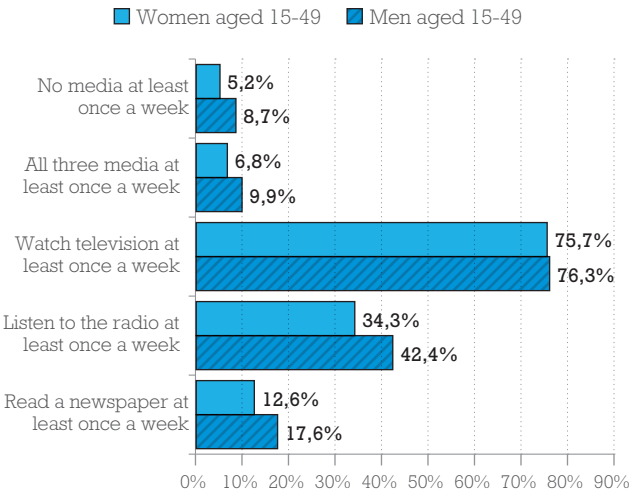
Figure 8.14.
Internet users per 100 people



Source: International Telecommunication Union

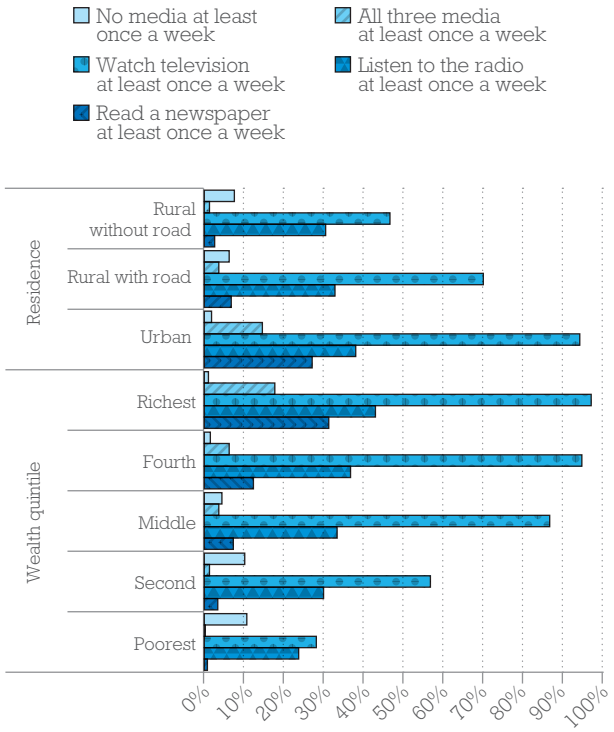
After mobile telephones, television has the highest penetration, reaching 76 per cent of the population. Radio reaches a third of the population (Figure 8.15). A small proportion of the total population (5 per cent of women and 9 per cent of men) do not have access to radio, TV or newspapers. In most cases, men have slightly greater access to media than women do; however, the patterns are not consistent. Some 23 per cent of men from the poorest quintile have no access to any media but only 11 per cent of the women from the poorest quintile are disadvantaged in this way. This could be due to less leisure time among the men from the poorest quintile. Television is especially pervasive: even in the poorest quintiles, around one-third of households watch television at least once a week. In remote rural areas without road access, around 47 per cent of the population (both men and women) watch television at least once a week (Figure 8.16). A higher proportion of men are able to

Figure 8.15.
Percentage of men and women exposed to media, 2011



Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 8.16.
Percentage of women aged 15-49 years exposed to media, by wealth quintile, 2011



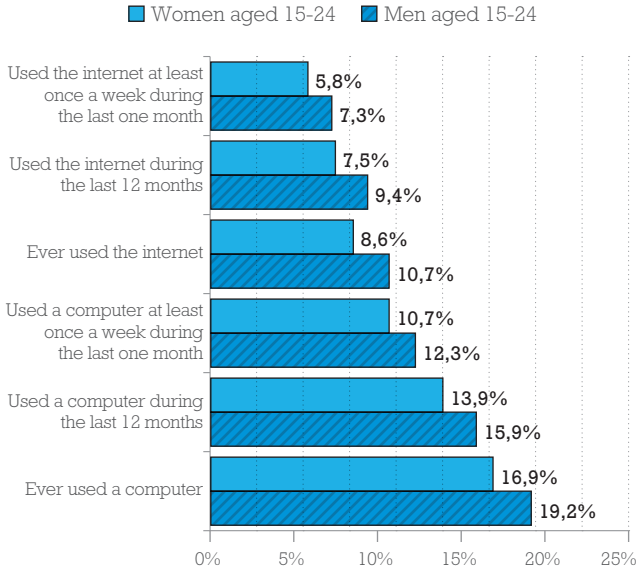
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

listen to the radio and read newspapers compared to women. However, this phenomenon might be due to several reasons, and not just access and literacy. A literate woman may have equal access to a newspaper in the community as does a literate man, but the woman may not read it for various reasons (lack of time, disinterest, unwillingness to borrow from the neighbour, etc.). On the other hand, amongst those who have only a primary school education, a significantly higher proportion of women (75 per cent) watch television once a week than do men (66 per cent). It would therefore be difficult to make generalized assumptions that women have less leisure time or less access to media than men do.

Household survey results support the estimates of increasing internet penetration. Around 8 per cent of women and 9 per cent of men used the internet during the past 12 months (Figure 8.17). Slightly higher proportions (16 per cent of men and 14 per cent women) use the computer during the same period. Even in the poorest quintiles, a small proportion is able to use the internet, more often men than women (Figure 8.18).

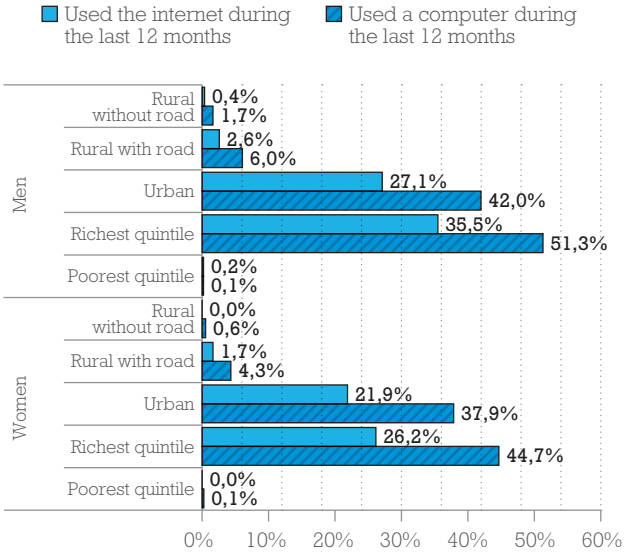
Lao PDR's rapid economic growth and increasing openness is therefore translating into rapidly expanding use of mass media and ICT, even amongst the poor. The disparities in media and ICT access seen amongst the different socio-economic groups generally reflect the disparities in poverty, ease of access, leisure time and literacy. Gender patterns in the use of mass media are not consistent across different socio-economic groups, and may reflect disinclination or desire (which are influenced by culture and tradition), rather than access in the traditional sense.

Figure 8.17.
Percentage of men and women having used the computer/internet, by frequency of use, 2011



Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Figure 8.18.
Percentage of young women & men aged 15-24 years having used the computer/internet within the past year, by wealth quintile & residence, 2011



Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

MDG9. Reduce the Impact of UXO

9.1. Summary

In per capita terms, Lao PDR is the most heavily bombed country in the world. Four decades after the Indochina war ended, unexploded ordnance (UXO) continues to pose a major humanitarian threat and a significant obstacle to the development of the country. Reducing the impact of UXO on communities has become the ninth Millennium Development Goal specific to Lao PDR. Effective action in this area will contribute significantly to the achievement of most MDGs as well.

The 2008 National UXO Survey indicated some 50,136 casualties from 1964 to 2008, with the bulk of casualties between ages 15 and 35 years. The survey recorded approximately 20,000 survivors, and there are an estimated 12,000 survivors alive today. The National Regulatory Authority for UXO/Mine Action in Lao PDR (NRA) established the UXO Survivor Tracking System in 2010. Effective risk education and the clearance of high-risk areas have led to a significant reduction in casualties in recent years.

However, the most daunting challenge remains the magnitude of the UXO problem in the Lao PDR. In the past 40 years, less than 2 per cent of contaminated areas have been cleared. The Government of Lao PDR has set a clearance target of 20,000 hectares a year. This target, however, is still far from being met. Meeting it will require almost a four-fold increase in survey and clearance activity.

Overall, meeting the national UXO targets will require a significant scaling up of resources and capacities, with greater attention to the principles of the Vientiane Declaration on Aid Effectiveness. The challenge in the longer term will be to maintain national capacity whilst gradually reducing international support, and mainstreaming UXO action into sustainable socio-economic development strategies and programmes

9.2. MDG 9 at a glance

Goal 9: Reduce the Impact of UXO in Lao PDR in accordance with the National Strategic Plan for the UXO sector "The Safe Path Forward II"

Target 9A: Ensure the complete clearance of UXO from priority / high value agricultural land by 2020

	1999	2005	2007	2009	2011	Target 2015
9.1. Number of hectares released from UXO contamination (hectares per year)	580.77	1,575.95	2,557.43	7,834.14	6,034	20,000

Target 9B: Reduce substantially the number of casualties as a result of UXO incidents

	1999	2005	2007	2009	2011	Target 2015
9.2. Number of casualties reported as result of UXO incidents (casualties per year)	257	258	250	120	99	< 75

Target 9C: Ensure that the medical and rehabilitation needs of all UXO survivors are met in line with treaty obligations under the Convention on Cluster Munitions

					2012	Target 2015
9.3. Provision of proper assistance to UXO survivors* Percentage of UXO survivors having received immediate medical treatment					NA	100%

Notes: *Indicator 9.3. requires other indicators, which are still being developed.
Data sources: Indicators 9.1 to 9.3. National Regulatory Authority for UXO/Mine Action sector in Lao PDR (NRA)

Box 9.1. UXO terminology

Lao PDR suffers extensive contamination from Explosive Remnants of War (ERW), including unexploded ordnance (UXO) and abandoned explosive ordnance (AXO).

- UXO is explosive ordnance that has been primed, fuzed, armed, or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason.
- AXO is explosive ordnance that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use.

The term UXO is used generically following well-established practices.

Source: National Regulatory Authority for UXO/Mine Action Sector in Lao PDR (NRA), 2010. National Survey of UXO Victims and Accidents PHASE 1. Vientiane: NRA

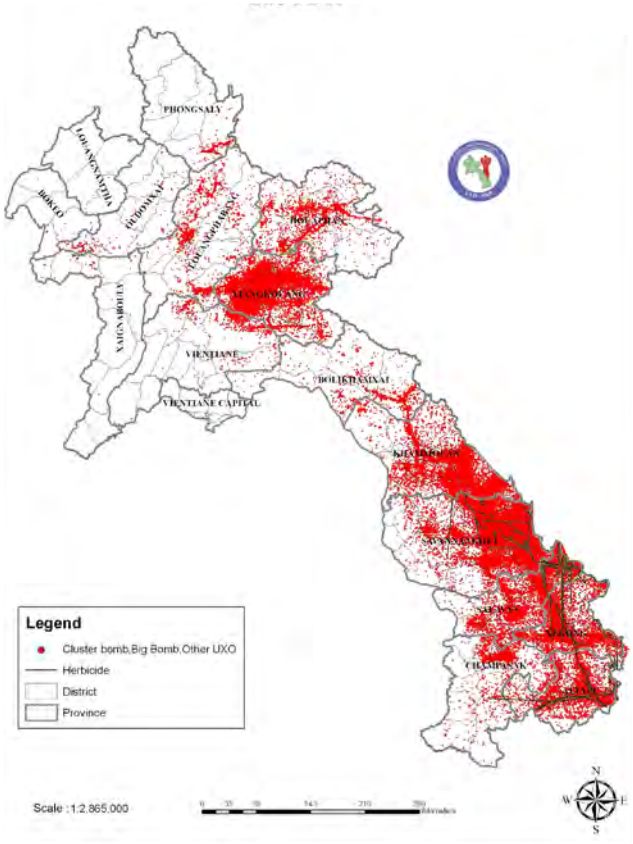
9.3. Introduction

UXOs and the other MDGs

In per capita terms, Lao PDR is the most heavily bombed country in the world. Throughout the 1964 to 1973 Indochina war, the nation suffered intensive aerial bombardment and extensive ground battles. Over a period of nine years, more than two million tonnes of ordnance were dropped (Figure 9.1). This was almost one tonne for every man, woman and child in Lao PDR at the time and eight times more than the per capita amount in Vietnam. More than 270 million cluster sub-munitions were dropped over Lao PDR, of which an estimated 30 per cent or 80 million failed to detonate upon impact.

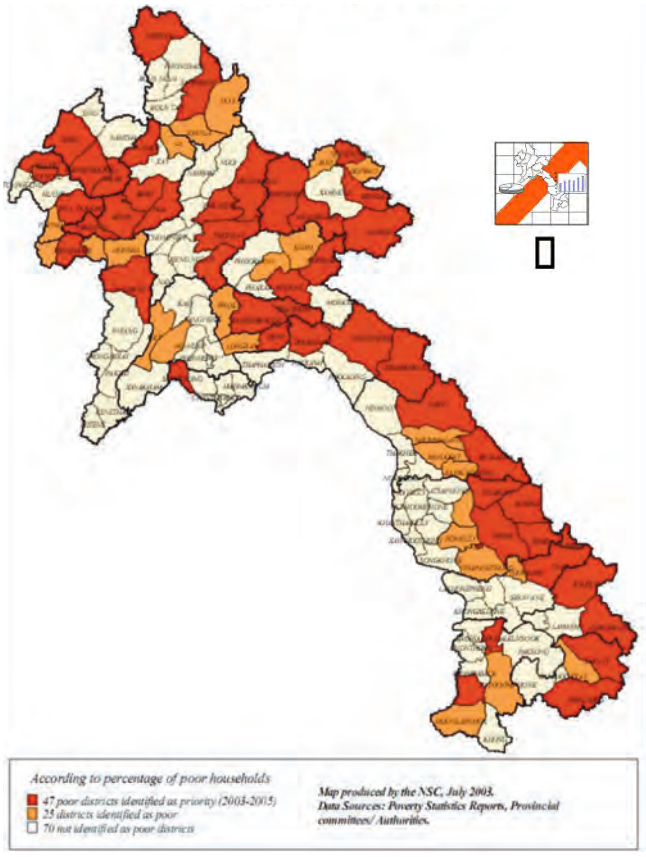
Four decades after the war, UXO continues to pose a major humanitarian threat and a significant obstacle to development. UXO limits safe access to agricultural and other land, and delays and adds to the cost of a wide range of development projects that cannot be undertaken until contaminated land is cleared. UXO therefore makes the construction of transport and power infrastructure, schools, hospitals and water supply facilities much more costly and dangerous. The areas with the highest levels of UXO contamination are most often the poorest in the country (Figure 9.2). The presence of UXO inhibits the achievement of several MDGs, as well as Lao PDR's goal of graduating from LDC status by 2020.

Figure 9.1.
US Airforce Bombing Data Map in Lao PDR



On 20 October 2010, the Vientiane High Level Round Table Meeting adopted the goal of reducing the impact of UXO on communities in Lao PDR. This became the ninth Millennium Development Goal, specific to Lao PDR. When establishing this goal, the Government of Lao PDR and development partners acknowledged that many affected communities could achieve progress and well-being *only if* the issue of unexploded ordnance were resolved. Effective action in this area will not only achieve MDG 9, but will also contribute significantly to the achievement of several other MDGs as well.

Figure 9.2.
Lao PDR: 72 districts identified as poor

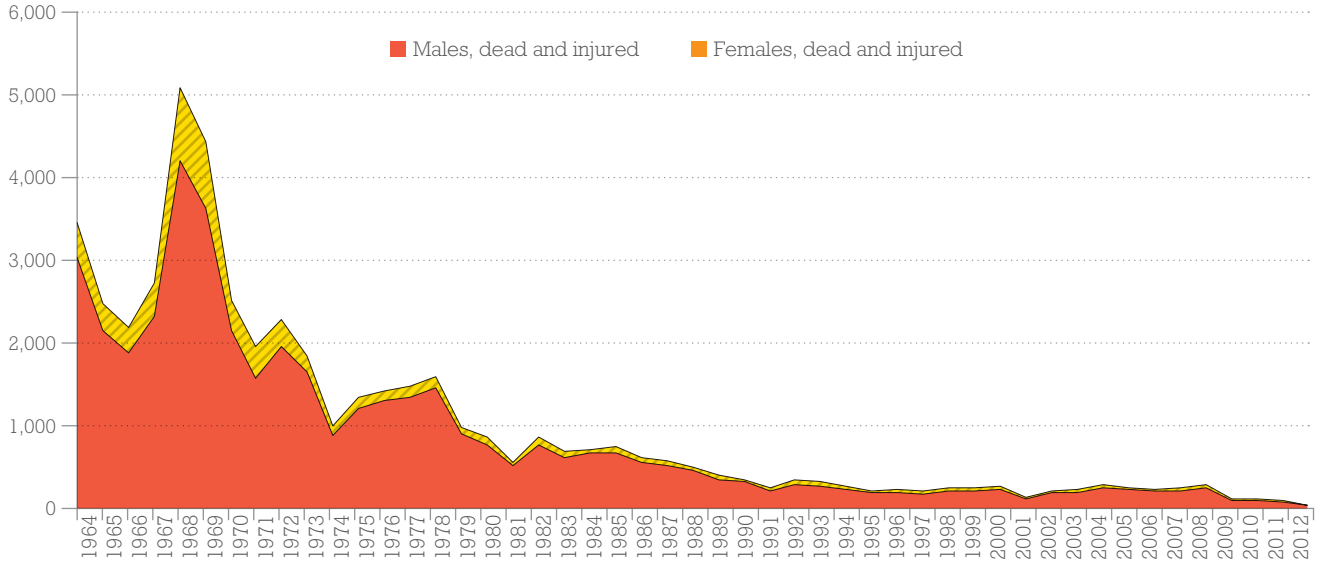


9.4. Making Lao PDR safe and secure

9.4.1. Assessment and analysis

The National UXO Survey[1] ***conducted in 2008 indicated that there were 50,136 casualties from 1964 to 2008*** (Figure 9.3). The bulk of UXO casualties were between ages 15 and 35 years. The survey recorded approximately over 20,000 survivors and there are an estimated 12,000 survivors alive today.

Figure 9.3.
Number of UXO casualties reported annually, disaggregated by sex



Source: National Regulatory Authority for UXO/Mine Action sector in Lao PDR (NRA)

Effective risk education and the clearance of high risk areas have led to a significant reduction in casualties in recent years. Whereas there were more than 300 casualties per year as recently as 2008, the number in 2012 was 56 casualties (Figure 9.4). More men and boys are affected compared to women and girls (Figures 9.3 and 9.5).

The Government of Lao PDR has set a UXO clearance target of 20,000 hectares a year. Up to 2011, a cumulative total of approximately 33,065 hectares of land had been cleared. In 2011 itself, 6,034 hectares of land was cleared. Of this, approximately 3,666 hectares were released for agriculture and 2,368 hectares for other development purposes. Clearance and roving teams destroyed a combined 186,987 items of UXO. Of this total, 288 were big bombs, 33,195 were cluster bombs, 191 were land mines and 153,313 were other types of UXO. Meeting the target of 20,000 hectares per year will mean almost a four-fold increase in survey and clearance activity (Figure 9.6).

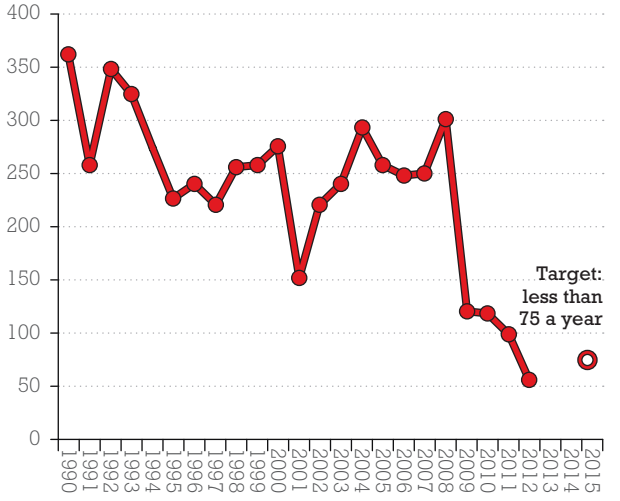
The NRA has identified 46 priority districts in nine Provinces as the most highly affected by UXO. The contaminated provinces are Attapeu, Champasack, Huaphanh, Khammuane, Luangprabang, Savannakhet, Saravane, Sekong, and Xiengkhuang. The needs are great: the 2010 survey found that amongst the many thousands of injuries sustained by survivors that required a prosthesis, only 583 survivors claimed to have received one. The survey also reported that the impact by province was very variable. By far the dominant province has been Savannakhet, where around one-quarter of the victims currently live. The second province, with about half of that number, is Xiengkhuang.

Box 9.2. UXOs and children

A significant proportion of UXO casualties are children. Children represented 41.1 per cent of all reported cases of UXO victims in 2012, 46.6 per cent in 2011 and 58 per cent in 2010.

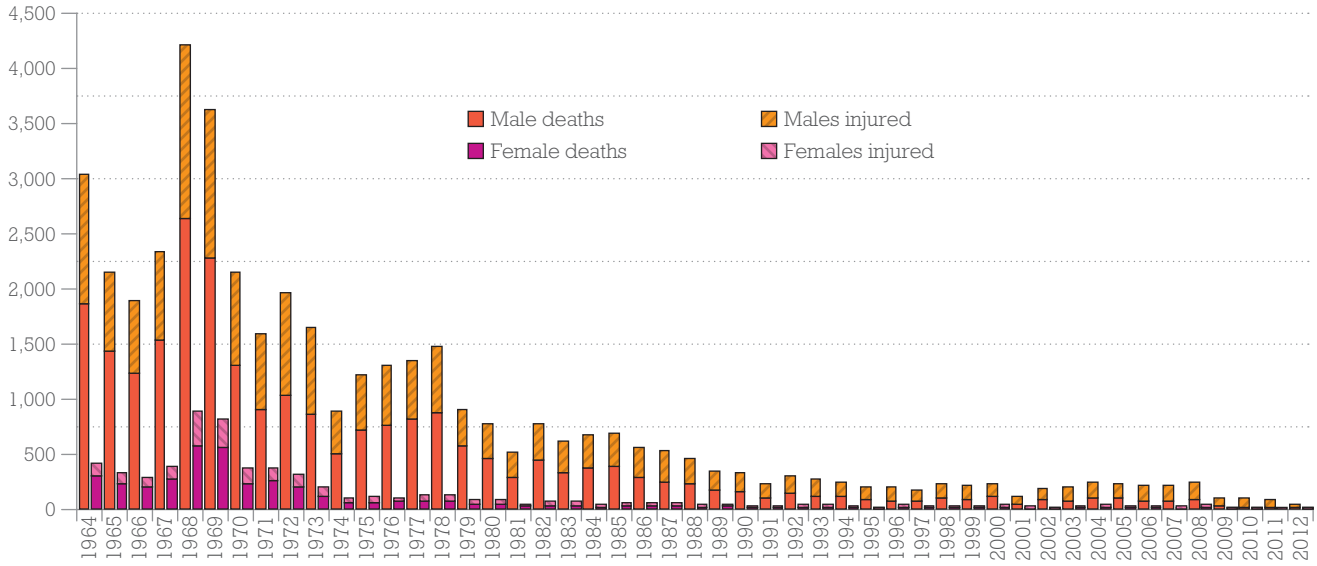
Many bombs that were dropped during the war did not explode initially; they sank into soft mud or paddy fields, only to detonate years later when accidentally struck by playing children, buffaloes or farmers. Young children are often the victims because they wander off the usual paths in their play; they may be unaware of the risks; and their innate sense of curiosity leads them to explore any strange object.

Figure 9.4.
Number of UXO casualties reported annually



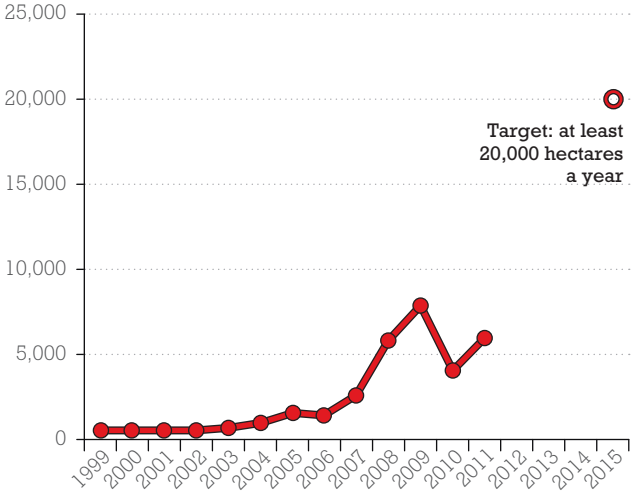
Source: National Regulatory Authority for UXO/Mine Action sector in Lao PDR (NRA)

Figure 9.5.
Number of annual reported UXO casualties disaggregated by sex, death and injury



Source: National Regulatory Authority for UXO/Mine Action sector in Lao PDR (NRA)

Figure 9.6.
Number of hectares released from UXO contamination (hectares per year)



Source: National Regulatory Authority for UXO/Mine Action sector in Lao PDR (NRA)

9.4.2. Government policies, programmes and strategies

National efforts to address the problem of UXO contamination began when the war ended in the mid-1970s. Initially, this was with assistance from the eastern countries. Wider international assistance was offered in the 1990s, first through specialist non-governmental organizations, then by other countries and UN agencies. In 1996, the Government of Lao PDR established the Lao National UXO Programme (UXO Lao), the national implementation "operator" mandated to survey and clear contaminated areas, as well as undertake risk education to raise awareness about the dangers of UXO. There are six international clearance NGOs active in the sector, as well as 11 commercial operations, which undertake survey and /or clearance operations.

In 2006, the government established the National Regulatory Authority (NRA) for the UXO/Mine Action sector in Lao PDR. The NRA regulates, coordinates, and ensures quality in all UXO activities undertaken in the country. In June 2012, the government approved a new ten-year National Strategy for the UXO sector, *The Safe Path Forward II*, which will guide the work in the sector through to 2020. This UXO sector strategy, together with a sector-wide multi-year work plan under development, will ensure that activities in the sector serve development as well as humanitarian priorities and contribute to the achievement of national goals set out in the NSEDP. The Government is also taking steps to increase its own financial contribution to the sector and engage the Lao army in humanitarian mine action in order to further develop a national sustainable capacity in this area and complement the work and support of the international community.

9.4.3. Challenges and opportunities

The most daunting challenge remains the magnitude of the UXO problem in the Lao PDR. In the past 40 years, less than 2 per cent of contaminated areas have been cleared. The Government wishes to significantly expand and increase the pace of survey and clearance in Lao PDR. It is targeting an annual budgetary increase for the sector from the current $30 million per annum to $50 million per annum. Both Government investment and additional support from the international community are required.

To monitor progress towards the third target of MDG 9, the NRA established the UXO Survivor Tracking System in 2010. This was the first time a system to track on-going comprehensive support to UXO survivors had been set up. Information on UXO survivors has been collected in 10 provinces in Lao PDR. Efforts are underway to identify the requirements and services to assist UXO survivors further. From 2010 to 2012, the NRA recorded 175 UXO incidents in Lao PDR, involving 274 people, of which 58 were killed and 216 people sustained injuries. From amongst those injured, 61 UXO survivors in 2010, 79 survivors in 2011 and 41 survivors in 2012 received immediate medical treatment from service providers. Following medical treatment, many survivors were able to access physical and psycho-social rehabilitation services and benefited from economic reintegration, vocational training and advocacy for the rights of victims. Although there is now national capacity to collect, manage and disseminate information on UXO, more accurate and comprehensive information on UXO contamination and its humanitarian and development impact on communities are still critical requirements. Further developing this capacity and ensuring that quality and timely data are accessible will be crucial. The NRA has initiated a process to further develop this capacity.

A more inclusive approach to UXO action needs to be promoted. Greater participation of women needs to be sought. There must also be greater attention to ensuring that all community members affected by UXO, directly or indirectly, have their needs addressed.

The UXO sector is well structured, and has effective mechanisms in place to regulate and coordinate the sector under the leadership of the Government. There continues to be a need, however, for better and more extensive interaction and communication with operators and the donor community. In addition to existing mechanisms such as Sector and Technical Working Groups, the NRA will initiate a policy forum for more substantive and regular communication within the UXO community, including donors.

A significant increase in resources is required. Meeting national targets will require a significant scaling up of resources and capacities, with greater attention to the principles of the Vientiane Declaration on Aid Effectiveness. The challenge in the longer term will be to maintain national capacity whilst gradually reducing international support and mainstreaming UXO action into sustainable socio-economic development strategies and programmes.

Conclusions

10.1. MDG achievement: a summary overview

The poverty target of MDG 1 is largely on track, but tailored interventions are needed for the poorest groups. At the national level, Lao PDR has seen a steady reduction in the poverty rate, the poverty gap and poverty severity over time. The overall assessment is that Lao PDR is well on track to achieving the poverty target, or has already achieved this target. On the other hand, the poor in geographically disadvantaged areas are poorer than the poor elsewhere and the severity of poverty has increased amongst the poorest. Inequality has increased in practically all population groups, largely due to the consumption attributed to the richest quintile. More equitable and inclusive growth needs to be promoted by reallocating revenues from the resource sector to broader economic and social development.

The employment sector has high levels of vulnerable employment. The high growth rates of GDP per person employed will translate into benefits for the working population only if the economic growth can create a sufficient number of decent employment opportunities with fair and equitable remuneration. Overall, rural employment development strategies need to target the working poor and address the issue of vulnerable employment. Strategies to need to start with the agriculture sector because of its predominance in employment.

The nutrition target is off track: stunting in children remains one of the biggest challenges. An estimated 44 per cent of children under five years of age are stunted with potentially serious consequences for the quality of the country's human resource capital. The rate of decline in undernutrition is too slow, at less than 1 percentage point per year, to meet national or international MDG targets. The interventions to reduce undernutrition amongst young children are complex, must reinforce each other, and must be multi-sectoral in nature. Strategic epidemiologic targeting is needed, particularly to improve maternal nutrition and ensure proper care and feeding practices for children under two years of age.

Lao PDR has made steady progress towards universal primary education coverage, but low survival rates pose a risk to MDG achievement. Lao PDR will need to address the high dropout rates, low secondary enrolment rates, the stagnation in literacy rates and the quality of education.

Gender parity has steadily improved in all three levels of education in Lao PDR. However, it is not doing so well in employment. The country is well on track to achieve parity between boys and girls in primary education. Progress is also seen at higher levels of education, although there is a significant gender gap in literacy that is generally associated with poverty. In employment, sectors characterized by vulnerable employment have the greatest proportion of women, either self-employed or engaged in unpaid work for the family. The vulnerability of women workers is due to poor education, and limited access to resources. The most prevalent form of gender discrimination in labour markets is the wage gap between male and female workers. At the decision-making level, Lao PDR has amongst the highest proportions of women in national parliaments in the region. However, the proportion of women in other decision-making institutions is still low, at 5 per cent.

Lao PDR has achieved the national MDG target for under-five mortality rate of 80 per thousand live births but still has one of the highest under-five mortality rates in the region. To achieve targets for under-five mortality that are more ambitious, Lao PDR will need to continue its current reduction rate of more than 4 percentage points a year. This will require tackling significant challenges, in particular reaching the poorer segments of the population and people living in remote areas, increasing investments in the health sector and scaling up high-impact child survival interventions nationwide, which could reduce two-thirds of child deaths.

MDG 5 on maternal health is not on track. Lao PDR still has one of the highest maternal mortality ratios in the region, despite the positive trend of maternal and reproductive health service indicators. The issues are the still-low levels of achievements for each indicator and the poor quality of health services. Interventions required are those that can achieve high population coverage, improve the quality of services, promote facility-based delivery and prevent high risk and unwanted pregnancies. In this regard, family planning alone could cut maternal deaths by almost a third. Family planning is, therefore, one of the most cost-effective interventions to help reduce maternal mortality.

The current prevalence of HIV is low but there is little reason for complacency, as the incidence is on the rise. The inequities seen in other MDG areas extend to knowledge about HIV and AIDS as well. Men are better informed on HIV/AIDS than are women and knowledge levels have not increased significantly over the past decade. Condom use rates are high in commercial sex, but lower in casual sex. Stigma and discrimination make it much hard to control the epidemic. Antiretroviral therapy coverage has increased but still needs to improve. The problem appears to be inadequate reporting and identification, and insufficient demand. To reach the national targets by 2015 on HIV and AIDS, Lao PDR will need to promote strategic partnerships with key affected populations and decision makers; address mother to child transmission; secure access to treatment for all and increase the domestic financial contribution.

Recent years have seen steep declines in malaria mortality and incidence, but outbreaks in the south threaten this progress. Since December 2011, malaria outbreaks in the five southern provinces have been associated with changes in land use and the influx of migrant workers. Further investments in health will required to tackle the new challenges brought by rapid development. Overall, effective malaria prevention and treatment strategies have led to the widespread use of bed nets amongst adults and children, and high rates of successful treatment among children.

The incidence, prevalence and mortality rates of tuberculosis in Lao PDR show a steady decline. However, there are still challenges. The TB prevalence has been found to be nearly two times higher than previously estimated and is extremely high amongst the elderly population. Many TB cases remain undiagnosed and untreated. Ensuring universal access to quality TB control services and supplies, and implementing drug resistance surveillance are urgent priorities.

Regarding MDG 7, the country is not on track to achieving the targets for increased forest cover, but has made a good start in terms of institutions and processes. The main drivers of forest degradation are unsustainable and illegal wood harvesting, poorly regulated timber harvesting by rural households and shifting cultivation, whilst those of deforestation are agricultural expansion, hydropower, mining, and infrastructure projects and urban expansion. Several animal species are threatened with extinction, despite the presence of expanded Protected Areas. The national process of inventorying and reporting on greenhouse gases showed that by 2000, Lao PDR had become a net emitter of CO2 from being a net sequester of CO2 in 1990. However, the country has progressed In terms of strengthening governance processes and institutions to limit the loss of forests. The role of communities is being expanded to all types of forests and sustainable forest management plans are being promoted. The Forest Resource Development Fund holds much promise. For the long-term financial sustainability of this Fund, it will be crucial to operationalize benefit sharing from production forests and enhance revenue stream collection from private sector investment in forest resources and infrastructure projects.

Water and sanitation coverage is generally on the rise but more attention is needed to the expected outcomes in public health. Lao PDR has steadily increased household access to safe drinking water, but will need to accelerate progress to achieve its 2015 target. The coverage by improved sanitation has increased three-fold from that in the 1990s. However, even if Lao PDR achieves the MDG sanitation target of 60%, this achievement is still unsatisfactory from a public health point of view, because of the large proportion of people practising open defecation. Achieving only 60% coverage by safe sanitation will not substantially reduce this risk.

MDG 8 is a very broad goal; in general Lao PDR continues to show progress. The country is undertaking trade mainstreaming and integration, having become the WTO's 158th member on 2nd February 2013 and actively setting the pace of ASEAN integration. There are still many constraints to further developing an open, rule-based and predictable trading and financial system: for example, border costs for import to and export from Lao PDR are still high. Net ODA and official aid to Lao PDR have increased in amount and in per capita terms over the past two decades, but have declined in terms of the proportion of GDP, owing to Lao PDR's strong GDP growth. Much more support needs to be provided to strengthen government systems for monitoring and reporting ODA, so that development partners become more confident about direct budget support. Strengthening the Government's ability to improve the link between national planning and budgeting processes will require a higher degree of aid predictability. Lao PDR continues to show rapid progress in improving access to mass media and information and communication technologies. The country's rapid economic growth and increasing openness have made these technologies widely available, even amongst the poor.

On MDG 9, effective risk education and the clearance of high-risk areas have led to a significant reduction in casualties in recent years. However, the most daunting challenge remains the magnitude of the UXO problem in the Lao PDR. In the past 40 years less than 2% of contaminated areas have been cleared. The Government of Lao PDR has set a clearance target of 20,000 hectares a year. This target, however, is still far from being met. Overall, meeting the national UXO targets will require a significant scaling up of resources and capacities.

10.2. Towards LDC graduation

In order to be eligible for graduation a country must cease to meet not just one, but two out of the three criteria, except in cases where GNI per capita is at least twice the graduation threshold levels. The eligibility for inclusion as an LDC is determined only once, whereas the eligibility for graduation from the LDC category has to be observed over two consecutive triennial reviews. In addition to the GNI per capita, the two other criteria, as mentioned in Chapter 1, are the EVI and the HAI.

• EVI attempts to capture the relative risk posed to a country's development by exogenous shocks. The EVI is a composite index composed of eight indicators weighted according to guidelines set by the UN. For Lao PDR, the indicator on the share of population living in low-elevated coastal zones is irrelevant, leaving seven EVI indicators as follows: the share of population living in low-elevated coastal zones, the instability of exports, the share of the population that has been victim of natural disasters, the instability of agricultural production, the population size, remoteness (that is, the trade-weighted minimum distance for a country to reach a significant fraction of the world market), the merchandise export concentration, and the share of agriculture, forestry and fisheries in GDP.

• The HAI is a composite index comprising four equally weighted indicators: adult literacy rate, under-five mortality rate, secondary education gross enrolment ratio and the percentage of population that is malnourished.

Achieving the MDGs paves a critical path to graduation.

2015 will be a critical year for determining LDC graduation by 2020. This is because of the six-year graduation process. The UN-CDP considers each LDC in its triennial review. All LDCs that meet the graduation criteria are informed after the first review - and those countries that are confirmed eligible for the second consecutive time are then recommended for graduation. Thus the process takes six years from the time a country becomes eligible. In practical terms, Lao PDR will need to be considered ''pre-eligible'' at the triennial review in 2015, in order to be ''fully eligible'' at the triennial review in 2018. Only then will it be able to graduate from LDC ranks by 2020.

It is extremely difficult to make predictions about LDC graduation because EVI and HAI are relative to those for other countries. Only one criterion – the GNI per capita – is an absolute measure. The score and ranking of Lao PDR on EVI and HAI depend not only on its own progress, but also on the progress made by all other countries. The UN-CDP takes the information on all developing countries into account and then determines the score and ranking of countries based on a reference group of selected countries and LDCs. This is an important principle of LDC graduation, meaning that Lao PDR's progress in HAI and EVI will be compared with those of other countries.

10.3. The way forward, 2013–2020

Each chapter in this MDG Progress Report has highlighted the actions required and the opportunities and constraints to achieving progress towards the MDG target.

The need for sustainable financing is one issue that cuts across several sectors. The Government recognizes this and is increasing its expenditure in the social sectors, as seen in the chapters on MDG 2 and MDG 4. Lao PDR's strong economic growth provides an opportunity to further increase budget allocations to these sectors. How effectively the increased resources are used will be equally important.

Efforts will need to focus on reaching the most vulnerable groups amongst the poorer segments of population and in the remote rural areas. Coordination mechanisms need to ensure that the efforts of all development partners are complementary and synergistic. This applies across all sectors and all goals, but especially to complex and seemingly intractable problems such as high maternal mortality and high malnutrition.

Broadly speaking, the current situation of the MDGs is already shaping the agenda for the post-2015 period. Actions will need to continue on what may be termed the ''unfinished business'' of the MDGs, which will be part of the post-2015 agenda under one form or another. The first section of this chapter summarizes Lao PDR's progress in each goal area. In addition, various chapters of this Progress Report have reviewed the emerging issues and challenges linked to rapid economic development. Many of these are cross-cutting issues, such as the trafficking of women and children, the special vulnerability of migrant workers, and the degradation of the environment. All of these – the unfinished business of the MDGs and the Millennium Declaration – will form a large part of the ''What'' in the post-2015 period agenda.

More attention will need to be paid to the "how" in the coming period: how to reach the most vulnerable groups, how to address the inequities, and how to achieve the sustained well-being of vulnerable groups. Only then will the full promise of the Millennium Declaration be realized.

Glossary

AEC	ASEAN Economic Community
AEM	Asian Epidemic Model
AIDS	Acquired immunodeficiency syndrome
AMDD	Averting Maternal Death and Disability Program (Columbia University and International Federation of Gynaecology and Obstetrics)
AMP	Aid Management Platform
AQUASTAT	FAO's global information system on water and agriculture
ASEAN	Association of South East Asian Nations
ASLO	Assessment of Student Learning Outcome
ATIGA	ASEAN Trade in Goods Agreement
AXO	Abandoned explosive ordnance
BCG	Bacille Calmette–Guérin vaccine (against tuberculosis)
BEmONC	Basic emergency obstetric and newborn care
CBHI	community-based health insurance scheme
CCM	Country Coordination Mechanism
CCR	Cohort completion rate
CDP	United Nations Committee for Development Policy
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CEmONC	Comprehensive emergency obstetric and newborn care
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CH4	Methane
CHAS	Center for HIV/AIDS/STI, Ministry of Health Lao PDR
CMPE	Centre for Malariology, Parasitology and Entomology, Ministry of Health
CO	Carbon monoxide
CO2	Carbon dioxide
COMMIT	Coordinated Mekong Ministerial Initiative against Trafficking
CRC	Convention on the Rights of the Child
DAC	Development Assistance Committee of OECD
DESA	United Nations Department of Economic and Social Affairs
DHS	Demographic and Health Surveys
DIC	Department of International Cooperation
DOTS	Directly Observed Treatment Short Course
DPT-HepB-Hib	Diphtheria, Pertussis, Tetanus, Hepatitis B, Haemophilus influenza type B vaccine
DSF	Debt Sustainability Framework of the World Bank /International Monetary Fund
DTIS	Diagnostic Trade Integration Study
ECD	Early childhood development
ECE	Early childhood education
EFA	Education for All
EMIS	Education Management Information System
EmONC	Emergency obstetric and newborn care
ERW	Explosive remnants of war
ESDF	Education Sector Development Framework
ESDP	Education Sector Development Plan

ESIA	Environmental and Social Impact Assessment
ETPR	Employment to population ratio
EVI	Economic Vulnerability Index
FAIR	Foreign Aid Implementation Report
FAO	Food and Agricultural Organization of the United Nations
FDI	Foreign direct investment
FIP	Forest Investment Programme, Ministry of Agriculture and Forestry
FSC	Forest Steward Council
FSW	Female sex worker
GER	Gross enrolment ratio
GFATM	Global Fund to Fight Aids, Tuberculosis and Malaria
Gg	Gigagram
GGE	General government expenditure
GGHE	General government health expenditure
GHGI	National greenhouse gas inventory
GNI	Gross National Income
GPI	Gender Parity Index
GRID	Gender Resource Information and Development Center
GSP	Generalized System of Preferences
HAI	Human Assets Index
HBFCs	hydrobromofluorocarbon
HCFC	hydrochlorofluorocarbon
HFC	Hydro fluorocarbon
HIV	Human immunodeficiency virus
IBBS	Integrated Behavioural Biological Surveillance
ICT	Information Communication Technologies
IFAD	International Fund for Agricultural Development
IHR	International Health Regulations
ILO	International Labour Organization
IMF	International Monetary Fund
INGO	International non-governmental organization
ISCO	International Standard Classification of Occupations
ITN	Insecticide treated bed net
ITU	International Telecommunications Union
IUCN	International Union for Conservation of Nature
JMP	Joint Monitoring Programme of UNICEF and WHO
KILM	Key indicators of the labour market
LAK	Lao Kip (local currency)
LDC	Least Developed Country (a United Nations definition)
LECS	Lao Expenditure and Consumption Survey(s)
LFBSS	Lao Fertility and Birth Spacing Survey
LFS	Labour Force Survey
LFTU	Lao Federation of Trade Unions
LHS	Lao Health Survey
LLDC	Landlocked Developing Country
LLN	Long lasting insecticidal bed net
LNLS	Lao National Literacy Survey

LNP+	Lao Network of People Living with HIV/AIDS
LRHS	Lao Reproductive Health Survey
LSB	Lao Statistics Bureau, Ministry of Planning and Investment
LSIS	Lao Social Indicators Survey
LWU	Lao Women's Union
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey(s)
MMR	Maternal mortality ratio
MNCH	Maternal, Neonatal and Child Health
MoAF	Ministry of Agriculture and Forestry
MoES	Ministry of Education and Sports
MoFA	Ministry of Foreign Affairs
MoH	Ministry of Health
MoLSW	Ministry of Labour and Social Welfare
MoNRE	Ministry of Natural Resources and Environment
MOU	Memorandum of Understanding
MPI	Ministry of Planning and Investment
MSM	Men having sex with men
N2O	nitrous oxide
NAR	Net attendance ratio
NBSAP	National Biodiversity Strategy and Action Plan
NCAW	National Commission for the Advancement of Women
NCCA	National Committee for the Control of AIDS
NCHS	National Center for Health Statistics, Centers for Disease Control and Prevention, USA
NCRDPE	National Committee for Rural Development and Poverty Eradication
NER	Net enrolment ratio
NGPES	National Growth and Poverty Eradication Strategy
NHSDP	National Health Sector Development Plan
NMVOCs	Non-Methane Volatile Organic Compounds
NOx	nitrous oxides
NPA	Non Profit Association
NRA	National Regulatory Authority for UXO/Mine Action in Lao PDR
NSAP	National Strategic and Action Plan (NSAP) on HIV/AIDS/STI Control and Prevention
NSCC	National Strategy on Climate Change
NSEDP	National Socio-Economic Development Plan
NSMCE	National Strategy for Malaria Control and Elimination
NTCP	National Tuberculosis Control Programme
ODA	Official development assistance
ODP	Ozone-depleting potential
OECD	Organization of Economic Cooperation for Development
ORT	Oral rehydration therapy
PES	Payment for environmental/ecosystem services
PFCs	Perfluorocarbons
PMDT	Programmatic Management of Drug-Resistant TB
PPP	Purchasing power parity

REDD /UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
RIES	Research Institute for Education Sciences, Ministry of Education & Sports
RTIM	Round Table Implementation Meeting
RUTF	Ready-to-use therapeutic foods
SASS	State Authority Social Security scheme
SF6	Sulphur hexafluoride
SNA	System of National Accounts
SOx	Sulphur oxides
SSO	Social Security Organisation scheme
STIs	Sexually transmitted infections
TB	Tuberculosis
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
TVET	Technical and vocational education and training
UIS	UNESCO Institute of Statistics
UNAIDS	Joint United Nations Programme on HIV/AIDS
UN-CDP	United Nations Committee for Development Policy
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
UNGASS	United Nations General Assembly Special Session
UNICEF	United Nations Children's Fund
UXO	Unexploded ordnance
WAU	World Around Us (natural and social science topics)
WDI	World Development Indicators database, World Bank
WFP	World Food Programme
WHO	World Health Organization
WTO	World Trade Organization

Notes

Introduction

1. United Nations (2000).
2. United Nations (2001b).
3. Government of Lao People's Democratic Republic (2010b)
4. Government of Lao People's Democratic Republic (2010b)
5. Lao Statistics Bureau (LSB), Ministry of Planning and Investment, 2012 projection.
6. Lao Statistics Bureau (2010). Labour Force and Child Labour Survey.
7. Ministry of Agriculture and Forestry (2012).
8. Seasonal crops have a less than one-year growing cycle, where the land must be newly sown or planted for further production after the harvest. Perennial crops do not have to be replanted for several years.
9. Source: LSB estimates from census.
10. Lao Statistics Bureau (2012b). Lao Social Indicators Survey (LSIS 2011/12).
11. LSIS, 2011-12
12. LSIS, 2011-12
13. UNFPA (2011)
14. LSB estimates of total population growth.
15. Urban population estimate for 2011 by United Nations Population Division, United Nations Statistical Division and United Nations World Urbanization Prospects.
16. Asian Development Bank (2011)
17. Source: LSB
18. LSIS, 2011-12
19. World Bank, GNI per capita, Atlas method (current US$) in World Development Indicators Database.
20. World Bank (2013a).
21. World Bank (2012).
22. Ministry of Planning and Investment (2013)
23. Asian Development Bank (2011)
24. Lao Statistics Bureau (2010b)
25. Government of Lao People's Democratic Republic (2006).
26. United Nations (2003).
27. The ordnance contaminating Lao PDR is termed explosive remnants of war and includes both unexploded ordnance (UXO) and abandoned explosive ordnance. However, the term UXO is used generically, following well-established practice.

MDG 1. Eradicate Extreme Poverty and Hunger

1. Sen (1976)
2. Alkire & Foster (2009)
3. Ahmed et al. (2009)
4. WHO (2006)
5. WHO, UNICEF and United Nations University (2001)
6. Kabeer (2008)
7. The $1.25 poverty line used here was calculated by LECS 4 at private consumption purchasing power parity for 2005, then deflated to 2002/3 levels using national Consumer Price Index data. It was adjusted to account for differences in the cost of living between areas and between and within survey years using the national poverty lines, which already adjust for this temporal and spatial variation.
8. National Growth and Poverty Eradication Strategy, Lao PDR (2004). See section on Government policies, programmes and strategies.
9. Lao Statistics Bureau (2010b)
10. Lao Statistics Bureau (2010b)
11. Participatory Poverty Assessments, 2000 and 2002, National Growth and Poverty Eradication Strategy, June 2004.
12. Lao Statistics Bureau (2010b)
13. Ministry of Agriculture and Forestry (2012)
14. Ministry of Agriculture and Forestry (2012)
15. Ministry of Agriculture and Forestry (2012)
16. Government of Lao People's Democratic Republic (2010c)
17. Government of Lao People's Democratic Republic (2012a)
18. National Growth and Poverty Eradication Strategy.
19. Duangmany, O.N. and V. Sisoulath (2012)
20. Asian Development Bank (2011)
21. Davading (2009)
22. King and van de Walle (2010)
23. Ministry of Agriculture and Forestry (2012)
24. King and van de Walle (2010)

25. Ministry of Planning and Investment and UNDP (2009)

26. The definition of "economic activity," as used in the 2010 Labour Force Survey, is the one adopted by the Thirteenth International Conference of Labour Statisticians. It is defined broadly in terms of the production of goods and services as set forth in the System of National Accounts (SNA). Persons are considered economically active if (and only if) they contribute or are available to contribute to the production of goods and services falling within the SNA production boundary. The SNA production boundary includes production of all services by market enterprises, government and non-profit institutions. However, it excludes the production of almost all services for own final consumption within the same household. Domestic and personal services produced by employing paid domestic staff are included within the SNA production boundary.

27. International Labour Organization (ILO) Key Indicators of the Labour Market (KILM) www.ilo.org/kilm Accessed April 2013.

28. Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013

29. ILO (2009)

30. Ministry of Labour and Social Welfare, Lao PDR, as cited in: ILO (2011)

31. Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013

32. Rutstein and Johnson (2004)

33. As defined by ILO, elementary occupations consist of simple and routine tasks, which mainly require the use of handheld tools and considerable physical effort. Tasks performed by workers in elementary occupations require skills at the first ISCO skill level. The tasks include: selling goods in streets and public places, providing various street services; cleaning, washing, pressing; taking care of houses, hotels, offices and other buildings; delivering messages or goods; carrying luggage/goods; collecting garbage; sweeping streets and similar places; performing various simple farming, fishing, hunting or trapping tasks; performing simple tasks connected with mining, construction and manufacturing, etc. The Labour Force survey employed these terms in accordance with the International Standard Classification of Occupations (ISCO), 2008, International Labour Organization.

34. Work is defined as economic activities contributing to the production of goods and services falling within the SNA production boundary. See Note 26 above.

35. FAO, WFP and IFAD (2012)

36. "Informal employment" as defined by the International Conference of Labour Statisticians (ICLS) 2004.

37. International Conference of Labour Statisticians (ICLS) (2004)

38. Ministry of Planning and Investment and UNDP (2009)

39. See Chapter 2 on education.

40. Ministry of Planning and Investment and UNDP (2009)

41. Victora et al. (2008).

42. World Bank (2006)

43. Black, et al. (2003)

44. UNICEF (1998)

45. FAO http://www.fao.org/sd/fsdirect/fbdirect/FSpecial.htm Accessed April 2013

46. Wanjek (2005)

47. All the regional comparisons use data calculated according to the 2006 WHO standards from World Bank and UNICEF global databases. For the trend lines over time, some countries did not have comparable data.

48. LSB population estimates for 2010-2011 by age group.

49. WHO Health Assembly, May 2012

50. Food poor people live in a household where the per capita spending on food items is below the requirement of 2,100 calories per day, as defined by LECS.

51. Lao Statistics Bureau (2012a)

52. Wamani et al. (2007)

53. Ramli et al. (2009)

54. All discussions on subnational disaggregated data are based on the 2006 WHO standards to be consistent. Thus, 20% stunting measured with the 2006 WHO standards translates to 11% stunting when using the 1977 NCHS references.

55. Victora et al. (2010)

56. Cole (2000)

57. Kramer (1987)

58. LSIS, 2011/12

59. LSIS , 2011/12

60. MICS 2006 and LSIS 2011/12, Lao Statistics Bureau (2006 and 2012b).

61. Barennes et al. (2007)

62. MICS 2006

63. Ministry of Health (2010c).

64. LSIS 2011/12

65. Vitamin A deficiency: National Health Survey, 2000

66. LSIS, 2011/12

67. WFP (2007)

68. Holmes et al. (2007)

69. WFP (2010)

70. Holmes, et al. (2007)

71. Barennes et al. (2007).

72. Ministry of Agriculture and Forestry (2012)

73. Bhutta et al. (2008)

MDG 2. Achieve Universal Primary Education

1. Barnett (1995)
2. Waldegrave and Waldegrave (2009)
3. Pelto, et al (1999)
4. Pelto, et al (1999)
5. Victora et al. (2010)
6. Pelto, et al (1999)
7. Student and teacher populations are rounded to the nearest hundred.
8. MoES data, June 2013
9. MoES data, June 2013
10. MoES data, June 2013
11. Ministry of Education and Sports (2012)
12. Cohort completion rate for primary education (CCR): Percentage of a cohort of pupils enrolled in the first grade of primary education in a given school year that is expected to complete this level of education. The CCR is the product of the probability to reach the last grade and the probability to graduate from the last grade.
13. Ministry of Education and Sports (2010a)
14. Population estimates by age group from LSB, 2010.
15. Ministry of Education and Sports (2010b)
16. Other factors influencing learning achievement appeared to be sex (female teachers generally achieved better results than male teachers), and wealth (more affluent teachers achieved better results than less affluent teachers).
17. LSIS 2011/12, Lao Statistics Bureau (2012b)
18. Ministry of Agriculture and Forestry (2012)
19. Ministry of Education and Sports (2010a)
20. Ministry of Agriculture and Forestry (2012)
21. UNESCO (1957)
22. Ministry of Education and Sports (2010a)
23. Government of Lao People's Democratic Republic (2010c)
24. Ministry of Agriculture and Forestry (2012)
25. Ministry of Education and Sports (2010a)
26. Ministry of Education and Sports (2012)
27. Ministry of Education and Sports (2010a)
28. Ministry of Education and Sports (2010a)
29. Ministry of Education and Sports (2010a)
30. UNESCO (2012)
31. MoES financial data, May 2013 and MPI Aid Management Platform data, 25 April 2013
32. MoES data, updated May 2013
33. World Bank's World DataBank http://databank.worldbank.org/data/home.aspx

MDG 3. Promote Gender Equality and Empower Women

1. World Bank (2012b)
2. Cuberes and Teignier-Baqué (2011)
3. Agarwal (2010)
4. World Bank (2012b)
5. World Bank (2012b)
6. Note on tertiary GPI: Gross enrolment data for tertiary level was unavailable, so MoES calculated this indicator by dividing the number of female students by male students.
7. See Note 6 on tertiary GPI.
8. All the employment indicators in this chapter, unless stated otherwise, are based on the 2010 Labour Force Survey, LSB.
9. Labour Force Survey 2010.
10. ILO. Key Indicators of the Labour Market (KILM) www.ilo.org/kilm Accessed April 2013
11. Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013
12. As defined by ILO/ISCO, elementary occupations consist of simple and routine tasks, which mainly require the use of hand-held tools and considerable physical effort. Tasks performed by workers in elementary occupations require skills at the first ISCO skill level. The tasks include: selling goods in streets and public places, providing various street services; cleaning, washing, pressing; taking care of houses, hotels, offices and other buildings; delivering messages or goods; carrying luggage/goods; collecting garbage; sweeping streets and similar places; performing various simple farming, fishing, hunting or trapping tasks; performing simple tasks connected with mining, construction and manufacturing, etc. The Labour Force survey employed these terms in accordance with the International Standard Classification of Occupations (ISCO), 2008, International Labour Organization.
13. Ministry of Agriculture and Forestry and FAO (2010)
14. Lao Women's Union (2005)
15. As defined by the Labour Force and Child Labour Force Surveys, 2010, ''employer'' means persons or a person owning or running a business with at least one hired worker.
16. Lao Women's Union (2005)

17. World Bank, FAO and IFAD (2009)
18. Lao Women's Union (2005)
19. Asian Development Bank and World Bank (2012)
20. Asian Development Bank and World Bank (2012)
21. Lao Women's Union and ILO (2004)
22. Asian Development Bank and World Bank (2012)
23. Lao Women's Union (2005)
24. Ministry of Agriculture and Forestry and FAO (2010)

MDG 4. Reduce Child Mortality

1. Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UNDESA, UN Population Division). In World DataBank http://databank.worldbank.org/data/home.aspx
2. Houweling et al. (2005)
3. The Lancet Child Survival Series (2003)
4. The Lancet Neonatal Survival Series (2005)
5. The Lancet Maternal and Child Under-Nutrition Series (2008).
6. The 2008 MDG Progress Report shows the target of 80 per thousand live births.
7. Central Statistical Office Zambia et al. (2009)
8. Central Statistical Office Zambia et al. (2009)
9. Rahman and Abidin (2010)
10. Yerushalmy (1938)
11. Gubhaju (1985)
12. The vaccination policy in Lao PDR calls for BCG vaccine to be given at birth, three doses of DPT-HepB-Hib (pentavalent) vaccine given at approximately 6, 10, and 14 weeks of age, three doses of oral polio vaccine given approximately at the same time the pentavalent vaccine is given, and measles vaccine given after reaching 9 months of age. All vaccinations should be received during the first year of life.
13. Pregnant women should receive at least two doses of tetanus toxoid vaccine. If a woman has not received this during a particular pregnancy, she and her newborn are also considered to be protected against tetanus if the woman: (a) received at least two doses of tetanus toxoid vaccine, the last within the previous 3 years; or (b) received at least 3 doses, the last within the previous 5 years; or (c) received at least 4 doses, the last within the previous 10 years; or (d) received 5 or more doses anytime during her life.
14. Ministry of Health (2012b)
15. LSIS 2011/12, Lao Statistics Bureau (2012b)
16. WHO (2011b)
17. National Growth and Poverty Eradication Strategy, Lao People's Democratic Republic, 2004.
18. Government of Lao People's Democratic Republic (2010c)
19. UNFPA (2010)
20. WHO (2011a). World Health Organization Global Expenditure Database.

MDG 5. Improve Maternal Health

1. MMR estimates developed by WHO, UNICEF, UNFPA and the World Bank based on information on fertility, birth attendants, and HIV prevalence. Available at World Development Indicators database, World Bank
2. Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013
3. Millennium Development Goals Indicators: http://mdgs.un.org/unsd/mdg/ Accessed April 2013
4. Victora et al. (2008)
5. Victora et al. (2010)
6. WHO (2013)
7. Labour Force Survey, Lao Statistics Bureau (2010a)
8. This interval should be 42 days, but there were recall problems when the term ''42 days'' was used in the actual survey.
9. International estimates by WHO, UNICEF, UNFPA and the World Bank, based on fertility, birth attendants, and HIV prevalence for each country.
10. Multiple Indicators Cluster Survey (MICS), Lao Statistics Bureau (2006)
11. Magnesium sulphate used as a parenteral anticonvulsant for preeclampsia and eclampsia (see Box 5.2).
12. The actual indicator is the percentage of women of reproductive age (15-49 years) who gave birth in the two years preceding the survey, with the questions relating to the pregnancy for the last birth.
13. The next household survey should incorporate proper measurement of the indicator on the percentage of pregnant women covered by four antenatal care visits conducted by a trained health professional, as this is a standard indicator to monitor, not just the single antenatal care visit. The current LSIS 2011/12 data did not disaggregate the coverage of four visits by the nature of service provider.
14. This means 18 per cent of all women who had a live birth in the two years preceding the survey.
15. WHO guidelines specify that the ANC visits should include blood pressure measurement; urine testing for bacteriuria and proteinuria; and blood testing to detect syphilis and severe anaemia. Weight and height measurement are optional. Antenatal care services should also raise awareness of the danger signs related to pregnancy, delivery, and the post-natal period, improve health-seeking behaviour, and provide basic preventive and therapeutic care.
16. LSIS assessed the use of eight modern contraceptive methods (female and male sterilization, the intra-uterine device

(IUD), implants, male and female condoms, the pill and injectables) and three traditional methods (the rhythm method, withdrawal and the lactational amenorrhea method).

17. "Sexually active" is defined as having had sexual intercourse within the 28 days preceding the survey.

18. Lao Reproductive Health Survey (LRHS) Lao Statistics Bureau (2005).

19. Women with an unmet need for family planning are women who are fecund and sexually active, but are not using any method of contraception, and report not wanting any more children, or report wanting to delay the birth of their next child for at least two years.

20. The adolescent birth rate is also known as the age-specific fertility rate for women age 15-19 years.

21. The total fertility rate of 3.2 is for the three-year period preceding the survey.

22. Ministry of Health (2009b).

23. Information from the Health Sector Working Group, 29 March 2013. Provided by UNFPA, Lao PDR.

24. Ministry of Health (2009b).

MDG 6. Combat HIV/AIDS, Malaria and Other Diseases

1. WHO (1999)
2. Bryce et al. (2008)
3. UNAIDS (2010)
4. Spectrum Projection, provided by UNAIDS Lao PDR
5. National Committee for the Control of AIDS (2010a)
6. National Committee for the Control of AIDS (2010b)
7. National Committee for the Control of AIDS (2010b)
8. Ministry of Health, Centre for HIV/AIDS/ST (CHAS)
9. Ministry of Health, Centre for HIV/AIDS/ST (CHAS).
10. Calculated from Spectrum Projections provided by UNAIDS Lao PDR
11. UNAIDS (2008)
12. Ministry of Health and UNAIDS (2012)
13. UNAIDS (2012)
14. National Committee for the Control of AIDS (2010b)
15. National Committee for the Control of AIDS (2010b)
16. Multiple Indicator Cluster Survey (MICS 2000). Lao Statistics Bureau, Ministry of Planning and Investment
17. Comprehensive knowledge of HIV in the surveys is assessed by measuring the percentage of individuals who correctly identify ways of preventing the sexual transmission of HIV and reject major misconceptions about HIV transmission.
18. Ministry of Health (2009a)
19. Ministry of Health (2009a)
20. Data from Lao PDR IBBS
21. Data from Lao PDR IBBS
22. National Committee for the Control of AIDS (2010a).
23. Ministry of Health (2009a). Integrated Behavioural Biological Surveillance
24. Lao PDR Integrated Behavioural Biological Surveillance, 2008
25. LSIS 2011/12, Lao Statistics Bureau (2012b)
26. United Nations (2001a)
27. The artemesinin-based combination treatment (ACT) uses Coartem ® (Artemether+ Lumefantrine).
28. National Bed Net Survey, Ministry of Health (2010b)
29. National Bed Net Survey, Ministry of Health (2010b)
30. Fever prevalence in household surveys such as LSIS is provided by the percentage of children under five who were ill with fever in the two weeks prior to the survey.
31. LSIS 2011/12, Lao Statistics Bureau (2012b)
32. Ministry of Health (2010d)
33. Ministry of Health (2011)
34. WHO (2012a)
35. First National Tuberculosis Prevalence Survey for Lao PDR (2010/12). Ministry of Health
36. First National Tuberculosis Prevalence Survey for Lao PDR (2010/12). Ministry of Health
37. WHO (2012b)
38. Ministry of Health (2012c)
39. Ministry of Health (2010a)
40. Strandgaard (2006)

MDG 7. Ensure environmental sustainability

1. Ministry of Agriculture and Forestry (2011).
2. Black et al. (2003)
3. Victora et al. (2008)
4. Wells-Dang (2002)
5. Ministry of Natural Resources and Environment (2012)

6. Lao PDR Forestry Law 2007

7. Ministry of Agriculture and Forestry (2010)

8. Ministry of Agriculture and Forestry (2005)

9. World Bank (2005)

10. FAO and University of Ibadan (1982)

11. Ministry of Agriculture and Forestry (2012)

12. Ministry of Natural Resources and Environment (2012)

13. Prime Ministerial Decree number 32 dated March 6, 2012 on the endorsement of the agreements of the National Congress on Forest Management, Inspection and business on January 25-26, 2012.

14. World Bank (2013b)

15. The project is financed by the Forest Investment Program (FIP) under the Climate Investment Funds (CIF), the World Bank. It is to be approved by the World Bank Board in May 2013.

16. UN-REDD: The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries. Whilst the final phase of REDD involves developed countries paying developing countries carbon offsets for their standing forests, REDD+ strategies go beyond deforestation and forest degradation, and include the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in reducing emissions.

17. Ministry of Natural Resources and Environment (2012)

18. This is mentioned in the Prime Ministerial Decree 59/PM of 22 May 2002, which was replaced by a new Presidential Decree on Benefit Sharing from Timber Revenue harvested from Production Forest, dated January 2012.

19. Government of the Lao People's Democratic Republic (2009)

20. The inventory is estimated in units of carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O), carbon monoxide (CO), nitrous oxides (NOx), Non-Methane Volatile Organic Compounds (NMVOCs) and sulphur oxides (SOx). However, hydro fluorocarbons (HFCs), per fluorocarbons (PFCs) and sulphur hexafluoride (SF6) are not included due to the inadequacy of data and the likelihood that the consumption and emissions of these substances would be negligible.

21. Government of Lao People's Democratic Republic (2000)

22. Government of Lao People's Democratic Republic (2013b)

23. Government of Lao People's Democratic Republic (2010a)

24. Ministry of Agriculture and Forestry (2011)

25. Government of the Lao People's Democratic Republic (2009)

26. The products include air conditioners containing refrigerants R-12; electrical appliances and vehicles designed to be used with ozone-depleting substances such as R-12 and R-22; fire extinguishers containing Halon 1211, 1301 and 2402, and other products containing ozone-depleting substances.

27. International Union for the Conservation of Nature (2011)

28. Ministry of Planning and Investment (2012a).

29. Source: Department of Livestock and Fisheries, Ministry of Agriculture and Forestry.

30. This is a practice prevailing amongst the poor in many countries of the region.

31. World Bank (2005)

32. Unger and Riley (2007)

33. Adair (2004)

34. Ministry of Health (2012a)

35. World Bank (2010)

MDG 8. Develop a global partnership for development

1. UNICEF (2009a)

2. Mattila (2011)

3. Ministry of Industry and Commerce (2012)

4. Recent enactments include the Decree on Import and Export, Decree on Rules of Origin, Decree on Prices, Law and Decree on Investment Promotion, Ordinance on Foreign Exchange, Law on Livestock and Veterinary Matters, Law on Plant Protection, Law on Fisheries, and the Tax Law. Commitments have also been made on the issues of intellectual property, customs, telecommunications and insurance.

5. Ministry of Industry and Commerce: http://www.laoftpd.com/index.php?option=com_content&view=article&id=55&Itemid=99&lang=en Accessed June 2013

6. Davading (2009)

7. Davading (2009)

8. Ministry of Industry and Commerce (2012)

9. In earlier years, MoIC did not use the AMP. Additionally, this section uses ODA data before year 2000 from the WDI database of the World Bank, which may have used different criteria.

10. Debt Sustainability Framework for Low-Income Countries, developed by the World Bank and the International Monetary Fund.

11. International Monetary Fund and World Bank (2011)

MDG 9. Reduce the Impact of UXO in Lao PDR

1. National Regulatory Authority (NRA) for UXO/Mine Action Sector (2010)

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MDG 1 - Statistical Tables

Table A1.1. Percentage of population below national poverty line and below $1 PPP

Year	Below national poverty line	Below $1 PPP
1992/93	46.0	56.9
1997/98	39.1	49.5
2002/03	33.5	44.4
2007/08	27.6	37.4

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.2. Percentage of the population below national poverty line, by geographic and socioeconomic characteristics

		1992/93	1997/98	2002/03	2007/08
LAO PDR		46.0	39.1	33.5	27.6
Residence	Urban	26.5	22.1	19.7	17.4
	Rural	51.8	42.5	37.6	31.7
	Rural with road	42.8	31.7	31.3	29.9
	Rural without road	60.4	50.8	46.2	42.6
District slope	Mostly flat	42.2	30.3	27.4	18.9
	Somewhat steep	38.4	40.5	37.1	31.9
	Mostly steep	56.2	50.9	40.4	38.8
Village terrain	Lowland			28.2	20.4
	Midland			36.5	29.1
	Upland			43.9	42.6
Districts targeted for poverty	47 First Priority districts	56.1	63	49.4	43.5
	25 Second Priority districts	58.2	41.7	41.2	36.2
	71 other districts	40.5	30.5	26.3	19.9
Ethnic groups	Lao-Tai			25.1	18.4
	Mon-Khmer			53.7	47.3
	Chine-Tibetan			40	42.2
	Hmong-Lu Mien			45.8	43.7

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.3. Percentage of the population below national poverty line by province in increasing order of poverty headcount ratio and each province's share in the total poor population, 2007/2008

Province	Poverty Headcount %	% share in total poor population
Champasack	10.0%	3.9%
Vientiane City	15.2%	6.3%
Xayabury	15.7%	3.4%
Borikhamxay	21.5%	2.8%
Attapeu	24.6%	1.8%
Luangprabang	27.2%	7.2%
LAO PDR	27.6%	
Vientiane	28.0%	7.8%
Savannakhet	28.5%	14.4%
Luangnamtha	30.5%	3.3%
Khammuane	31.4%	6.8%
Bokeo	32.6%	2.9%
Oudumxay	33.7%	6.1%
Saravane	36.3%	8.3%
Xiengkhuang	42.0%	6.8%
Phongsaly	46.0%	5.1%
Huaphanh	50.5%	10.1%
Sekong	51.8%	3.1%

Source: Lao Expenditure & Consumption Survey (LECS 4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.4. Poverty gap ratio as a percentage of national poverty line

Year	% of national poverty line
1992/93	11.2
1997/98	10.3
2002/03	8.0
2007/08	6.5

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.5. Poverty gap ratio by province (1992/93 - 2007/08)

in increasing order of 2007/08 poverty gap

	1992/93	1997/98	2002/03	2007/08
Champasack	10.2%	9.0%	3.6%	1.6%
Phongsaly	16.3%	17.0%	11.8%	1.8%
Xayabury	4.8%	3.1%	5.8%	3.0%
Vientiane City	7.0%	2.8%	3.4%	3.4%
Borikhamxay	2.3%	7.4%	3.4%	4.3%
Attapeu	22.4%	12.1%	11.6%	4.6%
Luangprabang	15.5%	9.8%	10.4%	5.5%
Luangnamtha	10.3%	14.4%	4.1%	6.1%
Savannakhet	11.2%	9.8%	7.7%	6.1%
Vientiane	6.5%	5.7%	12.3%	6.2%
Khammuane	11.5%	1.3%	5.5%	6.7%
Bokeo	7.0%	9.5%	5.3%	7.9%
Oudumxay	9.7%	24.7%	10.8%	8.6%
Saravane	8.7%	10.0%	13.1%	9.1%
Xiengkhuang	18.0%	11.9%	8.4%	13.4%
Huaphanh	24.6%	23.4%	13.9%	13.6%
Sekong	23.5%	15.0%	1.8%	19.1%

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.6. Poverty gap ratio by socio-economic characteristics (1992/93 - 2007/08)

		1992/93	1997/98	2002/03	2007/08
Residence	Urban	5.5%	4.9%	4.1%	3.4%
	Rural with road access	9.9%	7.3%	7.1%	6.9%
	Rural without road access	15.8%	14.5%	12.0%	13.1%
Region	Vientiane City	7.0%	2.8%	3.4%	3.4%
	South	11.9%	10.0%	7.6%	5.6%
	Central	10.3%	9.7%	8.4%	6.9%
	North	13.4%	13.9%	9.4%	7.7%
District terrain	Mostly flat	9.1%	6.9%	6.2%	3.6%
	Somewhat steep	9.8%	10.6%	8.7%	8.1%
	Mostly steep	15.5%	15.0%	10.3%	10.1%
Village altitude	Lowland			6.2%	4.0%
	Midland			9.7%	7.5%
	Upland			11.1%	11.5%
Districts targeted for poverty	Other districts	8.8%	6.8%	5.8%	3.9%
	Second priority districts	16.4%	10.7%	12.0%	9.6%
	First priority districts	16.0%	20.3%	12.1%	11.9%
Ethnic group	Lao-Tai group			5.4%	3.8%
	Sino-Tibetan group			8.5%	9.7%
	Hmong-lu Mien group			12.3%	11.8%
	Mon-Khmer group			14.1%	12.4%

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.7. Poverty indicators (1992/93 - 2007/08)

	1992/93	1997/98	2002/03	2007/08
Poverty Head Count	46.0%	39.0%	33.5%	27.6%
Poverty gap ratio	11.2%	10.3%	8.0%	6.5%
Poverty Severity Index x 100	3.9	3.9	2.8	2.3

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.8. Poverty severity index (x100) by province (1992/93 - 2007/08)

in increasing order of poverty severity

	1992/93	1997/98	2002/03	2007/08
Champasack	3.8	3.3	1.1	0.4
Xayabury	1.5	0.8	1.9	0.9
Vientiane City	2.1	0.8	1	1.2
Borikhamxay	0.5	2.8	0.9	1.3
Attapeu	10.2	4.3	4.1	1.3
Luangprabang	5.6	3.6	3.7	1.6
Luangnamtha	3.5	5.4	1.1	1.8
Vientiane	2	1.8	5.5	2.0
Savannakhet	3.4	3.2	2.6	2.1
Khammuane	4.3	3.9	1.5	2.2
Bokeo	1.7	3.5	1.9	2.8
Oudumxay	2.8	12.1	3.6	3.3
Saravane	2.5	3.6	4.3	3.3
Phongsaly	4.7	7.1	4	4.2
Huaphanh	11.2	10.1	5.2	4.9
Xiengkhuang	6.9	4.6	3	6.0
Sekong	10.4	6.5	4.7	9.3

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.9. Poverty severity index (x 100) by socio-economic characteristics (1992/93 - 2007/08)

		1992/93	1997/98	2002/03	2007/08
Residence	Urban	1.6	1.7	1.3	1.1
	Rural with road access	3.5	2.5	2.3	2.3
	Rural without road access	5.8	5.8	4.4	5.7
Region	Vientiane City	2.1	0.8	1	1.2
	South	4.5	3.7	2.5	2.1
	Central	3.4	3.4	3	2.5
	North	4.8	5.8	3.3	2.7
District terrain	Mostly flat	2.9	2.3	2	1.1
	Somewhat steep	3.7	3.8	2.9	3.0
	Mostly steep	5.8	6.2	3.8	3.7
Village altitude	Lowland			2	1.2
	Midland			3.7	3.0
	Upland			3.9	4.3
Districts targeted for poverty	Other districts	2.8	2.3	1.9	1.2
	Second priority districts	6.2	4.1	5	3.7
	First priority districts	6.3	8.6	4.1	4.5
Ethnic group	Lao-Tai group			1.8	1.3
	Sino-Tibetan group			2.6	3.3
	Hmong-lu Mien group			4.5	4.2
	Mon-Khmer group			5	4.6

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.10. Share of national consumption by quintile, 1992/93-2007/08

Quintiles	1992/93	1997/98	2002/03	2007/08
Poorest	8.8%	7.7%	8.5%	7.9%
Second	12.6%	11.6%	12.3%	11.8%
Middle	16.0%	15.3%	16.0%	15.4%
Fourth	21.5%	20.8%	21.4%	20.9%
Richest	41.0%	44.5%	41.9%	44.0%

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.11. Gini index (1992/03-2007/08)

Year	**Gini index**
1992/93	30.5%
1997/98	34.9%
2002/03	32.6%
2007/08	35.4%

Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.12. Gini index by socio-economic characteristics (1992/03-2007/08)					
		1992/3	1997/8	2002/03	2007/08
	Lao PDR	30.5%	34.9%	32.6%	35.4%
Residence	Urban	30.9%	39.7%	34.8%	36.3%
	Rural with road access	29.3%	32.1%	30.3%	33.2%
	Rural without road access	27.5%	30.9%	29.4%	33.3%
District terrain	Mostly flat	31.5%	34.7%	33.7%	34.6%
	Somewhat steep	29.3%	38.5%	31.4%	35.9%
	Mostly steep	28.1%	31.4%	30.1%	33.5%
Village altitude	Lowland			33.3%	35.0%
	Midland			31.1%	35.2%
	Upland			29.4%	32.4%
Districts targeted for poverty	Other districts	29.9%	29.7%	27.9%	31.9%
	Second priority districts	31.9%	29.6%	32.0%	32.7%
	First priority districts	30.1%	34.9%	32.7%	35.1%
Ethnic group	Lao-Tai			33.0%	35.0%
	Mon-Khmer			27.0%	31.1%
	Sino-Tibetan			23.0%	26.3%
	Hmong-lu Mien			29.0%	31.7%
Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment					

Table A1.13. Gini index by province (2002/03 - 2007/08) in increasing order for 2007/08		
	2002/03	2007/08
Huaphanh	28.9%	28.3%
Champasack	29.9%	28.7%
Bokeo	29.1%	28.9%
Phongsaly	22.2%	29.8%
Saravane	27.1%	30.0%
Luangnamtha	25.4%	30.1%
Khammuane	28.9%	31.5%
Oudumxay	24.7%	31.6%
Luangprabang	31.5%	31.6%
Vientiane	31.5%	32.1%
Attapeu	29.4%	32.4%
Borikhamxay	27.9%	33.9%
Savannakhet	31.3%	34.2%
LaoPDR	32.6%	35.4%
Sekong	30.7%	37.9%
Xiengkhuang	31.5%	38.0%
Vientiane City	36.0%	38.0%
Xayabury	34.6%	42.0%
Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment		

Table A1.14. Percentage of population living under the food poverty line* by socio-economic characteristics (1992/03-2007/08)				
		1997/8	2002/03	2007/08
	Lao PDR	32.5%	19.8%	24.6%
Residence	Urban	22.3%	14.3%	18.5%
	Rural with road access	27.5%	16.9%	25.3%
	Rural without road access	39.9%	27.6%	38.4%
District terrain	Mostly flat	28.2%	16.9%	18.3%
	Somewhat steep	29.6%	18.3%	26.5%
	Mostly steep	39.7%	24.5%	34.0%
Village altitude	Lowland		16.3%	18.5%
	Midland		22.8%	25.0%
	Upland		25.9%	38.1%
Districts targeted for poverty	Other districts	26.0%	16.1%	17.8%
	Second priority districts	31.7%	25.9%	32.1%
	First priority districts	51.6%	26.9%	38.8%
Ethnic group	Lao-Tai Group		14.5%	17.4%
	Sino-Tibetan Group		16.6%	32.5%
	Mon-Khmer Group		31.9%	39.3%
	Hmong-lu Mien Group		30.8%	39.8%
* Living under the food poverty line means that household spending on food is less than that deemed to provide 2100 cals/day. Source: Lao Expenditure & Consumption Surveys (LECS 1-4), Lao Statistics Bureau, Ministry of Planning & Investment				

Table A1.15. Number of households, villages and districts that are poor by NCRDPE criteria compared to total households, villages and districts in Lao PDR, 2011 and 2012

	2011	2012
Number of poor households	198,678	140,129
Number of total households	1,053,337	1,076,981
Number of poor villages	3,175	2,608
Number of total villages	8,654	8,615
Number of poor districts	53	46
Number of total districts	143	145

Source: National Committee for Rural Development and Poverty Eradication (NCRDPE) 2013

Table A1.16. Employment to population ratio, labour productivity and average annual growth rate of labour productivity

	Number of employed persons	Population aged 15 years or more	Employment to population ratio (ETPR)	Labour productivity
1995	2,166,200	2,551,195	84.9%	5.40
2005	2,736,852	3,404,043	80.4%	7.84
2010	3,022,047	3,886,618	77.8%	10.42
Labour productivity average annual growth rate 1995-2005				3.79%
Labour productivity average annual growth rate 2005-2010				5.86%

Source: Employment and population data from 1995, 2005 censuses and 2010 Labour Force Survey, Lao Statistics Bureau (LSB), Ministry of Planning & Investment. GDP data for labour productivity calculations from LSB. Calculation method for labour productivity average annual growth rate over the period 1995-2005 and 2005-2010 provided by the International Labour Organization.

Table A1.17. Employment to population ratio (ETPR) by residence and by province, 2010

Residence	
Urban	69.9%
Rural with road	80.8%
Rural without road	85.7%
Lao PDR	77.8%
Provinces in increasing order of ETPR	
Vientiane City	67.66%
Xiengkhuang	68.55%
Borikhamxay	72.34%
Luangnamtha	73.15%
Sekong	76.88%
Oudomxay	77.16%
Vientiane	78.09%
Huaphanh	78.11%
Luangprabang	79.19%
Champasack	79.97%
Xayabury	80.50%
Khammuane	80.84%
Saravane	81.55%
Bokeo	81.94%
Savannakhet	82.97%
Attapeu	83.32%
Phongsaly	85.29%

Source: 2010 Labour Force Survey. Lao Statistics Bureau (LSB), Ministry of Planning & Investment.

Table A1.18. Proportion of employed people by wealth index: poorest, second, middle, fourth and richest quintiles of the household population, 2010

Quintiles by wealth index	% of total employed people
Poorest	18.13%
Second	18.33%
Middle	20.11%
Fourth	21.85%
Richest	21.59%

Source: 2010 Labour Force Survey. Lao Statistics Bureau (LSB), Ministry of Planning & Investment.

Table A1.19. Total employment* by category and type of employment

	Number					Percentage of total employed for each category						Share in total employment
	Paid employee	Employer	Self-employed	Unpaid work for family	Total	Paid employee	Employer	Self-employed	Unpaid work for family	Total	Vulnerable employment	
Legislators, senior officials, managers	31,183	2,880	8,967	3,717	46,747	66.71%	6.16%	19.18%	7.95%	100.00%	27.13%	1.6%
Professionals	141,618	257	2,074	1,231	145,180	97.55%	0.18%	1.43%	0.85%	100.00%	2.28%	4.8%
Technicians & associate professionals	29,349	857	5,247	2,509	37,962	77.31%	2.26%	13.82%	6.61%	100.00%	20.43%	1.3%
Clerks /office assistants	19,402	259	275	374	20,310	95.53%	1.28%	1.35%	1.84%	100.00%	3.20%	0.7%
Service workers/shop & market sales workers	47,986	759	95,564	33,148	177,457	27.04%	0.43%	53.85%	18.68%	100.00%	72.53%	5.9%
Skilled agriculture & fishery workers	19,549	1,190	1,161,468	936,005	2,118,212	0.92%	0.06%	54.83%	44.19%	100.00%	99.02%	70.2%
Craft and related trades workers	49,539	4,931	36,516	6,603	97,589	50.76%	5.05%	37.42%	6.77%	100.00%	44.18%	3.2%
Plant and machine operators	36,879	1,004	31,778	9,751	79,412	46.44%	1.26%	40.02%	12.28%	100.00%	52.30%	2.6%
Elementary occupations	68,535	2,765	137,040	56,832	265,172	25.85%	1.04%	51.68%	21.43%	100.00%	73.11%	8.8%
Security/ Armed forces	27,762	-	-	-	27,762	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.9%
All sectors, Lao PDR	471,802	14,902	1,478,929	1,050,170	3,015,803	15.64%	0.49%	49.04%	34.82%	100.00%	83.86%	100.0%

* Does not include " Not Recorded" category.
Source: 2010 Labour Force Survey. Lao Statistics Bureau (LSB), Ministry of Planning & Investment.

Table A1.20. Number and percentage of the child population who are in employment (working children) by age and sex, 2010

	Child population by age group			Number of working children by age group			Percentage of total children who are in employment (working children)		
Age group	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
5-17 years, total	1,767,109	909,147	857,962	265,510	118,900	146,610	15.0%	13.1%	17.1%
5-11 years	917,905	477,505	440,400	37,474	17,615	19,860	4.1%	3.7%	4.5%
12-13 years	298,639	151,991	146,648	37,757	15,915	21,842	12.6%	10.5%	14.9%
14-17 years	550,565	279,652	270,913	190,278	85,370	104,908	34.6%	30.5%	38.7%

Source: Child Labour Survey 2010, Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.21. Percentage of working children by residence and by sex

Residence	Total	Boys	Girls
Urban	10.9%	11.2%	10.7%
Rural with road access	73.9%	75.1%	73.0%
Rural without road access	15.1%	13.7%	16.3%
All working children	100.0%	100.0%	100.0%

Source: Child Labour Survey 2010, Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.22. Percentage of working children by status in employment and by sex, age 5-17 years

	Total	Boys	Girls
Employee	7.0%	7.5%	6.7%
Employer	0.1%	0.0%	0.2%
Self-employed	25.2%	23.9%	26.3%
Unpaid family worker	67.3%	68.1%	66.6%
Not reported	0.4%	0.5%	0.2%
Total	100.0%	100.0%	100.0%

Source: Child Labour Survey 2010, Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.23. Percentage of children under age 5 who are underweight & stunted, 1993-2012

	1977 NCHS standards		2006 WHO standards	
	Stunting prevalence	Underweight prevalence	Stunting prevalence	Underweight prevalence
1993	48.0%	44.0%		
1994	47.0%	40.0%		
2000	41.0%	40.0%		
2006	40.0%	37.0%	48.0%	31.0%
2011	38.0%	32.3%	44.2%	26.6%

* Expressed in percent below minus 2 standard deviation units from the median of the reference population.
Source: LSIS 1993 & 2011-12; MICS 1994, 2000 & 2006. Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.24. Percentage of children under age 5 who are stunted, underweight and wasted by sex and socio-economic characteristics 2011/12 (2006 WHO standards*)

		Stunting	Wasting	Underweight
Sex	Male	45.7%	6.4%	26.7%
	Female	42.6%	5.4%	26.4%
Residence	Rural without road access	53.8%	5.7%	31.6%
	Rural with road access	47.8%	6.1%	29.0%
	Urban	27.4%	5.4%	16.1%
Ethnic group	Lao-Tai	33.4%	6.1%	21.5%
	Mon-Khmer	55.5%	6.5%	36.7%
	Hmong-Lu Mien	60.5%	2.2%	21.3%
	Sino-Tibetan	60.9%	13.1%	42.8%
Region	North	51.4%	5.3%	26.2%
	Central	38.1%	5.4%	23.1%
	South	46.6%	7.9%	34.7%

* Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards.
Source: LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.25. Percentage of children under age 5 who are stunted & wasted by mother's education and wealth quintiles, 2011/12 (2006 WHO standards*)

		Stunting	Wasting
Mother's education	None	57.9%	5.8%
	Primary	43.2%	5.9%
	Lower secondary	34.0%	6.7%
	Upper secondary	23.1%	5.1%
	Post-secondary non-tertiary	28.7%	6.2%
	Higher education	15.0%	4.8%
Wealth quintile	Poorest	60.6%	6.4%
	Second	50.2%	6.4%
	Middle	41.9%	5.8%
	Fourth	31.7%	5.2%
	Richest	19.7%	5.1%

* Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards.
Source: LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.26. Trend in percentage of children under age 5 who are underweight, by wealth quintile and residence, 2006 and 2011 (2006 WHO standards*)

		2006	2011
Wealth quintile	Poorest	38.0%	37.0%
	Second	31.0%	30.0%
	Middle	34.0%	25.0%
	Fourth	26.0%	19.0%
	Richest	14.0%	12.0%
Residence	Rural	34.0%	29.0%
	Urban	20.0%	16.0%

* Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards.
Source: MICS 2006 recalculated with WHO standards & LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment

Table A1.27. Percentage of children under age 5 who are stunted, underweight and wasted by province

in increasing order of stunting prevalence, 2011-12 (2006 WHO standards*)

	Stunting	Wasting	Underweight
Vientiane City	19.3%	7.2%	16.3%
Champasack	36.7%	6.8%	26.3%
Xayabury	39.0%	5.5%	23.2%
Attapeu	39.7%	10.6%	32.0%
Khammuane	40.8%	7.1%	29.4%
Borikhamxay	40.8%	6.2%	19.8%
Savannakhet	40.8%	5.0%	28.2%
Vientiane	42.6%	4.6%	18.9%
LAO PDR	44.2%	5.9%	26.6%
Luangprabang	45.6%	3.1%	19.8%
Bokeo	46.0%	4.7%	23.7%
Xiengkhuang	52.9%	2.0%	19.9%
Luangnamtha	53.2%		40.4%
Saravane	54.4%	8.6%	41.2%
Oudomxay	54.9%	4.6%	28.7%
Huaphanh	61.1%	1.9%	23.5%
Phongsaly	61.1%	5.1%	34.1%
Sekong	62.7%	7.3%	46.0%

* Expressed in percent below minus 2 standard deviation units from the median of the 2006 WHO standards.
Note: wasting data for Luangnamtha was removed due to data quality issues.
Source: LSIS 2012, Lao Statistics Bureau, Ministry of Planning & Investment

MDG 2 - Statistical Tables

Table A2.1. Gross enrolment ratio and net enrolment ratio in primary education (%)

	GER total	GER female	GER male	NER total	NER female	NER male
1990	100%	89%	112%	66.2%		
1991	100%	88%	112%			
1992	95.8%	87%	109%	58.8%	55.0%	64.0%
1993	101.5%	92%	116%	62.7%	60.0%	69.0%
1994	105.0%	95%	120%	66.5%	63.0%	73.0%
1995	106.0%	97%	120%	65.2%		
1996	109.4%	101%	124%	68.5%	66.0%	74.0%
1997	111.3%	102%	124%	71.8%	69.0%	77.0%
1998	114.3%	104%	125%	76.2%	73.0%	80.0%
1999	111.2%	103%	121%	76.4%	74.0%	81.0%
2000	109.0%	101%	119%	77.3%	75.0%	81.0%
2001	110.1%	99%	116%	79.7%	74.0%	81.0%
2002	111.3%	101%	117%	80.4%	75.0%	82.0%
2003	113.4%	103%	119%	82.5%	78.0%	84.0%
2004	112.7%	105%	120%	81.8%	79.0%	84.0%
2005	116.3%	107%	122%	84.0%	80.0%	85.0%
2006	116.3%	109%	123%	83.9%	81.0%	86.0%
2007	117.8%	111%	124%	86.4%	84.0%	89.0%
2008	121.2%	115%	127%	89.2%	87.0%	91.0%
2009	123.4%	118%	129%	91.6%	90.0%	93.0%
2010	121.0%	122%	131%	92.7%		
2011	122.0%	122%	130%	94.1%		
2012	121.8%	119%	125%	95.2%	94.3%	96.0%

Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS) for later years and for total NERs; remaining data from UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES.

Table A2.2. Primary net enrolment ratio by province in increasing order of female enrolment, 2012

	Total	Female	Male
Phongsaly	86.0%	83.0%	88.9%
Savannakhet	90.3%	88.7%	91.9%
Luangnamtha	91.7%	89.8%	93.4%
Khammuane	92.9%	91.4%	94.4%
Attapeu	93.1%	92.2%	94.0%
Huaphanh	93.6%	93.1%	94.1%
Sekong	93.7%	93.2%	94.2%
Saravane	95.4%	93.6%	97.1%
LAO PDR	95.2%	94.3%	96.0%
Borikhamxay	95.3%	94.9%	95.8%
Bokeo	95.7%	95.2%	96.1%
Champasack	96.6%	95.9%	97.3%
Oudomxay	97.4%	96.1%	98.6%
Luangprabang	97.4%	97.2%	97.6%
Xiengkhuang	98.4%	97.8%	98.8%
Vientiane	97.3%	98.1%	96.5%
Xayabury	99.3%	99.0%	99.6%
Vientiane City	99.4%	99.3%	99.4%

Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Table A2.3. Internal efficiency indicators, primary education, 2011/12

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade1-5
Promotion rate	65.50%	83.90%	87.30%	90.80%	94.70%	82.40%
Repetition rate	22.80%	10.40%	6.40%	3.80%	1.40%	10.50%
Dropout rate	11.70%	5.70%	6.30%	5.40%	3.90%	7.10%
Survival rate to last grade of primary education (% of grade 1 starting pupils who reach grade 5)	100%	84.90%	79.50%	74.10%	70%	Completion 67.2%

Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Table A2.4. Survival rate to last grade of primary education* (% of grade 1 starting pupils who reach grade 5) by socio-economic characteristics

		Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Region	North	100.0%	83.0%	80.1%	78.1%	76.2%
	Central	100.0%	74.8%	71.5%	69.1%	67.0%
	South	100.0%	59.4%	56.7%	51.9%	48.6%
Residence	Urban	100.0%	84.9%	81.7%	80.0%	78.4%
	Rural with road	100.0%	71.3%	68.4%	65.3%	63.1%
	Rural without road	100.0%	71.9%	67.3%	65.0%	59.8%
Ethnic group	Lao-Tai	100.0%	74.6%	71.6%	69.1%	67.0%
	Mon-Khmer	100.0%	68.1%	65.0%	61.6%	58.8%
	Hmong-Mien	100.0%	78.6%	75.6%	72.5%	70.8%
	Sino-Tibetan	100.0%	92.9%	89.7%	88.2%	86.8%
Mother's education	None	100.0%	68.4%	64.7%	61.8%	59.9%
	Primary	100.0%	74.2%	71.6%	69.0%	66.6%
	Lower secondary	100.0%	85.8%	82.9%	78.3%	77.3%
	Upper secondary	100.0%	84.5%	79.7%	78.0%	76.6%
	Post secondary, non-tertiary	100.0%	85.9%	85.9%	84.0%	79.4%
Wealth quintile	Poorest	100.0%	67.8%	64.6%	62.1%	58.4%
	Second	100.0%	69.9%	66.6%	62.7%	61.5%
	Middle	100.0%	72.4%	69.4%	65.6%	62.6%
	Fourth	100.0%	85.2%	82.3%	80.7%	78.6%
	Richest	100.0%	87.9%	85.6%	84.6%	83.4%

*Assumes repeaters do NOT progress to the next grade.
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A2.5. Survival rate to last grade of primary education* (% of grade 1 starting pupils who reach grade 5) by sex and by province, in increasing order, 2012

	Total	Female	Male
Saravane	45.5%	45.2%	45.8%
Attapeu	55.4%	56.2%	54.7%
Sekong	58.4%	57.4%	59.1%
Oudomxay	60.2%	58.7%	61.7%
Savannakhet	60.5%	63.7%	57.6%
Phongsaly	61.1%	62.0%	60.4%
Champasack	66.2%	69.4%	63.3%
LAO PDR	70.0%	71.2%	68.9%
Khammuane	71.6%	74.9%	68.5%
Huaphanh	72.0%	71.9%	72.1%
Luangprabang	72.4%	72.1%	72.7%
Luangnamtha	77.4%	74.8%	79.8%
Bokeo	78.1%	78.0%	78.3%
Xiengkhuang	81.8%	83.0%	80.8%
Borikhamxay	83.5%	84.1%	83.0%
Vientiane	85.1%	86.6%	83.7%
Xayabury	88.9%	89.9%	88.0%
Vientiane City	90.0%	94.1%	86.4%

Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Table A2.6. Survival rate to last grade of primary education, 2012

(% of grade 1 starting pupils who reach grade 5)

1991	48%
1992	47.7%
1993	48.7%
1994	42.0%
1995	57.4%
1996	52.3%
1997	56.6%
1998	56.6%
1999	52.5%
2000	52.3%
2001	59.2%
2002	61.8%
2003	60.3%
2004	
2005	62.0%
2006	
2007	
2008	67.0%
2009	68.4%
2010	71.1%
2011	68.0%
2012	70.0%

Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS) and UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES.

Table A2.7. Primary net attendance ratio (adjusted)* by province, in increasing order, 2012		
	male	**female**
Saravane	73.4%	75.1%
Phongsaly	80.5%	76.3%
Attapeu	77.8%	76.5%
Savannakhet	74.4%	77.0%
Oudomxay	88.0%	80.7%
Bokeo	86.5%	81.1%
Champasack	81.2%	82.1%
Luangnamtha	84.0%	84.3%
LAO PDR	85.2%	84.7%
Khammuane	84.2%	85.2%
Sekong	85.3%	85.2%
Huaphanh	93.0%	87.6%
Luangprabang	88.4%	87.8%
Xiengkhuang	92.0%	89.2%
Vientiane	93.0%	92.0%
Xayabury	93.3%	94.2%
Borikhamxay	95.9%	94.8%
Vientiane City	94.6%	97.9%

*% Percentage of children of primary school age attending primary or secondary school.
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A2.8. Primary net attendance ratio (adjusted)* 2012			
		male	**female**
Lao PDR		85.2%	84.7%
Region	North	88.4%	85.5%
	Central	86.0%	86.7%
	South	78.4%	79.3%
Residence	Urban	94.4%	95.4%
	Rural with road	84.5%	84.2%
	Rural without road	72.3%	68.2%
Ethnic group	Lao-Tai	91.1%	92.5%
	Mon-Khmer	75.8%	74.2%
	Hmong-Mien	86.2%	79.6%
	Sino-Tibetan	75.9%	69.9%
Wealth quintile	Poorest	73.8%	67.8%
	Second	81.1%	83.0%
	Middle	91.0%	92.0%
	Fourth	93.9%	95.4%
	Richest	96.5%	98.0%
Mother's education	None	75.9%	72.6%
	Primary	88.5%	89.8%
	Lower secondary	96.1%	94.1%
	Upper secondary	94.4%	98.7%
	Post-secondary non-tertiary	99.6%	99.8%

*% Percentage of children of primary school age attending primary or secondary school.
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A2.9. Transition rate from primary to secondary school*	
1993	77.3%
1994	85.6%
1995	85.3%
1996	72.3%
1997	78.1%
1998	80.5%
1999	
2000	83.5%
2001	83.9%
2002	88.9%
2003	84.3%
2004	89.7%
2005	
2006	
2007	
2008	88.1%
2009	88.1%
2010	86.9%
2011	87.6%
2012	88.0%

*% of pupils enrolled in final grade of primary school in the previous year admitted to the first grade of secondary school in a given year.
Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Table A2.10. Transition rate from primary to secondary school* 2012		
	Lao PDR	**90.9%**
Sex	Male	91.1%
	Female	90.7%
Region	North	88.3%
	Central	93.0%
	South	90.3%
Residence	Urban	94.9%
	Rural with road	90.5%
	Rural without road	78.1%
Ethnic group	Lao-Tai	92.4%
	Mon-Khmer	85.5%
	Hmong-Mien	92.7%
	Sino-Tibetan	92.2%
Wealth quintile	Poorest	82.8%
	Second	86.8%
	Middle	90.5%
	Fourth	95.6%
	Richest	94.5%
Mother's education	None	88.3%
	Primary	89.8%
	Lower secondary	95.6%
	Upper secondary	100.0%
	Post-secondary non-tertiary	94.9%
	Higher	100.0%

*% of pupils enrolled in final grade of primary school in the previous year admitted to the first grade of secondary school in a given year.
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment. Note that survey data differs slightly from MoES data for Lao PDR

Table A2.11. Transition rate from primary to secondary school* by province in increasing order, 2012	
Xayabury	78.1%
Luangprabang	82.7%
Khammuane	83.9%
Luangnamtha	84.3%
Champasack	88.2%
Savannakhet	88.9%
Huaphanh	89.8%
Sekong	89.9%
LAO PDR	90.9%
Saravane	91.7%
Vientiane	94.0%
Bokeo	94.3%
Vientiane City	95.7%
Borikhamxay	97.3%
Oudomxay	97.6%
Xiengkhuang	97.6%
Attapeu	97.9%
Phongsaly	100.0%

*% of pupils enrolled in final grade of primary school in the previous year admitted to the first grade of secondary school in a given year.
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment. Note that survey data differs slightly from MoES data for Lao PDR

Table A2.12. Gross & net enrolment ratios in secondary education (%)						
	Secondary NER, total	Secondary NER, female	Secondary NER, male	Secondary GER	Lower Secondary GER	Upper Secondary GER
1992	14.2%	12.5%	14.2%	20.6%	28.9%	11.0%
1993	14.7%	12.7%	14.7%	22.4%	30.0%	11.1%
1994	17.4%	15.2%	17.4%	24.3%	32.8%	12.5%
1995				25.0%	33.7%	13.5%
1996				25.3%	33.0%	13.6%
1997	21.1%	18.3%	21.1%	27.2%	35.9%	14.6%
1998	23.4%	20.7%	23.4%	29.6%	39.3%	17.4%
1999	26.2%	23.0%	26.2%	32.8%	43.9%	20.3%
2000	28.0%	24.6%	28.0%	34.9%	46.0%	22.6%
2001	29.7%	26.4%	29.7%	36.8%	47.5%	24.9%
2002	30.7%	27.4%	30.7%	39.6%	50.3%	27.8%
2003	34.1%	30.8%	34.1%	42.4%	52.4%	31.4%
2004	35.8%	32.7%	35.8%	44.3%	53.3%	34.3%
2005	36.1%	33.1%	36.1%	44.7%	52.9%	35.7%
2006	35.2%	32.5%	35.2%	43.8%	52.0%	35.0%
2007	36.1%	33.5%	36.1%	44.1%	53.3%	34.6%
2008	36.9%	34.7%	36.9%	44.7%	59.2%	37.2%
2009	38.3%	36.2%	38.3%	45.7%	62.7%	36.8%
2010	40.1%	38.1%	40.1%	47.1%	60.2%	33.9%
2011	40.7%	38.7%	40.7%	45.8%	62.9%	33.4%
2012					64.7%	34.7%

Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS); UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES.

Table A2.13. Literacy rate, 15-24 years*			
	Male	Total	Female
1995	78.8%	71.1%	64.1%
2000	88.1%	80.6%	73.6%
2001	82.6%	78.5%	74.7%
2005	89.2%	83.9%	78.7%
2011/12	77.4%		68.7%

* % of young people age 15-24 years who are literate.
Source: LNLS 2001, MInistry of Education & Sports; Census 1995 & 2005, MICS 2000 and LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A2.14. Literacy rate, 15-24 years* by socio-economic characteristics, 2012			
		Male	**Female**
Lao PDR		77.4%	68.7%
Residence	Urban	92.0%	90.6%
	Rural with road	73.3%	61.5%
	Rural without road	55.5%	41.4%
Region	North	78.7%	65.2%
	Central	79.4%	76.3%
	South	69.7%	55.3%
Education level last reached	None	0.0%	0.4%
	Primary	44.7%	45.6%
	Lower secondary	100.0%	100.0%
	Upper secondary	100.0%	100.0%
	Post secondary non tertiary	100.0%	100.0%
	Higher	100.0%	100.0%
Age	Ages 15-19	79.0%	72.3%
	Ages 20-24	75.3%	64.3%
Wealth quintile	Poorest	48.9%	28.7%
	Second	64.8%	48.9%
	Middle	77.5%	71.8%
	Fourth	91.0%	83.9%
	Richest	95.5%	95.7%
Ethnic group	Lao-Tai	83.9%	81.6%
	Mon-Khmer	62.8%	45.3%
	Hmong-Mien	81.2%	48.6%
	Chinese-Tibetan	43.1%	30.1%

***** % of young people age 15-24 years who are literate.
Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment.

Table A2.15. Literacy rate, 15-24 years* by province, 2012		
	Male	**Female**
Phongsaly	51.1%	52.7%
Savannakhet	58.8%	58.6%
Saravane	62.8%	38.6%
Luangnamtha	70.1%	57.5%
Champasack	71.0%	65.1%
Khammuane	74.1%	68.0%
Sekong	76.3%	61.2%
Oudomxay	76.4%	50.6%
Lao PDR	77.4%	68.7%
Bokeo	81.5%	62.0%
Luangprabang	82.7%	70.3%
Attapeu	83.9%	67.9%
Huaphanh	86.6%	67.3%
Xiengkhuang	87.8%	77.5%
Borikhamxay	88.4%	78.7%
Xayabury	89.2%	84.0%
Vientiane	90.4%	84.1%
Vientiane City	95.2%	92.9%

*****% Percentage of population 15-24 years old who are literate.
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A2.16. Public expenditure on education: capital, recurrent and total, and as a percentage of GDP and of government budget								
	Total public expenditure in education (US$)	Recurrent costs		Capital costs		Public expenditure on education as % of GDP	Public expenditure on education as % of government budget	Exchange rate with Lao Kip used for conversion
		US$	% of total public expenditure on education	US$	% of total public expenditure on education			
2002			45.33%		54.67%	2.38%	10.47%	
2003	$43,960,077	$16,580,079	37.72%	$27,379,998	62.28%	2.16%	9.88%	10,559.26
2004	$56,317,058	$19,488,443	34.60%	$36,828,615	65.40%	2.43%	10.64%	10,613.06
2005	$65,882,956	$28,945,837	43.94%	$36,937,119	56.06%	2.50%	11.68%	10,649.95
2006	$99,448,600	$35,324,364	35.52%	$64,124,236	64.48%	3.03%	13.64%	10,136.43
2007	$130,087,407	$48,694,092	37.43%	$81,393,315	62.57%	3.16%	15.78%	9,596.76
2008	$124,165,685	$64,360,440	51.83%	$59,805,246	48.17%	2.51%	12.22%	8,743.99
2009	$149,428,014	$90,953,203	60.87%	$58,474,811	39.13%	2.52%	15.02%	8,516.00
2010	$199,190,472	$105,931,338	53.18%	$93,259,134	46.82%	3.04%	15.00%	8,257.96
2011	$223,790,910	$119,479,561	53.39%	$104,311,349	46.61%	2.93%	14.00%	8,030.74
2012	$257,959,160	$139,031,773	53.90%	$118,927,387	46.10%	2.99%	14.00%	8,011.51

Source: Ministry of Education and Sports

MDG 3 - Statistical Tables

Table A3.1. Gender parity index:* primary, secondary & tertiary education					
	Primary GPI	Lower Secondary	Upper Secondary	Secondary	Tertiary
1990	0.79				
1991	0.79				
1992	0.80			0.66	0.49
1993	0.79			0.63	0.42
1994	0.79			0.65	0.37
1995	0.81			0.66	0.39
1996	0.81			0.67	0.4
1997	0.82			0.67	0.39
1998	0.83	0.70	0.67	0.69	0.42
1999	0.85	0.71	0.66	0.70	0.48
2000	0.85	0.72	0.67	0.70	0.52
2001	0.85	0.74	0.67	0.72	0.58
2002	0.86	0.75	0.69	0.73	0.56
2003	0.87	0.77	0.70	0.74	0.58
2004	0.88	0.78	0.70	0.75	0.62
2005	0.88	0.79	0.71	0.76	0.7
2006	0.89	0.80	0.75	0.78	0.62
2007	0.86	0.81	0.75	0.78	0.66
2008	0.87	0.84	0.78	0.78	0.71
2009	0.88	0.86	0.79	0.79	0.74
2010	0.89	0.86	0.82	0.81	0.7
2011	0.9	0.87	0.82	0.82	0.69
2012	0.91	0.89	0.83	0.84	0.77

*Ratio of female GER to male GER at each level of education. For tertiary education, GER data was not available, so the ratio was calculated by the MoES by dividing the number of female by male students. Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS); UNESCO Institute of Statistics (UNESCO-UIS), based on yearly reports from MoES

Table A3.2. Gender parity calculated with survival rate, by province, 2012

in increasing order of female/male ratio

	Total	Female	Male	Female/ Male
Luangnamtha	77.4%	74.8%	79.8%	0.94
Oudomxay	60.2%	58.7%	61.7%	0.95
Sekong	58.4%	57.4%	59.1%	0.97
Saravane	45.5%	45.2%	45.8%	0.99
Luangprabang	72.4%	72.1%	72.7%	0.99
Bokeo	78.1%	78.0%	78.3%	1.00
Huaphanh	72.0%	71.9%	72.1%	1.00
Borikhamxay	83.5%	84.1%	83.0%	1.01
Xayabury	88.9%	89.9%	88.0%	1.02
Phongsaly	61.1%	62.0%	60.4%	1.03
Xiengkhuang	81.8%	83.0%	80.8%	1.03
Attapeu	55.4%	56.2%	54.7%	1.03
LAO PDR	70.0%	71.2%	68.9%	1.03
Vientiane	85.1%	86.6%	83.7%	1.03
Vientiane City	90.0%	94.1%	86.4%	1.09
Khammuane	71.6%	74.9%	68.5%	1.09
Champasack	66.2%	69.4%	63.3%	1.10
Savannakhet	60.5%	63.7%	57.6%	1.11

*Ratio of female to male survival rates to grade 5

Source: Ministry of Education & Sports, Education Management Information System (MoES-EMIS)

Table A3.3. Gender Parity calculated with adjusted Net Attendance Rates* (NAR) , 2012

		Female/ male primary NAR	Female/ male secondary NAR
Lao PDR		0.99	1.00
Regions	North	0.97	0.88
	Central	1.01	1.06
	South	1.01	1.00
Residence	Urban	1.01	1.06
	Rural with road	1.00	0.94
	Rural without road	0.94	0.87
Ethnic group	Lao-Tai	1.02	1.07
	Mon-Khmer	0.98	0.78
	Hmong-Mien	0.92	0.73
	Sino-Tibetan	0.92	0.92
Wealth quintile	Poorest	0.92	0.66
	Second	1.02	0.89
	Middle	1.01	1.02
	Fourth	1.02	1.01
	Richest	1.02	1.00
Mother's education	None	0.96	0.85
	Primary	1.02	1.04
	Lower secondary	0.98	1.08
	Upper secondary	1.05	0.99
	Post-secondary non-tertiary	1.00	1.13
	Higher	0.99	0.96

*Ratio of female NAR (Adjusted) to male NAR (Adjusted)

Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A3.4. Gender parity calculated with literacy rates* amongst 15-24 year-olds, 2012

		Male	Female	GPI
	Lao PDR	77.4%	68.7%	0.89
Regions	North	78.7%	65.2%	0.83
	Central	79.4%	76.3%	0.96
	South	69.7%	55.3%	0.79
Residence	Urban	92.0%	90.6%	0.98
	Rural with road	73.3%	61.5%	0.84
	Rural without road	55.5%	41.4%	0.75
Education level last reached	None	0.0%	0.4%	
	Primary	44.7%	45.6%	1.02
	Lower secondary	100.0%	100.0%	1.00
	Upper secondary	100.0%	100.0%	1.00
	Post secondary non tertiary	100.0%	100.0%	1.00
	Higher	100.0%	100.0%	1.00
Age	Ages 15-19	79.0%	72.3%	0.92
	Ages 20-24	75.3%	64.3%	0.85
Wealth quintile	Poorest	48.9%	28.7%	0.59
	Second	64.8%	48.9%	0.76
	Middle	77.5%	71.8%	0.93
	Fourth	91.0%	83.9%	0.92
	Richest	95.5%	95.7%	1.00
Ethnic group	Lao-Tai	83.9%	81.6%	0.97
	Mon-Khmer	62.8%	45.3%	0.72
	Hmong-Mien	81.2%	48.6%	0.60
	Chinese-Tibetan	43.1%	30.1%	0.70

*Ratio of female to male literacy rates. Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A3.5. Gender parity calculated with literacy rates amongst 15-24 year-olds, by province, 2012

in increasing order of female/male ratio

	Male	Female	GPI
Saravane	62.8%	38.6%	0.61
Oudomxay	76.4%	50.6%	0.66
Bokeo	81.5%	62.0%	0.76
Huaphanh	86.6%	67.3%	0.78
Sekong	76.3%	61.2%	0.80
Attapeu	83.9%	67.9%	0.81
Luangnamtha	70.1%	57.5%	0.82
Luangprabang	82.7%	70.3%	0.85
Xiengkhuang	87.8%	77.5%	0.88
Lao PDR	77.4%	68.7%	0.89
Borikhamxay	88.4%	78.7%	0.89
Champasack	71.0%	65.1%	0.92
Khammuane	74.1%	68.0%	0.92
Vientiane	90.4%	84.1%	0.93
Xayabury	89.2%	84.0%	0.94
Vientiane City	95.2%	92.9%	0.98
Savannakhet	58.8%	58.6%	1.00
Phongsaly	51.1%	52.7%	1.03

*Ratio of female to male literacy rates
Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A3.6. The share of women and men in each type of employment * (%)

	Paid employee	Employer	Self-employed	Unpaid work for family
Women	34.55%	22.57%	44.30%	64.65%
Men	65.45%	77.43%	55.70%	35.35%
Total	100.00%	100.00%	100.00%	100.00%

* Includes agriculture & fisheries sector. Does not include "Not Recorded" category.
Source: Labour Force Survey (LFS 2010), Lao Statistics Bureau, Ministry of Planning & Investment

Table A3.7. The share of women and men in each sector of employment * (%) 2010						
	Number			Percentage		
	Women	Men	Total	Women	Men	Total
Legislators, senior officials, managers	14,480	32,548	47,028	30.8%	69.2%	100.0%
Professionals	62,116	83,065	145,181	42.8%	57.2%	100.0%
Technicians & associate professionals	12,821	25,141	37,962	33.8%	66.2%	100.0%
Clerks /office assistants	9,978	10,533	20,511	48.6%	51.4%	100.0%
Service workers/Shop & market sales workers	111,055	66,404	177,459	62.6%	37.4%	100.0%
Skilled agriculture & fishery workers	1,086,674	1,031,540	2,118,214	51.3%	48.7%	100.0%
Craft and related trades workers	6,525	91,065	97,590	6.7%	93.3%	100.0%
Plant and machine operators	25,154	54,257	79,411	31.7%	68.3%	100.0%
Elementary occupations	168,597	96,576	265,173	63.6%	36.4%	100.0%
Security/ Armed forces	3,279	24,558	27,837	11.8%	88.2%	100.0%
All sectors, total workforce	1,500,679	1,515,687	3,016,366	49.8%	50.2%	100.0%

* Does not include "Not Recorded" Category
Source: Labour Force Survey (LFS 2010), Lao Statistics Bureau, Ministry of Planning & Investment

Table A3.8. Proportion of seats held by women in national parliament	
1990	6.3%
1991	
1992	
1993	
1994	
1995	
1996	
1997	9.4%
1998	
1999	21.2%
2000	21.2%
2001	21.2%
2002	21.2%
2003	22.9%
2004	22.9%
2005	22.9%
2006	22.9%
2007	25.2%
2008	25.2%
2009	25.2%
2010	25.2%
2011	25.2%
2012	25.0%

Source: InterParliamentary Union, 1 February 2013, from reports by the National Assembly of Lao PDR

Table A3.9. Percentage of seats held by women in national parliament: regional and global comparisons	
Myanmar	6.0%
Malaysia	10.4%
Thailand	15.8%
Indonesia	18.6%
Cambodia	20.3%
China	21.3%
Philippines	22.9%
Singapore	24.2%
Vietnam	24.4%
Lao PDR	25.0%
Timor-Leste	38.5%
World Average	20.4%

Source: Inter-Parliamentary Union 1 February 2013

Table A3.10. Percentage of decision making positions held by women and men, 2012					
	Total	Female		Male	
		Number	%	Number	%
National Assembly	132	33	25%	99	75%
Minister & equivalent	61	5	10%	56	92%
Deputy minister/ equivalent	109	14	13%	95	87%
Assistant to the Minister	26	2	8%	24	92%
Provincial governor	17	0	0%	17	100%
Vice-provincial governor	42	4	10%	38	90%
District governor	145	13	8%	132	91%
Vice district governor	250	11	4%	239	96%
Village chief	8,651	191	2%	8,460	98%
Deputy village chief	15,529	973	6%	14,556	94%
Director General/ equivalent	490	70	14%	420	86%
Deputy Director General /equivalent	514	98	19%	416	81%
Lao PDR, all decision-making positions	25,966	1,414	5%	24,552	95%

Source: Ministry of Home Affairs and Central Party Bureau, July 2012

MDG 4 - Statistical Tables

Table A4.1. Trends in under-5 mortality rates (U5MR) and infant mortality rates (IMR) from LSIS*			
	Under-five mortality rate	Infant mortality rate	Neonatal mortality rate
2012			
2011	79	68	32
2010			
2009	88	75	34
2008			
2007	106	87	42
2006			
2005	115	91	46
2004			
2003	131	104	53
2002			
2001	146	116	52
2000			
1999	157	124	59
1998			
1997	150	118	49
1996			
1995	164	123	56
1994			
1993	170	114	54

* For two-year periods preceding the survey.
Source: Lao Social Indicator Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A4.2. Trends in under-5 mortality rates (U5MR) and infant mortality rates (IMR) from LSIS & prior estimates,* per thousand live births

	Under-five mortality rate		Infant mortality rate	
Year	LSIS, Lao PDR	International estimates	LSIS, Lao PDR	International estimates
2012		41.9		33.8
2011	79	43.9	68	35.2
2010		47		37.4
2009	88	49.6	75	39.2
2008		53		41.6
2007	106	56.1	87	43.7
2006		59.7		46.1
2005	115	63.4	91	48.6
2004		67.6		51.3
2003	131	71.8	104	54
2002		76.4		57
2001	146	81.3	116	60.1
2000		86.2		63.2
1999	157	91.5	124	66.6
1998		97.5		70.4
1997	150	103.3	118	74.1
1996		110		78.3
1995	164	116.7	123	82.6
1994		124.3		87.4
1993	170	131.2	114	91.7
1992		139		96.7
1991		147.7		102.1

* For two-year periods preceding the survey. Source: Lao Social Indicator Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment. International estimates: UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA, UN Population Division).

Table A4.3. Causes of under-five deaths in Lao PDR, 2008

Neonatal causes	30.9%
Pneumonia	26.8%
Other infections	18.9%
Diarrhoea	7.4%
Other non-communicable diseases	5.0%
Meningitis	4.3%
Measles	3.1%
Injury	2.9%
Pertussis	0.4%
Malaria	0.2%
Total	100.0%

Source: World Health Statistics 2010. World Health Organization.

Table A4.4. Trends in high impact interventions addressing newborn and child mortality, 2006-2011		
	2006	**2012**
Protection against tetanus	56%	66%
Skilled birth attendance	20%	42%
Post natal care within 2 days		41%
Exclusive breastfeeding	26%	40%
DPI-HepB-Hib3	32%	52%
Measles	33%	55%
Fully immunized	14%	34%
Vitamin A	19%	59%
Complementary feeding frequency		37%
Caregivers knowing 2 danger signs of pneumonia	6%	3%
Care seeking for pneumonia	32%	54%
Antibiotics for pneumonia	52%	57%
ORS or increased fluids		58%
ORS with continued feeding	49%	57%
Zinc for diarrhoea		1%
Improved water source	52%	70%
Improved sanitation	45%	59%
Safe disposal of child faeces	11%	19%

Source: MICS 2006, LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A4.5. Immunization coverage* by residence, wealth quintile and mother's education, 2011-12			
		DPT-HepB-Hib3	**All vaccinations**
Residence	Urban	67.7%	54.0%
	Rural	51.7%	39.4%
	Rural with road	53.8%	41.1%
	Rural without road	35.5%	26.5%
Wealth quintile	Poorest	36.8%	28.8%
	Second	46.6%	36.1%
	Middle	59.4%	47.3%
	Fourth	67.6%	51.9%
	Richest	81.4%	61.0%
Mother's education	None	33.4%	24.4%
	Primary	57.1%	44.6%
	Lower secondary	72.0%	55.9%
	Upper secondary	76.5%	60.1%
	Post-secondary, non-tertiary	86.0%	65.6%
	Higher	86.9%	73.0%

***** Percentage of children age 12-23 months vaccinated against vaccine-preventable diseases. "All vaccinations" includes BCG, DPT+HepB+HiB 1-3, Polio 1-3, and measles. Hepatitis B at birth is not considered in the calculation of "all vaccinations" or "no vaccinations."
Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A4.6. Under-five, infant and neonatal mortality rates* by province

(per thousand live births)

	Neonatal mortality rate	Infant mortality rate	Under-five mortality rate
Vientiane City	15	27	32
Vientiane	10	31	37
Borikhamxay	24	45	52
Luangnamtha	28	54	61
Xayabury	45	59	65
Xiengkhuang	21	53	67
Attapeu	27	58	77
Sekong	44	71	93
Savannakhet	28	81	94
Champasack	38	89	97
Oudomxay	58	87	100
Luangprabang	35	84	107
Bokeo	42	92	110
Saravane	35	98	113
Huaphanh	62	100	118
Khammuane	62	131	138
Phongsaly	62	120	151

*For the five year period preceding the survey.
Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A4.7. Under-five, infant and neonatal mortality rates* by socio-economic characteristics

(per thousand live births)

		Neonatal mortality rate	Infant mortality rate	Under-five mortality rate
	Lao PDR	36	76	89
Region	North	48	86	104
	Central	26	63	73
	South	36	88	101
Residence	Urban	22	39	45
	Rural	39	85	100
	Rural with road	39	82	94
	Rural without road	39	108	136
Mother's education	None	44	96	116
	Primary	35	80	91
	Lower secondary	24	47	54
	Upper secondary	34	45	48
	Post secondary non tertiary	23	32	40
	Higher	22	41	41
Wealth quintile	Poorest	40	95	120
	Second	47	98	109
	Middle	43	77	85
	Fourth	17	47	53
	Richest	18	27	33
Ethnic group	Lao-Tai	32	70	76
	Mon-Khmer	43	88	108
	Hmong-Mien	27	58	74
	Sino-Tibetan	62	131	160

*For the five year period preceding the survey.
Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A4.8. Under-five, infant and neonatal mortality rates* by demographic characteristics

(per thousand live births)

		Under-five mortality rate	Infant mortality rate	Neonatal mortality rate
Sex of child	Male	95	82	41
	Female	83	70	30
Mother's age at birth	Less than 20 years old	112	97	53
	20-34 years	79	67	30
	35-49 years	117	97	46
Birth order	1st birth	82	72	41
	2nd to 3rd birth	75	65	30
	4th to 6th birth	101	83	34
	7th birth and above	132	114	44
Previous birth interval	Less than 2 years	116	100	51
	2 years	92	76	27
	3 years	46	34	12
	4 years and above	47	42	20

*For the five year period preceding the survey. "Previous birth interval" excludes first order births.
Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A4.9. Percentage of women with a live birth in the last 2 years protected against tetanus, 2012

		Lao PDR	65.8%
Region	North		71.8%
	Central		63.0%
	South		62.7%
Residence	Urban		73.9%
	Rural with road		64.8%
	Rural without road		54.1%
Education	None		47.1%
	Primary		68.9%
	Lower secondary		76.2%
	Upper secondary		83.3%
	Post secondary non tertiary		82.8%
	Higher		84.0%
Ethnic group	Lao-Tai		72.8%
	Mon-Khmer		58.5%
	Hmong-Mien		53.2%
	Chinese-Tibetan		54.4%

Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A4.10. Percentage of children under age 5 with diarrhoea who received ORT or increased fluids and continued feeding, 2012

		ORT+ continued feeding	ORT only
Lao PDR		57%	61%
Regions	North	61%	66%
	Central	53%	56%
	South	54%	58%
Residence	Urban	71%	78%
	Rural with road	57%	61%
	Rural without road	48%	50%
Wealth quintile	Poorest	55%	57%
	Second	52%	55%
	Middle	66%	69%
	Fourth	62%	69%
	Richest	70%	85%
Ethnic group	Lao-Tai	64%	59%
	Mon-Khmer	65%	62%
	Hmong-Mien	50%	46%
	Sino-Tibetan	54%	47%

Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A4.11. Government expenditure on health, as a percentage of GDP and of general government expenditure, and in current US$ per capita			
	General government expenditure on health (GGHE), current US$ per capita	General government expenditure on health as % of GDP	GGHE as % of general government expenditure
1995	9.1	2.48%	8.44%
1996	10.2	2.67%	12.30%
1997	12.7	3.65%	19.52%
1998	7.0	2.78%	13.88%
1999	3.2	1.15%	6.93%
2000	3.8	1.17%	5.78%
2001	3.6	1.11%	5.57%
2002	3.5	1.08%	6.06%
2003	4.6	1.27%	6.74%
2004	3.4	0.81%	5.37%
2005	3.5	0.73%	4.11%
2006	7.0	1.18%	6.85%
2007	7.4	1.03%	5.67%
2008	8.9	0.98%	5.48%
2009	17.0	1.78%	9.06%
2010	14.1	1.22%	5.41%
2011	18.1	1.37%	6.09%
Source: WHO National Health Accounts, Health Expenditure Series, in collaboration with Ministries of Health.			

MDG 5 - Statistical Tables

Table A5.1. Trend in maternal mortality ratios, 1995-2012					
Data source	LSIS 2011-12	Census 2005	LHS 2003	LRHS 2000	Census 1995
2008	357				
2005		405			
2000			433		
1997				530	
1995					796
Sources: Most recent data from Lao Social Indicators Survey (LSIS 2011-12) for the seven years preceding the survey; Confidence Interval: (269, 446). Other years: Census, 1995 & 2005; Lao Reproductive Health Survey (LRHS 2000), Lao Health Survey (LHS 2003). Lao Statistics Bureau, Ministry of Planning & Investment.					

Table A5.2. Proportion of births assisted by a trained health professional	
1994	14%
2000	17%
2005	23%
2011	42%
Lao Fertility and Birth Spacing Survey (LFBSS 1994); Lao Reproductive Health Survey (LRHS 2000 & 2005); and Lao Social Indicators Survey (LSIS 2011/12), for the two-year period preceding the survey. Lao Statistics Bureau, Ministry of Planning and Investment	

Table A5.3. Place of delivery	
Public sector health facility	37.16%
Private sector health facility	0.86%
Home	59.29%
Other	2.69%
For the two year period preceding the survey. Source: LSIS 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment	

Table A5.4. Percentage of births assisted by a trained health professional & percentage of births in health facilities,* by province

	Delivery assisted by health professional	Facility-based delivery
Phongsaly	19%	18%
Attapeu	20%	19%
Oudomxay	22%	21%
Huaphanh	24%	21%
Sekong	25%	26%
Saravane	31%	27%
Bokeo	32%	31%
Khammuane	35%	30%
Luangprabang	37%	34%
Xiengkhuang	37%	35%
Champasack	40%	25%
LAO PDR	42%	38%
Savannakhet	42%	39%
Xayabury	44%	33%
Luangnamtha	44%	42%
Vientiane	54%	53%
Borikhamxay	56%	52%
Vientiane City	85%	84%

* For the two-year period preceding the survey. Trained health professional means a doctor, nurse or midwife only.
Source: LSIS 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A5.5. Percentage of births assisted by a trained health professional & percentage of births in health facilities,* by socio-economic characteristics

		Delivery assisted by health professional	Facility-based delivery
Lao PDR		42%	38%
Region	North	31%	28%
	Central	53%	50%
	South	33%	25%
Residence	Urban	80%	74%
	Rural with road	33%	29%
	Rural without road	12%	12%
Mother's age at birth	Less than 20	41%	37%
	20-34	43%	39%
	35-49	33%	29%
Education	None	16%	15%
	Primary	35%	30%
	Lower secondary	64%	56%
	Upper secondary	86%	81%
	Post secondary non tertiary	90%	85%
	Higher	93%	90%
Wealth quintile	Poorest	11%	11%
	Second	24%	22%
	Middle	45%	37%
	Fourth	64%	55%
	Richest	91%	87%
Ethnic group	Lao-Tai	58%	52%
	Mon-Khmer	21%	20%
	Hmong-Mien	18%	17%
	Chinese-Tibetan	18%	19%

* For the two-year period preceding the survey. Trained health professional means a doctor, nurse or midwife only.
Source: LSIS 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A5.6. Antenatal care coverage (at least one visit by trained health professional)

2000	21%
2005	29%
2006	35%
2011	54%

Source: LRHS 2000, 2005; MICS 2006, LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A5.7. Antenatal care (ANC) coverage & ANC quality, by socio-economic characteristics

		At least 1 ANC by health professional	ANC by non professional	No ANC	4 ANC by any provider	Blood pressure measured	Urine sample taken	Blood sample taken	Quality ANC*
Lao PDR		54%	2%	44%	37%	47%	23%	23%	18%
Region	North	45%	3%	52%	29%	43%	18%	16%	13%
	Central	63%	2%	35%	47%	53%	29%	32%	25%
	South	49%	1%	50%	28%	40%	15%	15%	12%
Residence	Urban	83%	2%	14%	71%	78%	49%	54%	44%
	Rural with road	50%	2%	48%	30%	41%	16%	16%	12%
	Rural without road	19%	2%	79%	10%	17%	8%	5%	4%
Mother's age at birth	Less than 20	50%	1%	49%	27%	39%	17%	17%	12%
	20-34	57%	2%	41%	41%	50%	25%	26%	20%
	35-49	44%	2%	55%	28%	39%	18%	17%	15%
Education	None	23%	2%	75%	9%	18%	7%	6%	4%
	Primary	56%	3%	41%	34%	47%	20%	19%	15%
	Lower secondary	73%	2%	26%	56%	64%	31%	32%	25%
	Upper secondary	90%	0%	9%	78%	83%	52%	57%	47%
	Post secondary non tertiary	94%	1%	4%	85%	89%	51%	59%	46%
	Higher	93%	4%	3%	87%	93%	68%	73%	58%
Wealth quintile	Poorest	23%	2%	75%	9%	18%	6%	4%	3%
	Second	42%	2%	56%	19%	35%	13%	12%	10%
	Middle	62%	3%	35%	41%	50%	22%	19%	16%
	Fourth	77%	1%	21%	57%	68%	29%	33%	24%
	Richest	92%	2%	7%	83%	87%	58%	65%	52%
Ethnic group	Lao-Tai	72%	2%	26%	55%	62%	33%	35%	28%
	Mon-Khmer	36%	2%	62%	16%	31%	12%	9%	8%
	Hmong-Mien	24%	1%	76%	8%	19%	5%	4%	3%
	Chinese-Tibetan	25%	0%	75%	6%	24%	11%	7%	6%

For the two year period preceding the survey. *Proxy for quality antenatal care: blood pressure measured; urine and blood samples taken.
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment.

Table A5.8. Antenatal care (ANC) coverage & ANC quality, by province

	At least 1 ANC by health professional	ANC by non professional	No ANC	4 ANC by any provider	Blood pressure measured	Urine sample taken	Blood sample taken	Quality ANC*
Lao PDR	54%	2%	44%	37%	47%	23%	23%	18%
Phongsaly	25%	2%	73%	9%	25%	11%	5%	4%
Oudomxay	35%	4%	61%	13%	36%	9%	2%	2%
Saravane	48%	2%	50%	23%	35%	18%	16%	13%
Huaphanh	42%	1%	57%	24%	37%	4%	4%	2%
Sekong	40%	0%	59%	25%	37%	4%	3%	3%
Bokeo	38%	0%	62%	27%	37%	20%	24%	17%
Khammuane	48%	3%	49%	28%	40%	13%	19%	10%
Luangprabang	46%	3%	51%	31%	45%	32%	29%	27%
Savannakhet	52%	2%	46%	32%	37%	22%	26%	18%
Champasack	51%	1%	48%	33%	44%	16%	19%	14%
Xiengkhuang	50%	1%	49%	33%	41%	13%	8%	8%
Attapeu	50%	1%	50%	34%	45%	12%	10%	9%
Luangnamtha	62%	1%	36%	35%	58%	22%	25%	17%
LAO PDR	54%	2%	44%	37%	47%	23%	23%	18%
Borikhamxay	61%	1%	39%	47%	60%	25%	23%	22%
Vientiane	74%	1%	25%	55%	52%	20%	20%	15%
Xayabury	71%	8%	21%	62%	70%	27%	26%	22%
Vientiane City	90%	2%	8%	82%	88%	68%	73%	63%

For the two year period preceding the survey. *Proxy for quality antenatal care: blood pressure measured; urine and blood samples taken.
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment.

Table A5.9. Number of antenatal care visits received & quality of those antenatal care services* as a proportion of all women who had live births during the two preceding years

Percent distribution of women who had:					
No ANC	1 ANC	2 ANC	3 ANC	4 ANC and above	Quality ANC*
44%	5%	5%	9%	37%	18%

*Proxy for quality antenatal care: blood pressure measured; urine and blood samples taken.
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A5.10. Percentage of women with live births during the two preceding years by status of iron supplementation			
Not taking iron pills during pregnancy	Taking iron pills, but for less than 90 days	Taking iron pills for more than 90 days	Not knowing whether they took iron pills
48%	24%	25%	3%
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment			

Table A5.11. Percentage of women who gave birth receiving postnatal care visit or health check within 2 days of delivery, by socio-economic characteristics		
	Lao PDR	**39%**
Region	North	29%
	Central	48%
	South	36%
Residence	Urban	70%
	Rural with road	33%
	Rural without road	14%
Education	None	16%
	Primary	34%
	Lower secondary	58%
	Upper secondary	77%
	Post secondary non tertiary	81%
	Higher	90%
Wealth quintile	Poorest	13%
	Second	25%
	Middle	42%
	Fourth	58%
	Richest	82%
Ethnic Group	Lao-Tai	54%
	Mon-Khmer	22%
	Hmong-Mien	16%
	Sino-Tibetan	18%
For the two year period preceding the survey. Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment.		

Table A5.12. Percentage of married & sexually active unmarried population age 15-49 who had heard of various contraceptive methods, 2011/12			
		Women	**Men**
Any contraceptive method		94%	95%
Traditional	Any traditional method	68%	69%
	Periodic abstinence/Rhythm	65%	58%
	Withdrawal	52%	55%
	Other	3%	2%
Modern	Any modern method	94%	95%
	Male condom	84%	91%
	Pill	91%	85%
	Injectables	89%	79%
	Female sterilization	77%	71%
	IUD	72%	60%
	Male sterilization	48%	46%
	Implants	45%	30%
	Female condom	34%	29%
Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment			

Table A5.13. Percentage of women age 15-49 married or in union who are using (or whose partner is using) any contraceptive method	
1990	13%
1994	20%
2000	32%
2005	38%
2011	50%
RTIM 2012 for 1990 baseline; LFBSS 1994; LRHS 2000 & 2005, LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment	

Table A5.14. Percentage of women age 15-49 married or in union by socioeconomic group and use of contraceptive method, 2011/12

		Not using any method	Any modern method	Any traditional method	Any method
	LAO PDR	50%	42%	8%	50%
Region	North	43%	51%	6%	57%
	Central	52%	39%	9%	48%
	South	59%	35%	7%	42%
Residence	Urban	47%	41%	12%	53%
	Rural with road	50%	44%	6%	50%
	Rural without road	64%	32%	4%	36%
Age	15-19	74%	22%	4%	26%
	20-24	59%	35%	7%	42%
	25-29	45%	47%	8%	55%
	30-34	40%	50%	9%	60%
	35-39	38%	52%	10%	62%
	40-44	49%	43%	8%	51%
	45-49	68%	27%	5%	32%
Number of living children	0	86%	11%	3%	14%
	1	57%	36%	7%	43%
	2	39%	52%	9%	61%
	3	40%	52%	9%	61%
	4+	51%	41%	7%	49%
Education	None	62%	33%	5%	38%
	Primary	46%	48%	6%	54%
	Lower secondary	45%	44%	11%	55%
	Upper secondary	51%	38%	11%	49%
	Post secondary non tertiary	51%	37%	12%	49%
	Higher	53%	28%	19%	47%
Wealth quintile	Poorest	61%	33%	6%	39%
	Second	54%	41%	5%	46%
	Middle	47%	47%	6%	53%
	Fourth	44%	49%	8%	56%
	Richest	47%	40%	13%	53%
Ethnic group**	Lao-Tai	46%	46%	8%	54%
	Mon-Khmer	57%	38%	5%	43%
	Hmong-Mien	68%	18%	14%	32%
	Sino-Tibetan	57%	40%	3%	44%

Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment.

** Figures on other ethnic groups not shown here, as in most cases these figures are based on too small a sample size/too few cases.

Table A5.15. Percentage of currently married women with unmet need for family planning

2000	40%
2005	27%
2011	20%

Source: LRHS, 2000 & 2005, LSIS 2011-2012. Lao Statistics Bureau, Ministry of Planning & Investment

Table A5.16. Percentage of women age 15-49 years married or in union with met need, unmet need and total demand for contraception, by socio-economic characteristics, 2011/12

		Met need	Unmet need	Total demand
	Lao PDR	50%	20%	70%
Residence	Urban	53%	19%	72%
	Rural with road	50%	19%	69%
	Rural without road	36%	28%	64%
Age	15-19	26%	23%	49%
	20-24	42%	21%	63%
	25-29	55%	18%	73%
	30-34	60%	20%	79%
	35-39	62%	21%	84%
	40-44	51%	23%	74%
	45-49	32%	15%	47%
Education	None	38%	26%	64%
	Primary	54%	17%	72%
	Lower secondary	55%	18%	73%
	Upper secondary	49%	22%	71%
	Post secondary non tertiary	49%	18%	67%
	Higher	47%	21%	68%
Wealth quintile	Poorest	39%	26%	65%
	Second	46%	22%	67%
	Middle	53%	18%	71%
	Fourth	56%	16%	73%
	Richest	53%	19%	72%
Ethnic group	Lao-Tai	54%	18%	72%
	Mon-Khmer	43%	22%	65%
	Hmong-Mien	32%	30%	62%
	Sino-Tibetan	44%	25%	68%

Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment.

** Figures on other ethnic groups not shown here, as in most cases these figures are based on too small a sample size/too few cases.

Table A5.17. Percentage of women age 15-49 years married or in union with met need, unmet need and total demand for contraception, by province, 2011/12

	Met need	Unmet need	Total demand
Xiengkhuang	62%	10%	73%
Xayabury	70%	12%	82%
Oudomxay	61%	13%	74%
Borikhamxay	53%	14%	67%
Bokeo	60%	15%	75%
Huaphanh	52%	16%	68%
Khammuane	51%	19%	69%
LAO PDR	50%	20%	70%
Luangprabang	50%	21%	71%
Luangnamtha	56%	21%	78%
Savannakhet	41%	21%	63%
Attapeu	48%	22%	70%
Phongsaly	45%	22%	67%
Saravane	44%	23%	66%
Vientiane City	49%	23%	72%
Sekong	32%	25%	57%
Vientiane	46%	25%	71%
Champasack	41%	25%	66%

Source: LSIS, 2011/12, Lao Statistics Bureau, Ministry of Planning & Investment.

Table A5.18. Adolescent birth rate			
	Urban	Total	Rural
1992		115	
1997		102	
2005		110	
2011	44	94	114

*Number of live births to adolescent women (aged 15-19) per 1,000 adolescent women.
Sources: UN Statistical Division (earlier years) & LSIS 2011-12 (for the three-year period preceding the survey), Lao Statistics Bureau, Ministry of Planning & Investment

MDG 6 - Statistical Tables

Table A6.1. HIV prevalence amongst the general population & high-risk groups (%)					
	General population aged 15-49 years	Female sex workers aged 15-49 years	Men having sex with men aged 15-49 years	Young people aged 15-24 years, male	Young people aged 15-24 years, female
2000	0.10%	0.03%	0.38%		
2005	0.18%	1.83%	1.26%		
2007				0.10%	0.20%
2009				0.10%	0.20%
2010	0.25%	1.38%	2.12%		
2012	0.28%	1.20%	2.44%		

Source: General population: Spectrum projection. Young people: UNAIDS Report on The Global AIDS Epidemic, 2010, AIDS data hub. Female sex workers (FSWs) and men having sex with men (MSM): Asian Epidemic Model (AEM) projection.

Table A6.2. Reported HIV cases, 1990-2012			
	Reported HIV cases (Total)	Reported HIV cases (Male)	Reported HIV cases (Female)
1990	1	1	
1991	5	2	3
1992	5	2	3
1993	8	7	1
1994	12	11	1
1995	33	22	11
1996	72	54	18
1997	111	71	40
1998	102	71	31
1999	152	97	55
2000	162	108	54
2001	192	115	77
2002	187	112	75
2003	170	84	86
2004	258	148	110
2005	357	182	175
2006	353	183	170
2007	458	246	212
2008	487	236	251
2009	535	285	250
2010	612	311	301
2011	670	341	329
2012	617	322	295
Cumulative	5,559	3,011	2,548

Source: Lao PDR Center for HIV/AIDS/STIs (CHAS), Ministry of Health

Table A6.3. Percentage of reported HIV cases by transmission mode, 1990-2012		
	Percentage of reported cases	Number of reported cases
Heterosexual	88%	4,903
Mother to Child Transmission	4.8%	267
Not known	4.6%	253
Homosexual	2.2%	123
Injecting drug use	0.11%	6
Recipient of blood products	0.11%	6
Needle use	0.02%	1
Total	100%	5,559

Lao PDR Center for HIV/AIDS/STIs (CHAS), Ministry of Health, 2013

Table A6.4. Condom use at last high risk sex*			
	[1] Female sex worker	[2] Male electricity worker	[3] Men having sex with men
2000	91.40%		
2005	78.04%		
2008		91%	
2009			66%
2010	95.00%		
2012	92.50%		
2015			

* [1] % of female sex workers reporting condom use with most recent client. [2] % of electricity workers reporting condom use at last sex with a female sex worker. [3] % of men having sex with men reporting condom use at last sex with a male client.
Sources: [1] Lao PDR Integrated Behavioral Biological Surveillance 2011. [2] Lao PDR Integrated Behavioral Biological Surveillance 2008; [3] Lao PDR Behavioral Survey among service women & Integrated Biological & Behavioral Surveillance Survey among MSM in Luang Prabang, 2009.

Table A6.5. Knowledge about mother-to-child transmission of HIV amongst men & women aged 15-49 years, 2011/12			
		Knows HIV can be transmitted from mother to child	Correctly identifies all 3 means of transmission*
LAO PDR		77%	55%
			Residence
Women	Urban	91%	65%
	Rural without road	55%	39%
Men	Urban	92%	64%
	Rural without road	66%	44%
			Education
Women	No education	44%	30%
	Primary education	77%	56%
	Post secondary non tertiary education	97%	69%
Men	No education	52%	34%
	Primary education	77%	52%
	Post secondary non tertiary education	97%	65%
			Wealth Quintile
Women	Poorest	44%	32%
	Richest	95%	67%
Men	Poorest	63%	42%
	Richest	94%	62%
			Ethnic Group
Women	Lao-Tai	88%	64%
	Mon-Khmer	53%	39%
	Hmong-Mien	60%	42%
	Chinese-Tibetan	38%	27%
Men	Lao-Tai	89%	62%
	Mon-Khmer	70%	46%
	Hmong-Mien	78%	53%
	Chinese-Tibetan	51%	36%

* Knows HIV can be transmitted during pregnancy, during delivery and by breastfeeding. Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A6.6. Inequities in HIV knowledge,* young people aged 15-24 years, 2011/12

		Female		Male		Female		Male	
		Poorest quintile	Richest quintile	Poorest quintile	Richest quintile	No education	Post-secondary education	No education	Post-secondary education
Heard of AIDS		58%	98%	71%	98%	49%	98%	57%	100%
Knows HIV/AIDS can be prevented by	Using a condom every time	43%	91%	61%	92%	33%	93%	41%	97%
	having only one faithful uninfected sex partner	43%	91%	61%	93%	36%	94%	48%	96%
Comprehensive knowledge of HIV*		6%	41%	12%	42%	4%	50%	9%	48%

* Comprehensive knowledge: knows prevention; knows a healthy looking person can have HIV, rejects common misconceptions. Source: LSIS 2011-2012, Lao Statistics Bureau, Ministry of Planning & Investment

Table A6.7. Knowledge about HIV transmission* amongst men & women aged 15-49 and 15-24 years, 2011/12

		Young women 15-24 years	Young men 15-24 years	Women 15-49 years	Men 15-49 years
Has heard of AIDS		84%	89%	84%	91%
Knows HIV/AIDS can be prevented by	Using a condom every time	73%	82%	73%	85%
	having only one faithful uninfected sex partner	73%	82%	73%	86%
Comprehensive knowledge of HIV*		24%	28%	23%	30%

* Comprehensive knowledge: knows prevention; knows a healthy looking person can have HIV, rejects common misconceptions. Source: LSIS 2011-2012, Lao Statistics Bureau, Ministry of Planning & Investment

Table A6.8. Age at first sexual intercourse,* 2011/12

	Women	Men
First sex by age 15	9%	3%
First sex by age 18	40%	30%
First sex by age 20	62%	53%
First sex by age 22	75%	71%
First sex by age 25	87%	85%
Never had sex	5%	2%

* Percentage of women/men (aged 15-49) who had first sexual intercourse by a specific age. Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A6.9. Percentage of eligible* adults and children currently receiving antiretroviral treatment (ART)

2005	40.8%
2010	50.8%
2012	55.4%

*The WHO treatment guidelines provide the eligibility criteria for ART. Source: Programme Report & Spectrum projection, UNAIDS

Table A6.10. Malaria mortality and morbidity

	Deaths associated with malaria		Malaria morbidity	
	Number of deaths	Deaths per 100,000 per year	Number of confirmed cases	Confirmed cases per 1,000 per year
2000	350	7.1	40,106	8.1
2001	244	4.8	27,076	5.3
2002	195	3.7	21,420	4.1
2003	187	3.5	18,894	3.5
2004	105	1.9	16,183	3.0
2005	77	1.4	13,615	2.4
2006	21	0.4	18,382	3.2
2007	14	0.2	19,037	3.3
2008	13	0.2	17,648	2.9
2009	5	0.1	22,791	3.7
2010	24	0.4	22,874	3.5
2011	17	0.3	17,532	2.7

Source: Malaria Information System (MIS), Centre for Malariology, Parasitology and Entomology (CMPE), Ministry of Health

Table A6.11. Percentage of children under age 5 sleeping under insecticide treated bed nets/ bed nets

	ITN and LLN	Any bednet	Source
2000	18%	82%	Multiple Indicator Cluster Survey (MICS), Lao Statistics Bureau
2006	41%	87%	Multiple Indicator Cluster Survey (MICS), Lao Statistics Bureau
2011	81.2%	97.9%	National Bed Net Survey, December 2010, CMPE, MoH

ITN: Insecticide treated bednet. LLN: Long-lasting insecticidal bed net . "Any bednet" includes ITN + LLN + conventional net (untreated).
Note that the earlier data from MICS surveys are not comparable with the National Bed Net Survey because of different sampling approaches.

Table A6.12. Proportion of all family members (adults + children) sleeping under insecticide treated bed nets/ bed nets, 2011

Percentage of family members who:	
Sleep under any bed net	97.7%
Sleep under a long-Lasting insecticidal bed net	18.5%
Sleep under an insecticide-treated bed net	63.8%
Sleep under a conventional bed net (untreated)	15.1%
Do not sleep under any bed net	2.3%

Note: total does not add up to 100% due to rounding of decimals. Source: National Bed Net Survey, December 2010, CMPE, MoH, Lao PDR.

Table A6.13. Percentage of children under age 5 testing positive for malaria who are treated with appropriate anti-malarial drugs

	Total number of children tested (Proxy for fever)	Number of children who tested positive for malaria	Malaria prevalence	Children treated with appropriate anti-malarial drugs	
				Number of children	Percentage of children
2009	54,429	5,240	9.6%	5,118	98%
2010	63,959	4,238	6.6%	4,047	95%
2011	48,004	2,267	4.7%	2,119	93%

Source: Malaria Information System (MIS), CMPE, MoH, Lao PDR.

Table A6.14. Tuberculosis incidence, prevalence and death rates									
Year	Tuberculosis incidence (per 100,000 population)			Tuberculosis prevalence (per 100,000 population)			Death rate associated with tuberculosis (per 100,000 population)		
	Upper bound	Mid-point	Lower bound	Upper bound	Mid-point	Lower bound	Upper bound	Mid-point	Lower bound
1990	725	492	304	2,495	1,490	739	60	41	25
1991	696	473	293	2,378	1,435	726	56	38	23
1992	669	455	281	2,281	1,385	709	51	35	21
1993	643	437	270	2,174	1,331	691	48	32	20
1994	618	420	259	2,062	1,273	671	44	30	19
1995	593	403	249	1,960	1,221	653	42	29	18
1996	570	387	240	1,862	1,171	637	40	27	17
1997	548	372	230	1,754	1,112	613	37	25	15
1998	526	358	221	1,673	1,068	597	35	24	15
1999	506	344	212	1,562	1,008	573	33	22	14
2000	486	330	204	1,478	961	553	31	21	13
2001	467	317	196	1,393	912	531	29	20	12
2002	448	305	188	1,313	867	512	28	19	12
2003	431	293	181	1,238	825	494	26	18	11
2004	414	281	174	1,167	782	472	25	17	10
2005	398	270	167	1,094	739	453	23	16	9.7
2006	382	260	161	1,028	700	434	22	15	9.2
2007	367	250	154	963	660	413	21	14	8.7
2008	353	240	148	911	628	398	20	13	8.2
2009	339	230	142	858	596	381	19	13	7.8
2010	326	221	137	815	569	367	17	12	7.3
2011	313	213	131	767	540	353	17	11	6.9
Source: WHO TB database, National Tuberculosis Control, Ministry of Heath, Lao PDR. 2010-2012 National TB prevalence survey.									

Table A6.15. Proportion of estimated new tuberculosis cases detected and proportion of new registered tuberculosis cases cured under DOTS		
Year	% of all new estimated TB cases detected and notified	% of all new registered TB cases cured or completed a full treatment of DOTS
1990	50%	
1991	52%	
1992	26%	
1993	53%	
1994	28%	48%
1995	20%	70%
1996	34%	55%
1997	45%	65%
1998	49%	80%
1999	54%	78%
2000	49%	77%
2001	54%	75%
2002	56%	75%
2003	57%	79%
2004	65%	86%
2005	74%	90%
2006	78%	92%
2007	75%	92%
2008	76%	93%
2009	71%	93%
2010	72%	
Source: National Tuberculosis Control, Ministry of Heath.		

MDG 7 - Statistical Tables

Table A7.1. Proportion of land area covered by forest	
1982	49.10%
1992	47.20%
2002	41.50%
2010	40.34%

Source: Department of Forest Resource Management, Ministry of Environment & Natural Resources (MoNRE)

Table A7.2. Consumption of ozone-depleting substances in Ozone-depleting potential-weighted metric tons	
1995	43.3
1996	43
1997	43.3
1998	43.9
1999	44.7
2000	45.2
2001	42
2002	42.9
2003	23.1
2004	23.3
2005	23.3
2006	19.4
2007	8
2008	3.6
2009	3
2010	2.5

Source: UNEP Ozone Secretariat, based on country reports

Table A7.3. Water resources and use			
Area of the country	23,680,000	hectares	
		Renewable freshwater resources	
Precipitation (long-term average)	1,834	mm/year	
	434,290	million m^3 /year	
Internal renewable water resources (long-term average annual flow of rivers and recharge of groundwater for a given country)	190,420	million m^3 /year	
Total actual renewable water resources (internal renewable water resources + total actual external renewable water resources)	333,550	million m^3 /year	
Total actual renewable water resources per inhabitant, 2009	54,565	m^3 /year	
		Water withdrawal	
Irrigation and livestock, 2005	3,960	million m^3 /year	93.0%
Municipalities, 2003	130	million m^3 /year	3.1%
Industry, 2003	170	million m^3 /year	4.0%
Total surface and groundwater withdrawal	4,260	million m^3 /year	100.0%
Proportion of renewable internal freshwater resources used/withdrawn annually, 2005			1.3%

Source: FAO AQUASTAT Report for Lao PDR. Food and Agriculture Organization of the United Nations

Table A7.4. Proportion of population using improved drinking water sources			
	Urban	**Total**	**Rural**
1990		28%	
1995	75%	39%	32%
2000	75%	45%	37%
2005	76%	57%	50%
2011	88%	70%	64%

Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment and JMP (WHO/UNICEF) for earlier years. 1990 data from MDG Report 2008

Table A7.5. Proportion of population using improved drinking water sources and improved sanitation facilities by socio-economic characteristics, 2011/12			
		Improved drinking water	**Improved sanitation**
Lao PDR		70%	57%
Region	North	79%	60%
	Central	65%	65%
	South	67%	34%
Residence	Urban	88%	88%
	Rural with road	66%	49%
	Rural without road	42%	22%
Household head's education	None	61%	37%
	Primary	67%	51%
	Lower secondary	74%	70%
	Upper secondary	82%	81%
	Post secondary non-tertiary	82%	84%
	Higher	91%	95%
Wealth quintile	Poorest	58%	12%
	Second	62%	33%
	Middle	66%	57%
	Fourth	74%	86%
	Richest	90%	97%
Ethnic group	Lao-Tai	72%	71%
	Mon-Khmer	62%	29%
	Hmong-Mien	69%	43%
	Sino-Tibetan	83%	29%

Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A7.6. Person usually collecting water for the household, by sex, age, ethnic group and wealth quintile, 2011/12					
		Adult woman	**Adult man**	**Female child under age 15**	**Male child under age 15**
Lao PDR		70%	17%	9%	3%
Ethnic group	Lao-Tai	66%	25%	6%	2%
	Mon-Khmer	74%	11%	11%	4%
	Hmong-Lu Mien	70%	14%	12%	5%
	Sino-Tibetan	86%	7%	5%	2%
Wealth quintile	Poorest	75%	11%	11%	3%
	Second	73%	15%	9%	3%
	Middle	66%	25%	6%	3%
	Fourth	59%	33%	4%	2%
	Richest	54%	37%	3%	2%

Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A7.7. Proportion of population using improved sanitation facilities			
	Urban	**Total**	**Rural**
1995	58%	17%	8%
2000	64%	26%	15%
2005	76%	45%	33%
2011	88%	57%	46.30%

Source: LSIS 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment and JMP (WHO/UNICEF) for earlier years.

Table A7.8. Proportion of population using different types of sanitation facilities, by socio-economic characteristics, 2011/12					
		Improved sanitation facilities	Shared improved facilities	Unimproved facilities	Open defecation
LAO PDR		56.9%	2.3%	2.9%	37.9%
Region	North	59.7%	1.5%	5.1%	33.6%
	Central	64.6%	3.2%	1.8%	30.4%
	South	33.5%	1.3%	2.0%	63.2%
Residence	Urban	88.0%	3.4%	1.0%	7.7%
	Rural with road	49.2%	2.1%	3.7%	45.0%
	Rural without road	22.1%	0.5%	2.3%	75.2%
Education of household head	None	37.5%	1.9%	2.1%	58.5%
	Primary	51.4%	2.0%	3.8%	42.9%
	Lower secondary	69.6%	2.9%	3.4%	24.1%
	Upper secondary	80.7%	3.7%	1.6%	14.0%
	Post secondary non tertiary	83.9%	3.0%	1.1%	12.0%
	Higher	95.1%	2.1%	0.2%	2.7%
Wealth quintile	Poorest	12.1%	0.5%	5.7%	81.6%
	Second	33.0%	1.6%	4.8%	60.7%
	Middle	56.8%	3.1%	3.4%	36.7%
	Fourth	85.7%	3.6%	0.4%	10.3%
	Richest	97.1%	2.5%	0.1%	0.3%
Ethnic group	Lao-Tai	70.9%	2.7%	1.5%	24.8%
	Mon-Khmer	29.0%	0.9%	6.3%	63.8%
	Hmong-Mien	43.3%	3.1%	2.8%	50.8%
	Sino-Tibetan	28.8%	1.2%	4.5%	65.5%

Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

Table A7.9. Proportion of population using different types of sanitation facilities, by province, 2011/12				
Province	Improved sanitation facilities	Shared improved facilities	Unimproved facilities	Open defecation
Vientiane Capital	94.1%	3.8%	0.7%	1.4%
Phongsaly	32.9%	1.2%	4.1%	61.8%
Luangnamtha	66.8%	0.6%	0.1%	32.6%
Oudomxay	43.5%	0.8%	8.9%	46.9%
Bokeo	65.1%	4.2%	0.2%	30.5%
Luangprabang	56.7%	1.9%	2.1%	39.3%
Huaphanh	57.8%	0.9%	12.5%	28.7%
Xayabury	87.9%	1.8%	3.5%	6.8%
Xiengkhuang	53.0%	1.1%	12.6%	33.3%
Vientiane	85.0%	3.2%	1.7%	10.1%
Borikhamxay	83.1%	0.9%	0.4%	15.6%
Khammuane	39.8%	2.4%	0.9%	57.0%
Savannakhet	39.0%	4.1%	0.4%	56.5%
Saravane	21.2%	1.1%	0.2%	77.5%
Sekong	35.2%	2.5%	10.1%	52.1%
Champasack	41.9%	1.3%	1.0%	55.8%
Attapeu	36.6%	0.7%	5.1%	57.6%

Source: Lao Social Indicators Survey 2011-12, Lao Statistics Bureau, Ministry of Planning & Investment

MDG 8 - Statistical Tables

Table A8.1. Average tariffs imposed by the European Union (EU) and the USA on Lao exports of clothing and coffee/ tea/spices

	Clothing exports to EU	Coffee /tea /spices exports to EU	Clothing exports to USA
1997	13.1%	1.3%	13.3%
1998			
1999	12.7%	2.5%	10.8%
2000	12.4%	4.0%	8.5%
2001	12.2%	2.7%	9.7%
2002	11.8%	1.1%	22.8%
2003	11.6%	3.6%	13.8%
2004	11.6%	0.6%	17.6%
2005	11.7%	0.8%	13.1%
2006	11.7%	1.1%	14.2%
2007	11.5%	1.8%	11.9%
2008	11.4%	3.3%	12.7%
2009	11.4%	2.8%	12.5%
2010	11.7%	2.1%	14.1%
2011	0.0%	0.0%	10.8%

Source: United Nations Conference on Trade and Development (UNCTAD) - World Trade Organization (WTO) database http://www.mdg-trade.org/Index.aspx

Table A8.2. Proportion of Lao PDR exports of agricultural products, clothing and textiles (by value) to developed market economies admitted free of duty (%)

	Agricultural Products	Clothing	Textiles
1996	99.34%	82.65%	95.28%
1997	92.60%	85.87%	98.30%
1998	98.98%	81.37%	95.16%
1999	99.19%	88.12%	91.12%
2000	98.22%	90.95%	84.67%
2001	99.70%	95.66%	97.58%
2002	99.63%	96.28%	89.09%
2003	98.44%	97.01%	88.04%
2004	98.46%	98.69%	92.84%
2005	99.15%	98.28%	90.44%
2006	98.66%	95.33%	95.22%
2007	97.60%	93.51%	35.50%
2008	99.20%	85.49%	25.40%
2009	68.55%	88.58%	74.72%
2010	99.93%	85.71%	89.68%

Source: United Nations Conference on Trade and Development (UNCTAD) - World Trade Organization (WTO) database http://www.mdg-trade.org/Index.aspx

Table A8.3. Border costs related to importing & exporting one container

	Importing	Exporting
2005	$1,690	$1,420
2006	$1,690	$1,420
2007	$1,930	$1,750
2008	$2,040	$1,860
2009	$2,040	$1,860
2010	$2,040	$1,860
2011	$2,035	$1,880
2012	$2,125	$2,140

Source: World Development Indicators database, World Bank

Table A8.4. Trends in official development assistance (ODA) to Lao PDR

	ODA Million US$	ODA per capita US$	ODA as a percentage of GDP %	Allocations to sectors			
				Education sector %	Health sector %	Other sectors %	Education + Health %
1990	224.34		25.9%				
1991	205.44		20.0%				
1992	228.69		20.3%				
1993	284.68		21.4%				
1994	285.83		18.5%				
1995	362.68		20.6%				
1996	421.11		22.5%				
1997	455.43		26.1%				
1998	393.53		30.7%				
1999	391.79		26.9%				
2000	359.2		20.7%	8.04%	4.68%	87.28%	12.72%
2001	379.5		21.5%	8.75%	6.69%	84.56%	15.44%
2002	411.34		23.4%				
2003	401.81		19.9%	8.90%	5.30%	85.80%	14.20%
2004	383.79		16.2%	12.70%	8.00%	79.30%	20.70%
2005	371.32	66	13.6%	14.21%	9.08%	76.71%	23.29%
2006	468.39	81	13.6%	10.96%	7.80%	81.24%	18.76%
2007	432.76	74	10.2%	13.50%	5.01%	81.48%	18.52%
2008	413.44	69	7.6%	12.57%	6.31%	81.12%	18.88%
2009	559.17	91	9.6%				
2010	585.7	94	8.7%	12.03%	10.86%	77.11%	22.89%
2011	630.01	99	7.7%	13.48%	13.48%	73.05%	26.95%
2012	704.83	108	8.0%	18.30%	13.50%	68.20%	31.80%

Source: For ODA and sector allocations: DIC-Ministry of Planning & Investment (MPI) (2000-2012) in current US$. FAIR data updated with non-OECD partners by MPI, 13 May 2013. ODA for earlier years: World Bank WDI database in constant 2010 US$.
2010-2012 GDP in current US$ from Lao Statistics Bureau and from Ministry of Planning & Investment. GDP for earlier years in current US$ from World Bank WDI database. Population data from Lao Statistics Bureau, Ministry of Planning and Investment.

Table A8.5. Actual disbursements of ODA in million US$

	2011-12	2010-11
Bilateral sources	243.189	378.520
Multilateral sources	174.003	203.262
Funds (GFATM, GAVI)	12.701	11.800
South-South Cooperation	1.763	
INGOs		36.428
Total	431.657	630.010

Source: Foreign Aid Implementation Report (FAIR), Ministry of Planning and Investment, 25 April 2013. Does not include some development partners; therefore is not comparable with preceding table updated by MPI on 13 May 2013.

Table A8.6. Percentage and amount of ODA disbursed to ministries, 2011-2012

Ministry	US$	%
Foreign Affairs	32,917	0.01%
Public Security	110,313	0.04%
Industry & Commerce	717,884	0.3%
Justice	1,204,579	0.4%
Labour & Social Welfare	5,452,332	2.0%
Information, Culture, & Tourism	5,547,982	2.0%
Home Affairs	6,159,777	2.2%
Natural Resources & Environment	8,397,913	3.0%
Finance	8,653,689	3.1%
Planning & Investment	14,635,561	5.3%
Energy & Mines	25,984,046	9.4%
Agriculture & Forestry	35,421,963	12.7%
Education & Sports	44,653,116	16.1%
Health	45,530,835	16.4%
Public Transportation	75,336,406	27.1%
Total	277,839,313	100.0%

Source: Foreign Aid Implementation Report (FAIR), Ministry of Planning and Investment, 25 April 2013. Does not include some development partners.

Table A8.7. Percentage and amount of ODA disbursed to sectors, by sector working group, 2011-2012

Sector Working Group	US$	%
Macro-economics	2,339,407	0.5%
Illicit Drug Control	2,437,742	0.6%
UXO Mine Action	15,991,209	3.7%
Governance	24,604,380	5.7%
Trade & Private Sector Development	25,580,938	5.9%
Natural Resource Management & Environment	36,722,788	8.5%
Health	58,117,764	13.5%
Agriculture & Rural Development	77,746,091	18.0%
Education	78,859,804	18.3%
Infrastructure	109,256,806	25.3%
Total	431,656,929	100.0%

Source: Foreign Aid Implementation Report (FAIR), Ministry of Planning and Investment, 25 April 2013. Does not include some development partners.

Table A8.8. Percentage and amount of ODA disbursed for each MDG area, 2011-2012

MDG area	US$	%
Goal 4 (Child Health)	9,290,612	2.2%
Goal 3 (Gender)	12,524,812	2.9%
Goal 5 (Maternal health)	14,025,314	3.2%
Goal 9 (UXO)	16,678,987	3.9%
Goal 6 (HIV/AIDS, Malaria, TB)	21,964,503	5.1%
Goal 2 (Education)	47,550,236	11.0%
Goal 7 (Environment)	48,314,787	11.2%
Other "Not applicable"	73,156,460	16.9%
Goal 8 (Partnerships)	83,361,729	19.3%
Goal 1 (Poverty/hunger)	104,789,488	24.3%
Total	431,656,928	100.0%

Source: Foreign Aid Implementation Report (FAIR), Ministry of Planning and Investment, 25 April 2013. Does not include some development partners.

Table A8.9. Total debt service		
	Total debt service as % of GNI	Total debt service as % of exports of goods, services and primary income
1990	1.0%	8.5%
1991	0.8%	6.1%
1992	0.8%	4.8%
1993	2.1%	8.3%
1994	1.3%	4.9%
1995	1.4%	6.1%
1996	1.5%	6.5%
1997	1.6%	6.3%
1998	2.5%	6.2%
1999	2.6%	7.8%
2000	2.5%	8.0%
2001	2.6%	8.9%
2002	5.6%	19.6%
2003	5.3%	21.9%
2004	5.5%	22.7%
2005	5.0%	17.4%
2006	5.6%	16.2%
2007	4.7%	15.3%
2008	4.0%	13.6%
2009	3.9%	14.8%
2010	4.6%	13.2%
2011	3.7%	
Source: World Bank International Debt Statistics		

Table A8.10. Mobile cellular subscriptions, telephone lines and internet users per 100 people			
	Mobile cellular subscriptions (per 100 people)	Telephone lines (per 100 people)	Internet users (per 100 people)
2000	0.24	0.77	0.11
2001	0.55	0.97	0.18
2002	1.00	1.13	0.27
2003	2.01	1.25	0.33
2004	3.60	1.32	0.36
2005	11.43	1.58	0.85
2006	17.28	1.58	1.17
2007	24.93	1.60	1.64
2008	33.58	2.12	3.55
2009	52.92	1.64	6.00
2010	64.56	1.66	7.00
2011	87.16	1.71	9.00
Source: International Telecommunication Union (ITU), based on country reports			

Table A8.11. Percentage of men and women aged 15-49 years exposed to media, by residence and wealth quintile, 2011/12						
		Read a newspaper at least once a week	Listen to the radio at least once a week	Watch television at least once a week	All three media at least once a week	No media at least once a week
Total: men aged 15-49		17.6%	42.4%	76.3%	9.9%	8.7%
Total: women aged 15-49		12.6%	34.3%	75.7%	6.8%	5.2%
Men by wealth quintile	Poorest	4.1%	32.7%	31.6%	1.5%	22.8%
	Second	9.8%	40.1%	59.8%	4.3%	14.6%
	Middle	13.1%	39.9%	87.8%	7.0%	5.5%
	Fourth	17.2%	45.1%	94.4%	10.2%	2.5%
	Richest	38.9%	51.6%	96.8%	23.8%	1.5%
Women by wealth quintile	Poorest	0.9%	23.8%	28.3%	0.3%	10.7%
	Second	3.6%	29.9%	56.8%	1.4%	10.1%
	Middle	7.5%	33.3%	86.9%	3.8%	4.4%
	Fourth	12.4%	36.9%	94.8%	6.4%	1.7%
	Richest	31.3%	43.1%	97.2%	17.8%	1.2%
Men by residence	Urban	34.0%	47.7%	92.7%	20.5%	3.1%
	Rural with road	11.6%	40.5%	72.4%	6.1%	10.0%
	Rural without road	6.5%	39.0%	46.1%	3.3%	19.4%
Women by residence	Urban	27.1%	38.2%	94.3%	14.8%	2.0%
	Rural with road	6.9%	32.9%	70.2%	3.6%	6.3%
	Rural without road	2.7%	30.4%	46.7%	1.4%	7.5%

Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

Table A8.12. Percentage of men and women reporting having used the computer/ internet by frequency of use, 2011/12		
	Men aged 15-24	Women aged 15-24
Ever used a computer	19.2%	16.9%
Used a computer during the last 12 months	15.9%	13.9%
Used a computer at least once a week during the last one month	12.3%	10.7%
Ever used the internet	10.7%	8.6%
Used the internet during the last 12 months	9.4%	7.5%
Used the internet at least once a week during the last one month	7.3%	5.8%

Source: Lao Social Indicators Survey (LSIS 2011-12), Lao Statistics Bureau, Ministry of Planning & Investment

MDG 9 - Statistical Tables

Table A9.1. Number of annual reported UXO casualties disaggregated by sex, death and injury, 1964-2012

	Deaths		Injured		Total dead and injured		Unknown		Total annual casualties
	Male	Female	Male	Female	Male	Female	Male	Female	
1964	1,872	303	1,171	121	3,043	424	0	0	3,467
1965	1,437	239	715	95	2,152	334	1	0	2,487
1966	1,242	207	649	88	1,891	295	1	0	2,187
1967	1,536	273	799	120	2,335	393	2	0	2,730
1968	2,646	578	1,562	308	4,208	886	1	0	5,095
1969	2,288	560	1,339	255	3,627	815	0	0	4,442
1970	1,300	237	854	133	2,154	370	0	0	2,524
1971	908	259	679	121	1,587	380	1	0	1,968
1972	1,040	202	924	115	1,964	317	0	0	2,281
1973	860	122	790	78	1,650	200	0	0	1,850
1974	503	65	393	42	896	107	0	0	1,003
1975	717	65	503	60	1,220	125	0	0	1,345
1976	756	72	557	38	1,313	110	0	0	1,423
1977	816	75	533	52	1,349	127	0	0	1,476
1978	874	73	599	63	1,473	136	3	0	1,612
1979	572	52	334	35	906	87	0	0	993
1980	456	54	317	37	773	91	0	0	864
1981	289	28	234	22	523	50	0	0	573
1982	444	30	337	51	781	81	1	0	863
1983	333	29	285	48	618	77	0	0	695
1984	375	20	301	27	676	47	0	0	723
1985	390	38	299	20	689	58	0	0	747
1986	288	27	275	35	563	62	1	0	626
1987	246	31	281	34	527	65	0	0	592
1988	237	20	229	25	466	45	0	0	511
1989	169	27	181	25	350	52	0	0	402
1990	157	12	175	18	332	30	0	0	362
1991	106	15	122	14	228	29	0	0	257
1992	145	21	159	23	304	44	0	0	348
1993	124	25	153	23	277	48	0	0	325
1994	125	16	118	15	243	31	0	0	274
1995	88	10	116	13	204	23	0	0	227
1996	72	23	126	18	198	41	1	0	240
1997	72	13	109	26	181	39	0	0	220
1998	98	14	130	14	228	28	0	0	256
1999	97	18	124	18	221	36	0	0	257
2000	123	12	111	30	234	42	0	0	276
2001	47	9	77	19	124	28	0	0	152
2002	87	9	110	14	197	23	0	0	220
2003	75	13	135	18	210	31	0	0	241
2004	105	12	149	28	254	40	0	0	294
2005	99	13	131	14	230	27	1	0	258
2006	76	13	140	19	216	32	0	0	248
2007	73	4	145	28	218	32	0	0	250
2008	86	13	166	37	252	50	0	0	302
2009	31	3	75	11	106	14	0	0	120
2010	18	6	80	15	98	21	0	0	119
2011	19	0	67	13	86	13	0	0	99
2012	12	3	28	13	40	16	0	0	56
Cumulative	**24,529**	**3,963**	**17,886**	**2,489**	**42,415**	**6,452**	**13**	**0**	**48,880**

Source: National Regulatory Authority for UXO/Mine Action sector in Lao PDR (NRA)

Table A9.2. Number of hectares per year released from UXO contamination	
Year	**Hectares**
1999	580.8
2000	558.6
2001	577.6
2002	469.9
2003	680.7
2004	939.3
2005	1,576.0
2006	1,416.0
2007	2,557.4
2008	5,791.0
2009	7,834.1
2010	4,050.0
2011	6,034.0
Source: National Regulatory Authority for UXO/Mine Action sector in Lao PDR (NRA)	

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The Millennium Development Goals

Progress Report for the Lao PDR 2013

Jointly prepared by the Government of the Lao PDR and the United Nations