



**DEMOGRAPHIC  
CHANGE FOR  
DEVELOPMENT  
LAO PEOPLE'S  
DEMOCRATIC  
REPUBLIC  
2030**





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# Foreword

I am pleased that the study “Lao 2030 – Demographic Change: Opportunities for Development” was delivered as requested by the Ministry of Planning and Investment (MPI) to foster a people centered, demographic guide to planning and policy decisions for the 9th National Social Economic Development Plan (NSEDP) formulation process. The study is in line with the leaving no one behind SDG vision and commitments of the Lao Government to ICPD25.

The study shows that Laos is at the cusp of a potential for realising a demographic dividend: accelerated economic growth within one generation when a country has more people of working age than dependents, if those in the working age are educated, skilled, empowered and employed. *Thus, the urgency to invest in youth and adolescents who will join the working age group now to 2030.* Using this analysis, informed decisions can be made on use of limited resources to accelerate socio-economic development.

Laos PDR’s ambition to graduate from a least developed country can be realised per the anticipated timeline if planning and budgeting decisions commensurate with the population projections are made. The analysis focuses particularly on the demographic impact on key sectors such as Health, Education and the Labor Market, as the key determinants for facilitating the realisation of a demographic dividend.

The study was completed in the “new normal” of the COVID-19 pandemic, with much of the work done virtually. It was initiated at the request of the Ministry of Planning and Investment to provide a solid analysis of demographic context for the 9th NSEDP. Led by the Center for Development Policy Research (CDR), MPI, the Laos Statistics Bureau and other line Ministries contributed to deliver these findings.

I thank the lead researcher Dr. Youssef Courbage from the Institut National d’Études Démographiques, who brought his experience and skills to the task. Special thanks go to the CDR team led by Dr. Sitthiroth Rasphone, Director General of CDR and the UNFPA team in Lao as well as in the UNFPA Asia Pacific Regional Office (APRO).

This analysis will serve as a foundational piece for the UN system’s support to the next UN cooperation framework as well as help development partners in this decade of action for realising the SDGs, to ensure that the COVID-19 pandemic does not set back the gains made in improving lives of the most vulnerable.

UNFPA will be supporting decentralised analysis to support policy makers and budget holders, including the international community on how to best leverage financial and human resources to ensure that no one is left behind. I welcome interested partners to collaborate with us on the next steps.



Mariam A. Khan  
UNFPA Representative

# Executive summary

A land locked country Lao PDR, is still mainly rural with around two thirds of its 7.2 millions inhabitants living in the countryside (2020). Sparsely populated, the country is rich in natural resources (66% of the GDP). It is pursuing regional and global integration, namely after its adhesion to ASEAN in 1997. Since 2010, thanks to consistent economic growth, it became part of the lower middle income countries category.

Driven by hydropower and construction, GDP growth reached 6.7% in recent years, pushing GDP per capita at PPP at 6614 USD in 2018, mainly driven by industry and services. Agriculture, although concentrating the majority of the work force, is from an economic viewpoint relatively left behind. Foreign direct investment contributes much to this growth and is encouraged by the government namely in view of the 8th Development Plan. Savings as a percentage of the GDP fluctuated a lot, reaching 17.5% in 2017. Investment ratio to GDP is however much higher (29% in 2017). With an economic growth relying mainly on natural resources and capital intensive, employment creations are limited. Although labour productivity has remarkably increased, it remains quite low namely in the agriculture sector. This is partly due to shortage of medium and high skilled workers.

Although health spending per capita were multiplied by 3.8 as of year 2000, they are still too low: 55 USD in 2016. Same for education, with only 12% of government expenditures. Hence, Human Asset Index and Human Development Index are still low (rank 140 out of 189 countries). A significant accomplishment was the sharp reduction of poverty rate from 46% in 1992 to 23% in 2015. However large inequalities remain, mainly affected are the rural and the minorities living in mountainous areas. Social protection is expanded to make it more comprehensive. The social security coverage, still remains limited and unequal among genders, for the elderly and workers in the informal economy. Lao PDR is strongly committed to the implementation of the 2030 agenda for the Sustainable Development goals working closely with the UN agencies and establishing mechanisms to engage civil society and stakeholders. Eighteen Sustainable Development Goals (SDG) were therefore defined and are monitored.

The traditional Lao culture, still vivid, is patrilineal and the hierarchy puts the eldest man at the head of the family. Although men are supposed to be the main breadwinners, female's contribution to the labour force is very high, in addition to their activities at home: cooking, cleaning, taking care of the children etc.

Gender inequality, still widespread in education and health is however relatively contained, and Lao PDR Gender Gap Index ranks it 43 among 153 countries, thus in a better position than for the HDI index. Gender based violence is a reality but paradoxically seems more justified by women themselves, their main victim than by men. However, a larger access of women to political instances, such as the National Assembly, might well lead to lesser gender-based violence thanks to the Law apparatus, namely the Law on Gender Equality with the aim of protecting and upgrading women's rights and gender status.

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The rate of natural increase has declined, but still allows the population to double in 37 years. Hence, demographic transition has started, but is not yet mature, which singularizes Lao PDR in the region.

From 1950 to 2015, year of the last census, Lao population increased fourfold at annual rate of 2.1%, a very high one, in spite of net out-migration, with some 1.3 million Lao living in the diaspora. The rate of natural increase has declined, but still allows the population to double in 37 years. Hence, demographic transition has started, but is not yet mature, which singularizes Lao PDR in the region. One trait of this yet unaccomplished transition is the youth of the population, with some 34% of its total and a limited share for the elderly: 4%. Hence, dependency ratio is still high. Importantly, although unnoticed is the youth bulge (the share of the 15-24 years to the total), with skyrocketed since last century. However, recent age pyramid (2017) show now an attrition of its basis, under the impact of fertility decrease, clearly displayed also in the decrease of the Child Women Ratio. Fertility transition had now reached its cruising speed and expectations for demographic dividends are promising.

Family planning is a necessity for the reduction of mortality to acceptable levels. In all its aspects: by inciting women to breed later, by limiting the number of children and by an adequate spacing.

An accomplishment, which could not succeed without the prerequisite of mortality transition. Infant, childhood and maternal mortality have all diminished, IMR from 83 at the turn of the century to 40 p.1000. However, Lao PDR is still lagging behind the neighboring countries (except Myanmar). This mortality situation reflects the unequal diffusion of health services and the differences by socioeconomic and cultural status: place of residence, province, mother's education (the more discriminating), ethno-linguistic group, wealth. Yet, even privileged groups suffer from higher mortality than most citizens from neighboring countries. Family planning is a necessity for the reduction of mortality to acceptable levels. In all its aspects: by inciting women to breed later, by limiting the number of children and by an adequate spacing. Besides, Lao maternal mortality ratio, among the highest in the world, would be reduced with the help of family planning program. Life expectancy at birth, is still low (61.8 years for males, 65.2 for females in 2015). However, the superiority of female's life expectancy goes hand in hand with a higher girl's mortality in childhood, contrary to the laws of nature and an apparent sign of gender discrimination.

Fertility, the most effective demographic parameter of population growth, remains high, the highest in the ASEAN context.

Fertility, the most effective demographic parameter of population growth, remains high, the highest in the ASEAN context. The Total Fertility Rate was 2.75 in 2015-2017, a third over the reproduction rate. Yet, fertility transition was very effective: TFR of 6.36 in the eighties of last century, and 3.17 in 2011-2012. A longitudinal approach shows that, at the end of their reproductive years, the average number of children ever born has fallen from 5.1 in 2011-12 to 3.7 in 2015. As for mortality, fertility transition did not diffuse equally among groups and remains differentiated, especially by area of residence, ethno-linguistic group wealth and level of education; the more privileged group having on average half the number of children of the less privileged. In addition to their high fertility, the less privileged groups suffer from a high level of adolescent and older-age fertility. Yet, a positive sign is that fertility rates are now decreasing even for the less privileged females, such as the illiterate, with a TFR significantly lowered by 1 child, between 2011-12 and 2017.

As for the proximate determinants of fertility, age at marriage increased, reaching 24.4 for females and 27.3 years for males in 2015, but this trend was not maintained later on as shown in the 2017 survey. The present use of contraception is still limited, although its knowledge is close to 100%. Hence only one woman currently married out of two is using, either a modern method (pill, IUD, injectable, condoms or females sterilization) or a traditional one (periodic abstinence, withdrawal). Socio-economic determinants of the use of contraception are rather at odds with fertility level. Hence, it is the lowest for the less educated women but also for the more educated also inclined to the use of traditional methods. Contraceptive use is not significantly increasing: from 50% to 54% only between 2011-12

and 2017. This slightly contradicts the fact that a majority of mothers want no more children after having already got two. Induced abortion is also a mean of fertility control. Measures were taken in 2016 authorizing abortion, mainly for contraceptive failure and to renounce to unsafe practices, which could lead to increased maternal mortality. Total abortion rate was 0.21 in 2017, to compare with the TFR of 2.75 (8% only). Breastfeeding, a traditional method of birth control remained at a constant and very high proportion: 97% of children ever-breastfed. But, the average duration of breastfeeding has decreased from 19.5 to 16.0 months, which *ceteris paribus* might push fertility rates upward.

Households numbers have increase more than total population. This led to a decrease of the average size of the household from 5.80 to 5.30 between 2005 and 2015, essentially due to a fall of the average number of children in the household from 2.29 to 1.70, an impact of fertility decrease. Contrariwise, the number of adults in the household (15 years and over) increased, but very slightly from 3.51 to 3.60. Males are the normal heads of the households, in 87% cases, a little less in the cities 82%.

Internal migration is not very high in Lao PDR according to world standards, either for lifetime migrants or recent ones for the last ten years. The capital and the nearby Xaysomboun province are the more attractive. As for international migration for which data are very limited, estimates vary to a great extent, from 850 thousand to 2.5 million, even for international estimates, the United Nations and the US Census Bureau. Regional distribution was mainly impacted by the differential rate of growth: 3.4% in urban areas, 0.6% per annum in rural areas (-8.5% for the rural without roads).

Population projections by the cohort-component method were prepared with assumptions on mortality, international migration and foremost on fertility. On the basis of the 2011-12 to 2017 trends in the restructuration of females in the fertile age-group 15-49 years and the intrinsic fertility decline for each group of women by level of education: none or ECE, primary, lower secondary, upper secondary and higher, were obtained. Clearly, the synergy of restructuration and of diffusion effects of education plead in favor of the low variant selected by Lao Statistics Bureau, with a Total Fertility declining from 3.0 to 1.8 child per woman from 2015 to 2030. Such a decrease presupposes that preference for smaller families and acceptance of family planning programs would spread nationwide. This would be encouraged by mortality decrease at all ages, particularly among youngsters, leading to a life expectancy increase from 64.7 to 70.1 between 2015 and 2030. A zero net outmigration complemented the assumptions of the projection.

Total population size will increase from 6.7 million in 2015 (7.2 in 2020) to 8.1 in 2030, thus a gain of almost one million in 10 years. The rate of growth will diminish from 14.2 to 8.8 p. thousand between 2015-20 and 2025-30. The age structure will "mature" with its basis regularly receding. Hence, the youngsters below 15 years will diminish both in absolute and relative terms. The "youth bulge", will fall from 44 to 33%. The number and share of the elderly will slightly increase. Consequently, the sustained increase of the active age population between 2015 and 2030 will lead to a decrease of the demographic dependency ratio (or an increase of the support ratio) and paves the way to reap the first demographic dividend, under conditions of good governance.

Another good sign for demographic dividend is that the active age population (15 year and over) will increase at higher rates than the total population, and the difference will increase across time: in 2025-2030, a yearly 2% increase versus 1%. The participation rates are likely to diminish during the coming

Regional distribution was mainly impacted by the differential rate of growth

**3.4%** In urban areas

**0.6%** In rural areas

**-8.5%** In rural areas without roads

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years mainly because more and more young people, males and females will attend college and university. Yet, the active population (including unemployed) will increase even more than the active age-population with a slight contribution of seniors increasing participation, in line with what is happening in Asian neighboring countries. However, unemployment rate of some 9% of the active population (according to the last Labour Force Survey in 2017) will remain relatively high, thus requiring special attention. Hence, in addition to the 87 thousand jobs that need to be annually created, due attention should be given to the large reserves of underused manpower, accumulated during the past.

The demand for education reacts almost immediately to demographic changes. The number of school age population, now around 3 million in 2020, would remain almost at the same level until 2030 and equally divided between boys and girls.

The demand for education reacts almost immediately to demographic changes. The number of school age population, now around 3 million in 2020, would remain almost at the same level until 2030 and equally divided between boys and girls. Enrolment ratios would increase in all levels of education. A 100% net enrolment ratios in pre-primary, primary and secondary level could be expected. However, it is imperative to expand as well tertiary net enrolment. From 16% now to 23% in 2030; a realistic assumption considering, on the hand, the past performances of the enrolments in tertiary education and the absolute necessity to expand it to meet the requirements for a sound economic growth. In addition, due consideration should be given to out-of-school children and adolescents whose numbers after receding are alarmingly increasing since 2014. Considering the necessity to reduce the pupil's teacher ratios to improve the quality of education, the number of teachers and professors should grow at an average rate of 3.9% per annum, especially in pre-primary and in tertiary levels. The numbers of schools and classrooms should also increase accordingly.

Health needs will be directly affected by population growth and changes in the age-structure. The population of youngsters below 15 years of age will decrease from now on until 2030, whereas the number of females in the reproductive ages will be the functional group which will increase most, together with the elderly, although their share will remain rather low: 6% in 2030. The total health personnel is expected to double during the 2018-2030 period, an increase particularly pronounced for nurses and midwives.

Projected to 2030, the support ratio and the demographic dividend will undergo a sustained increment, likely to carry on until the middle of the century, at which time the second demographic dividend might be brought into play.

With adequate policy measures, demographic transition might lead to demographic dividend. The decline of fertility leads to a restructuration of the age distribution to the benefit of the most productive age-groups, enhancing national saving rate and investments, especially the economic investments, rather than the demographic ones. To what extent this demographic dividend, which materialized recently in Lao PDR, will pursue its course until 2030 and beyond? It might be possible to generate demographic dividends energies, by combining the benefits of a growing working-age population but also in better health and better educated to enhance its productivity. The first demographic dividend, the rate of growth of the support ratio (the number of employed active persons to the number of equivalent consumers) was very weak before 2005. It has significantly increased in 2015, under favorable demographic conditions and economic achievements, namely in the industrial and service sector (tourism). Projected to 2030, the support ratio and the demographic dividend will undergo a sustained increment, likely to carry on until the middle of the century, at which time the second demographic dividend might be brought into play.

Policy measures to boost the demographic dividend in Lao PDR should take into consideration the peculiar shortcomings and comparative advantages of the country. Hence, the relative abundance of potential workers in accordance with the high fertility, which still prevailed at the beginning of

the century – should prompt intensive labour activities rather than capital intensive. This is a pre-condition to ensure the inclusion the numerous NEETS into the labour market. This is mainly a government responsibility. Yet, the booming private sector should also be involved in youth employment. Civil society, with the help of the media, should deploy all its efforts to stimulate their own sense of responsibility.

Besides measures to enhance jobs generating productive investments, mechanisms could be developed to encourage young people to start small enterprises and to assist start-up projects. Also, appropriate training could be provided to workers in the informal sector to integrate the formal one. Transfers and tax exemptions may have a positive role in stimulating job creations.

Women participation is essential for country's development. Although their participation rate has traditionally been high, the last labour force survey has shown mixed signals in this regard and a high concentration in primary sector and in non-paid activities. Hence, the necessity to stimulate their empowerment, namely through a system of financial incentives, enabling the creation of income-generating activities. The role of associations is essential as well as that of the media in promoting values of equality, namely among genders. There are socio-cultural obstacles about the perception of gender roles and restrictive social norms, which should be overcome. Since this concern is relatively recent in Lao PDR, it requires multidisciplinary researches to assess the obstacles to women empowerment namely those related to their economic integration.

The shortcomings of human capital and education sector in Lao PDR are obstacles to a sound economic growth. With the exception of primary school, access to other levels of education, higher and technical namely are still low with discrepancies between the stock of available skills for a growing GDP and the needs of the job market. More decentralization is required enabling the local authorities which have a closer perception of the educational needs of their communities to act more efficiently for the improvement of the access to schools and on the quality of education. Although relatively marginal for the time being, private education may also contribute to the educational system, by filling some gaps if necessary. In a globalized world, the acquisition of foreign languages is an absolute necessity, mainly English but also main languages of the Asian environment. The earlier is the better, possibly at the level of primary school. Education is not a luxury good, it costs a lot to the State and to the society. Therefore, priority should go to those scientific and technical studies able to insure to the youngsters a decent job as early as possible. A school support strategy for children in difficulty should be available in order to limit as much as possible repetition and dropout.

Investing in health improves the well-being of the population and productivity of labour force. In Lao PDR where mortality rates: infant, child, maternal are high and life expectancy still modest, more investments in health are required as well as a reduction of inequalities in the distribution of health care and the limited effectiveness of programs. An integrated health information system to assess the performance, the cost-benefit of the whole system should be considered, with the necessity to reduce the financial burden of households to health care, especially in a context of epidemiological transition going hand in hand with demographic one. Population ageing, which will become significant by the middle of this century, and if it is not only an evil with its prospects of reaping the second demographic dividend might add the burden of the likely increase of non-communicable diseases.

Role of associations is essential as well as that of the media in promoting values of equality, namely among genders. There are socio-cultural obstacles about the perception of gender roles and restrictive social norms, which should be overcome.

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# 1

## Country situation

By Tej Ram Jat, UNFPA, Vientiane

### 1.1 Geopolitical context

Lao People's Democratic Republic (Lao PDR) is a land-locked, mountainous, ethnically diverse and politically stable country. It shares borders with Cambodia, China, Myanmar, Thailand and Viet Nam (Figure 1.1). The mainly rural country (67 per cent in 2015) is divided into 17 provinces and 1 prefecture.<sup>1</sup> The Mekong River flows from the north to south of the country forming the border with Thailand for more than 60 per cent of its length.

**Figure 1.1** Map of Lao PDR



<sup>1</sup> Lao Statistics Bureau 2016. *The 4th Population and Housing Census (PHC) 2015*. Vientiane, Lao PDR: Lao Statistics Bureau.

The country is susceptible to natural disasters such as floods, droughts and earthquakes.

Lao PDR is rich in biodiversity and natural resources, which contribute around 66 per cent of country's the gross domestic product (GDP). The country is susceptible to natural disasters such as floods, droughts and earthquakes. A recent disaster was flooding in 2018, compounded by a dam breaking, which affected around 300,000 persons. Heavy floods recurred in 2019 and complicated the situation of those displaced from the flooding in 2018.

During the Indochina War (1964-1973), Lao PDR was heavily bombed. It suffered from 2 million tons of bombs, more per capita than any other country at any time in history. In the country, over 80 million cluster sub-munitions remain unexploded, affecting 15 provinces and 25 per cent of villages. These unexploded ordnances limit safe access for agricultural and development projects, and add complexity, danger and cost to infrastructure projects.

Lao PDR was established on 2 December 1975 with the abolishment of the monarchy. The 1991 Constitution defines Lao PDR as a multi-ethnic single-party state-governed country under the leadership of the Lao People's Revolutionary Party (LPRP). In recent years, Lao PDR has ratified seven out of the nine core human rights treaties. The country is creating a more conducive legal environment for civil society and pursuing regional and global integration. Lao PDR became a member of the Association of South-East Asian Nations (ASEAN) in 1997, the ASEAN Economic Community (AEC) in 2015 and the World Trade Organization (WTO) in 2019.

## 1.2 Economic context: Labour and human capital

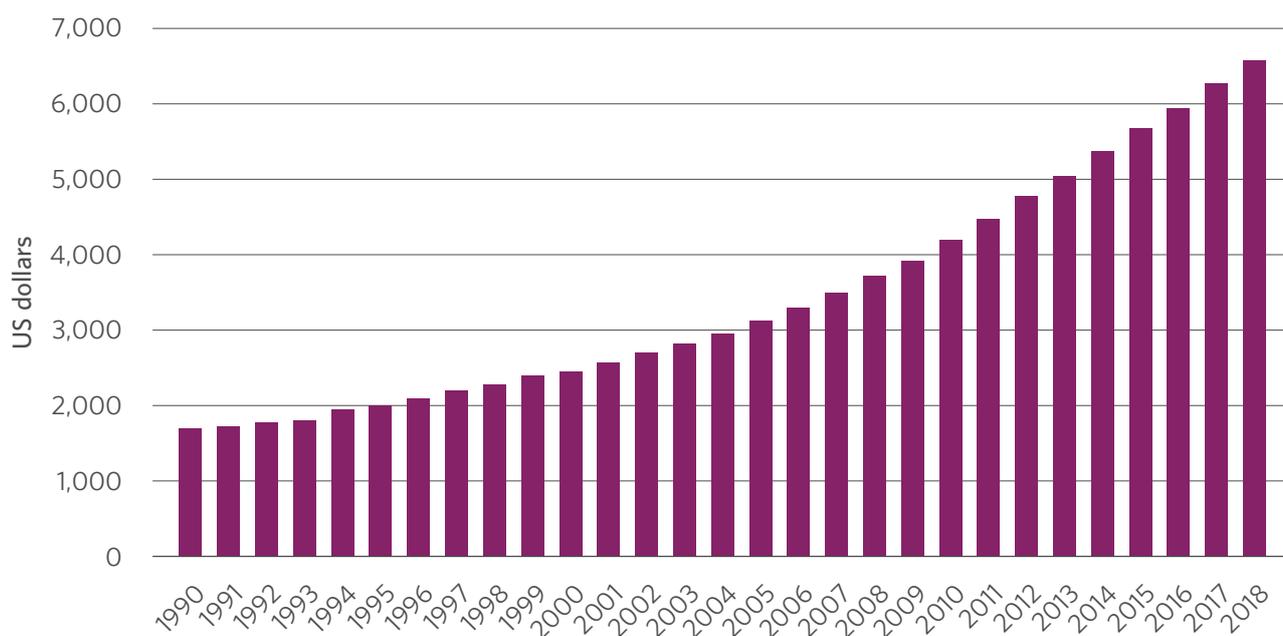
Consistent economic growth enabled Lao PDR to become a lower-middle-income country in 2010. The country is currently categorized as a least developed country (LDC) but aspires to graduate from this status during the course of the country's 9th National Socio-Economic Development Plan (2021-2025).

### The economy of Lao PDR: Magnitude, nature, diversity and growth

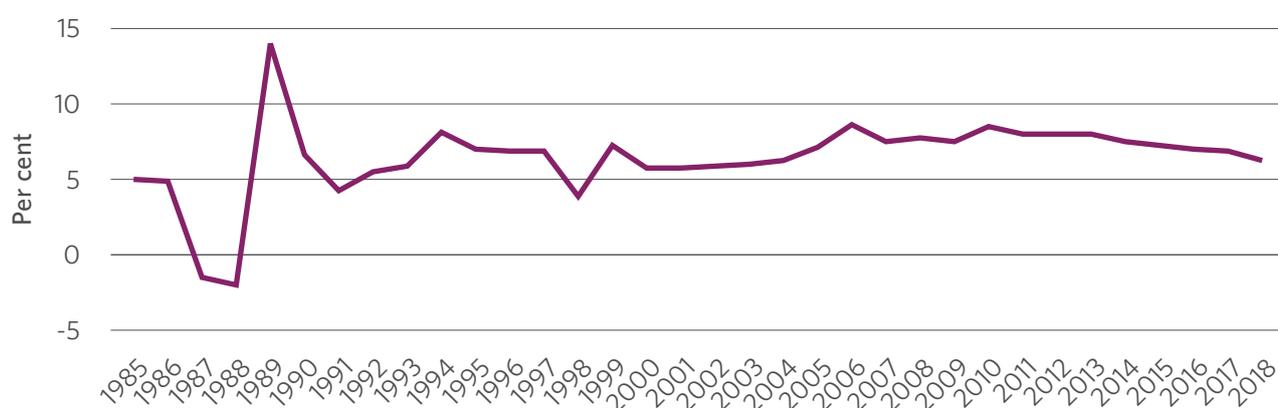
The macroeconomic performance of Lao PDR has been strong and stable. The average GDP growth rate in recent years was 6.7 per cent. In terms of magnitude, the GDP stood at USD 18.13 billion in 2018. The GDP growth is driven mainly by the hydropower and construction sectors, and the GDP per capita at parity purchasing power (PPP) stood at USD 6,614 in 2018 (see Figure 1.2).

Despite the relatively high overall GDP growth rate, the growth rate in the agriculture and forestry sectors remained low.

The shares of the industry, manufacturing and service sectors, as a per cent of GDP in 2018, were 31.6 per cent (USD 5.7 billion), 7.3 per cent (1.3 billion US dollars) and 41.6 per cent (7 billion US dollars), respectively. Despite the relatively high overall GDP growth rate (see Figure 1.3), the growth rate in the agriculture and forestry sectors remained low. The GDP growth in the industry sector averaged 10.4 per cent from 2016-2018, while the agriculture and forestry sectors grew at an average rate of 2.7 per cent. Economic diversification is a priority of the Government, and within this diversification, tourism is considered important.

**Figure 1.2** GDP per capita (USD) at parity purchasing power, 1990-2018

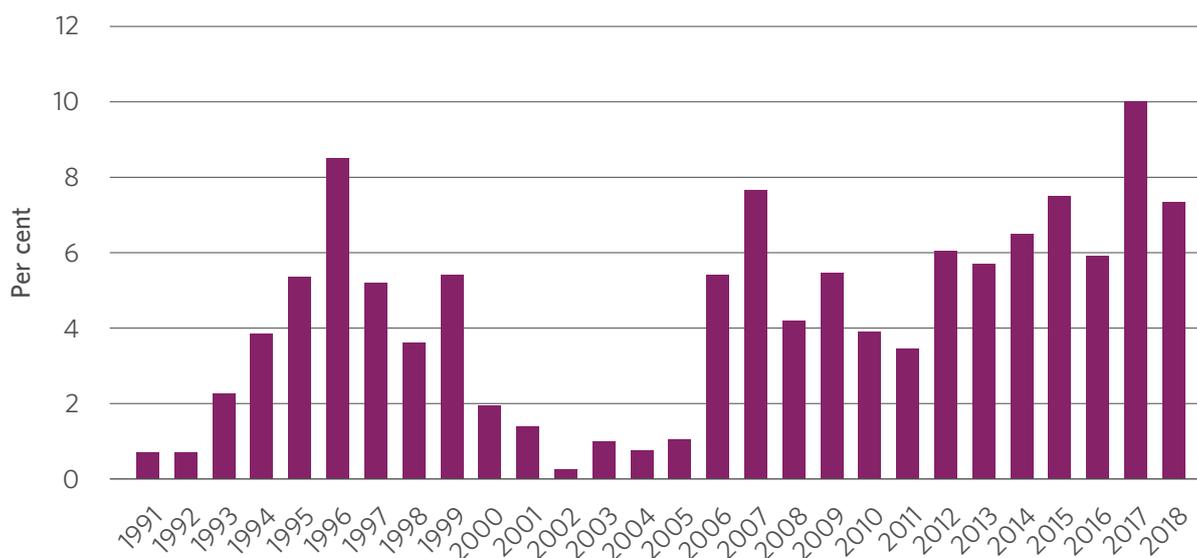
Source: [www.theglobaleconomy.com](http://www.theglobaleconomy.com), The World Bank (accessed on 31 December 2019).

**Figure 1.3** Growth rate of real GDP (%), 1985-2018

Source: [www.theglobaleconomy.com](http://www.theglobaleconomy.com), The World Bank (accessed on 02 January 2020).

## Investment climate

Over the past decades, foreign direct investment (FDI) has grown significantly, but with sharp variations (see Figure 1.4). Since 2011, FDI has remained above 5 per cent of the GDP and reached a high of 10 per cent in 2017, followed by 7.3 per cent in 2018. The Government has highlighted FDI as one of the key forms of private-sector finance that is targeted to provide 57 per cent of the funding needed under the 8th National Socio-Economic Development Plan (2016-2020).

**Figure 1.4** Foreign direct investment as a share of GDP (%), 1991-2018

Source: [www.theglobaleconomy.com](http://www.theglobaleconomy.com), The World Bank (accessed on 2 January 2020).

Lao PDR is stagnant in the World Bank's "Ease of Doing Business" category, ranking 154 out of 190 countries in 2020.<sup>2</sup> It received the same rank in 2019. However, Lao ranked reasonably well in some other categories, such as trading across borders (78), getting credit (80) and registering property (88). The areas requiring improvement were starting a business (181), protecting minority investors (179), resolving insolvency (168), enforcing contracts (161), paying taxes (157) and getting electricity (144). Reforms are being implemented in the areas of starting a business and getting electricity.

### Investment in employment generation and employability

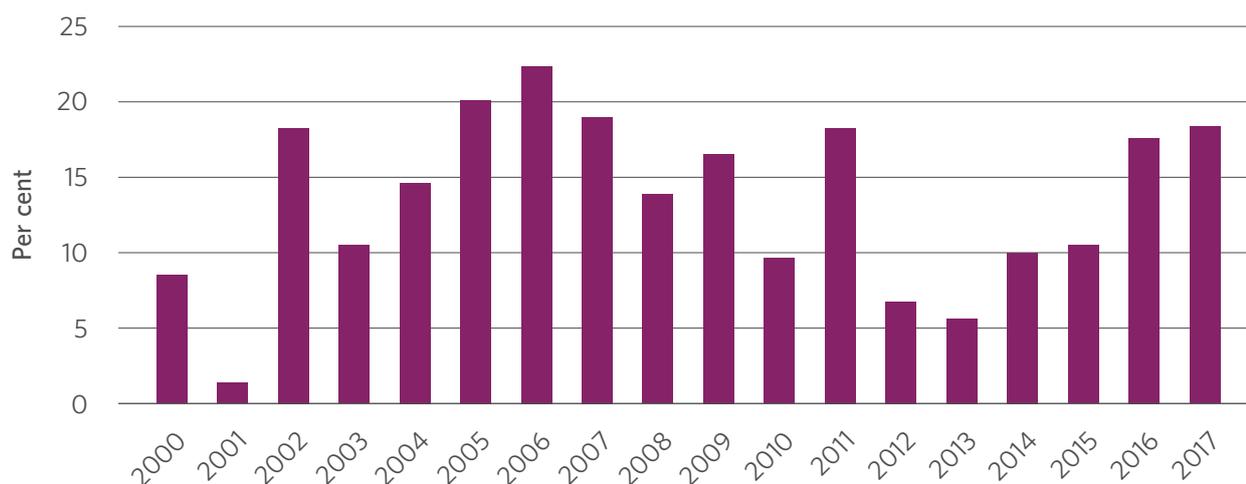
Employment generation, an integral part of social development, depends on investment, which is largely determined by the level of savings. Figure 1.5 shows the fluctuation in the savings ratio expressed as a percentage of GDP for 2000 to 2017. Since 2013, when it reached 5.7 per cent, the savings to GDP ratio has gradually increased to reach 18.5 per cent in 2017.

The stable trend of a relatively high capital investment ratio explains the consistent rate of the real GDP growth in the country.

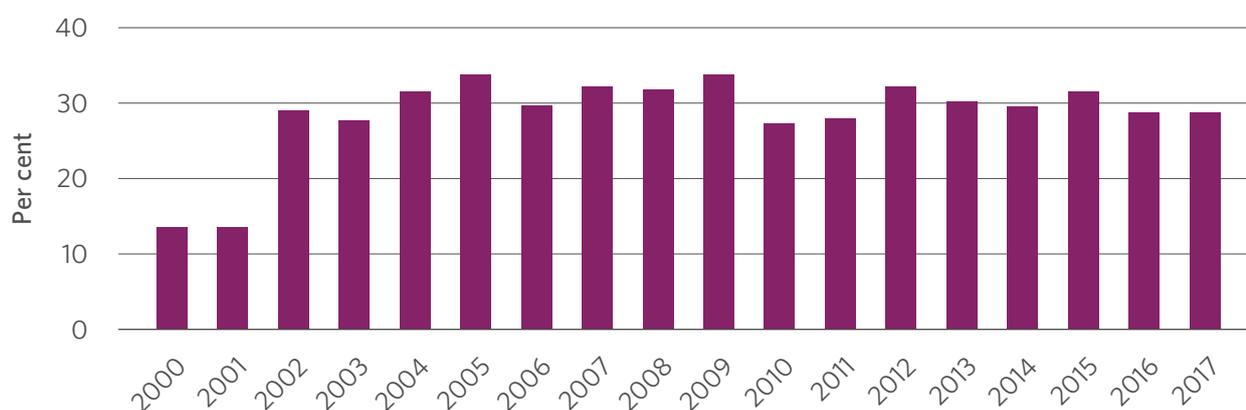
Capital investment in Lao PDR has continuously increased and reached USD 4.89 billion in 2017. The investment to GDP ratio sharply increased from 13.5 per cent in 2000 to 29.0 per cent in 2002 (see Figure 1.6). Since 2002, the investment ratio to GDP has remained in the range of 27.5 to 34.1 per cent. This stable trend of a relatively high capital investment ratio explains the consistent rate of the real GDP growth in the country.

The labour force has been gradually increasing in accordance with the demographic trend. Figure 1.7 shows the trend in the labour force from 1990 to 2018. It increased from 1.93 million people in 1990 to 3.73 million people in 2018. The latest labour force participation rate (formal and informal sectors) was recorded to be 78.2 per cent in 2018 (female 76.8 and male 79.7 per cent). It is noteworthy that male and female rates of participation are comparable, however, women are predominantly engaged in the informal sector, thus lacking access to social security.

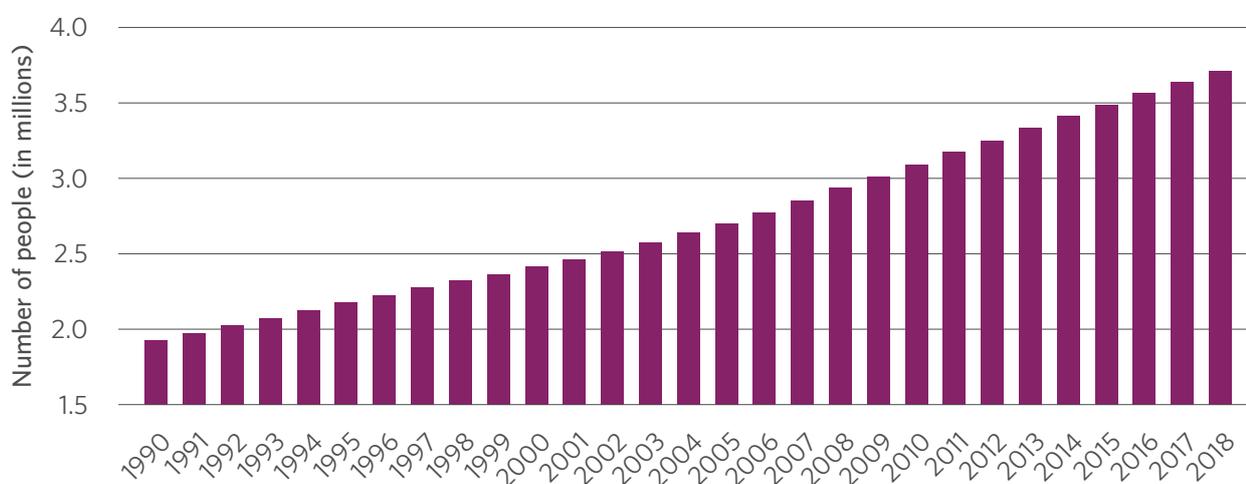
<sup>2</sup> World Bank 2020: *Doing Business 2020*. Washington, DC: World Bank.

**Figure 1.5** Savings to GDP ratio (%), 2000-2017

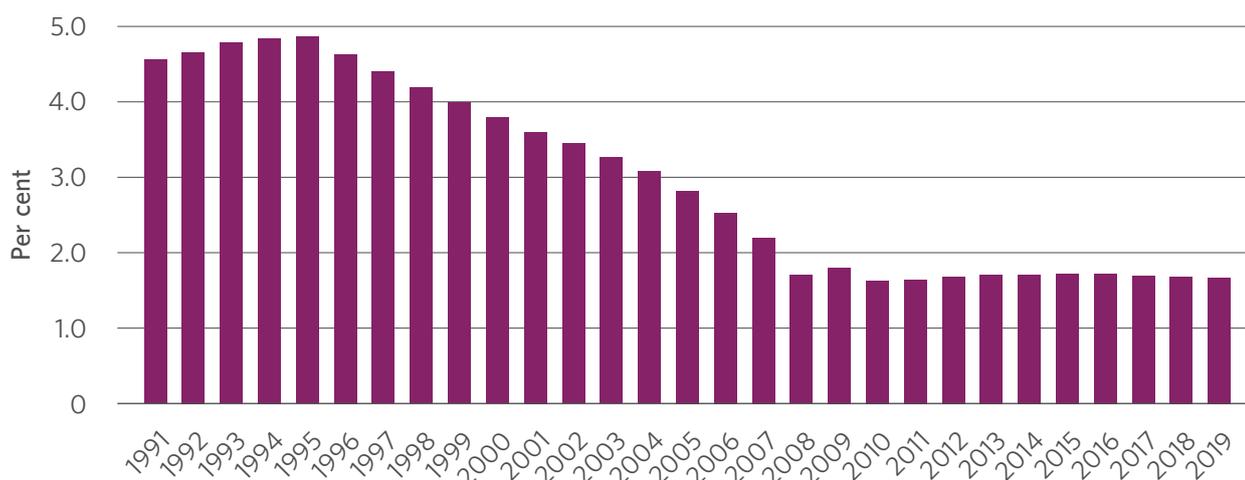
Source: [www.theglobaleconomy.com](http://www.theglobaleconomy.com), The World Bank (accessed on 30 December 2019).

**Figure 1.6** Investment to GDP ratio (%), 2000-2017

Source: [www.theglobaleconomy.com](http://www.theglobaleconomy.com), The World Bank (accessed on 31 December 2019).

**Figure 1.7** Labour force (in millions of people), 1990-2018

Source: [www.theglobaleconomy.com](http://www.theglobaleconomy.com), The World Bank (accessed on 2 January 2020).

**Figure 1.8** Unemployment rate among youth aged 15-24 years, 1991-2019

Source: [www.theglobaleconomy.com](http://www.theglobaleconomy.com), The World Bank (accessed on 2 January 2020).

**Labour productivity has increased remarkably from 1995 but it still remains low and does not have sufficient impact on the agriculture and fishery sectors that comprise 70 per cent of the employed population.**

Lao PDR's economy is heavily reliant on the natural resource sector. The economic growth has been mainly resource driven and capital intensive, and as a result, productive employment generation is still limited. Labour productivity has increased remarkably from 1995 but it still remains low and does not have sufficient impact on the agriculture and fishery sectors that comprise 70 per cent of the employed population. Shortage of medium- and high-skilled workers and skill mismatch are key challenges that require urgent attention. Concentrated efforts are required to upgrade education and skill building for young people, and to promote mutual recognition of qualifications. Promotion of agriculture sector productivity requires special attention.

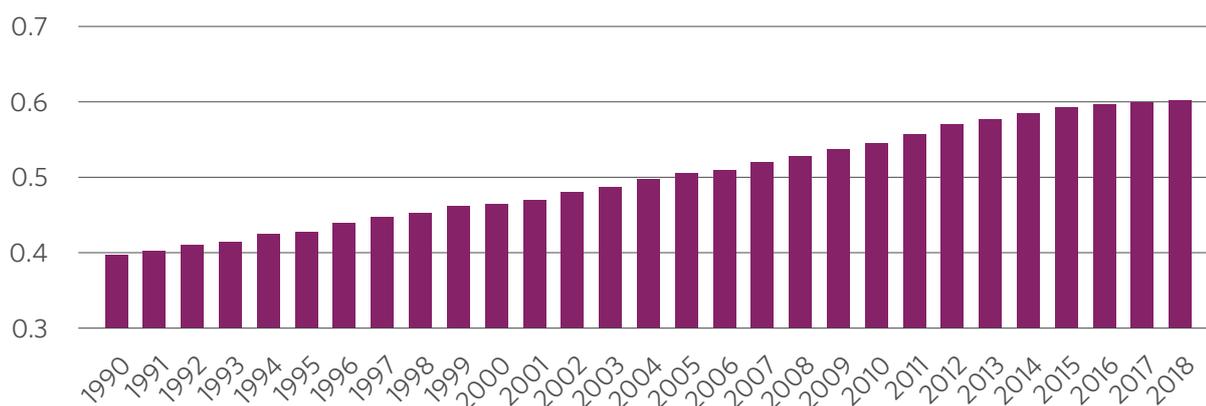
Youth unemployment (ages 15-24 years) was on the rise between 1991 and 1995 (see Figure 1.8) but reduced sharply to reach 1.7 per cent in 2008. The rate of youth unemployment remained in the range of 1.8-1.6 per cent from 2009- 2019. The youth unemployment rate for males and females in 2019 was 1.6 and 1.5 per cent, respectively.

### Investment in education and health

Spending on education, skills development and health is an investment in human rights and contributes to increasing productivity. Health spending per capita increased from USD 14.4 in 2000 to 55.2 in 2016. Government expenditures on education also increased from 7.3 per cent of total government expenditures in 2000 to 12.2 per cent in 2014, with a peak of 17.5 per cent in 2006. Despite increased expenditures, the level of investment in these areas remains below the country's commitments and requires an accelerated increase.

**Human Development Index (HDI) for Lao PDR has steadily increased and was at 0.60 in 2018.**

Lao PDR already met the Human Assets Index (HAI) criteria for LDC graduation in 2018 when it reached 72.8, which was up from 54.0 in 2006. The HAI is a measure of a county's human capital formation. It shows the degree to which a country has developed the supply of human assets necessary to maintain a robust growth trajectory. The Human Development Index (HDI) for Lao PDR has steadily increased and was at 0.60 in 2018 (see Figure 1.9).

**Figure 1.9** Human Development Index, 1990-2018

Source: [www.theglobaleconomy.com](http://www.theglobaleconomy.com), The United Nations (accessed on 31 December 2019).

## Poverty and social protection

Lao PDR has made significant progress in reducing poverty during the last three decades. The poverty rate fell from 46 per cent in 1992 to 23 per cent in 2015. There have been marked improvements in household welfare in terms of asset ownership, condition of housing, and access to markets and services. Improved rural infrastructure, roads and services resulted in better livelihood opportunities and enhanced market access for agricultural produce.

According to World Bank estimates, poverty declined by 0.4 per cent for every 1 per cent of GDP growth, a lower decrease than in neighbouring countries for a corresponding investment. The Gini income inequality index of 36.4 points in 2012 shows the presence of widespread income inequalities. The poverty rate in rural areas in 2012-2013 was 2.9 times higher than that of urban areas, and consumption of the richest quintile was 6.4 times higher compared to the poorest quintile. The ethnic population, traditionally living in mountainous and remote areas, continues to have difficulty in access to services and livelihood opportunities, and experiences slower levels of poverty reduction.<sup>3</sup>

Poverty rate in rural areas in 2012-2013 was 2.9 times higher than that of urban areas, and consumption of the richest quintile was 6.4 times higher compared to the poorest quintile.

Policy frameworks related to social protection in Lao PDR are based on the country's national development and poverty eradication goals, and aligned with international commitments. Serious efforts are being made for strengthening the policy framework on social protection and expanding formal social protection coverage in the country to make it more comprehensive and coherent. However, the social security coverage in the country still remains limited, especially when disaggregated by age and sex.

Currently, mainly civil servants and workers employed in the formal economy have social security coverage, whereas workers in the informal economy lack adequate access to basic coverage. Health insurance coverage remains low.

The Government has recently agreed on a new National Social Protection Strategy (NSPS) up to 2025. This strategy sets out a roadmap for social protection in the country.

<sup>3</sup> Government of Lao PDR, 2018. *Lao People's Democratic Republic: Voluntary National Review on the Implementation of the 2030 Agenda for Sustainable Development*. Government of Lao PDR, Vientiane, Lao PDR.



## 1.3 Progress towards international agreements and goals

Lao PDR is actively engaged in its international commitments and has acceded to or ratified seven out of nine key international human rights instruments. The country continues to incorporate these obligations into its national laws, policies and programmes. The Government of Lao PDR accepted 116 of the 196 recommendations made by the Working Group on the Universal Periodic Review (UPR) in 2015, and has submitted the report to the third cycle of UPR in 2019. Lao PDR is also playing a lead role in implementing the Convention on Cluster Munitions (CCM).

### Progress on the Sustainable Development Goals

Lao PDR actively participated in the design of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). It has adopted its own SDG 18 on unexploded ordnance 'Lives safe from UXO'. The Lao Government is committed to the implementation of the Global Agenda 2030, and works closely with United Nations agencies and other development partners for ensuring progress towards achieving the SDGs and establishing mechanisms for engagement of civil society and relevant stakeholders. The National Steering Committee for SDG implementation has been established under the Chairpersonship of the Prime Minister, with members of the committee drawn from concerned ministries, ministry-equivalent agencies, and civil society organizations. The National SDG Secretariat has been established, which is led by the Ministry of Foreign Affairs and the Ministry of Planning and Investment. SDG focal points are designated within each of the relevant line ministries to lead the implementation, coordinate within the Government and take ownership of each SDG.

The SDGs have been localized and integrated into the national planning framework. Nearly 60 per cent of the 8th National Socio-Economic Development Plan (2016-2020) indicators are linked to SDG indicators, which shows the commitment of the Government in implementing the 2030 Agenda for sustainable development: Lao PDR prepared its first National Voluntary Report (VNR) on the implementation of 2030 Agenda and presented it in the High-Level Political Forum in 2018.<sup>4</sup> The following section describes the progress achieved towards the SDGs and highlights the challenges to be addressed.

#### SDG 1: No poverty

Significant progress has been made in reducing poverty in Lao PDR in the last three decades. The poverty rate fell from 46 per cent in 1992-1993 to 23 per cent by 2012-2013, ahead of time for achieving the Millennium Development Goal (MDG) target 1A by 2015. Household welfare notably improved in terms of ownership of assets, condition of housing and access to services and markets. Yet, the disparities between income quintiles still remain significant.



<sup>4</sup> Government of Lao PDR, 2018. *Lao People's Democratic Republic: Voluntary National Review on the Implementation of the 2030 Agenda for Sustainable Development*. Government of Lao PDR, Vientiane, Lao PDR.



### SDG 2: Zero hunger

The proportion of the undernourished population has been reduced from 42.8 per cent in 1990 to 18.5 per cent in 2015. Reducing stunting and wasting (underweight for height) among young children is still off-track, as around 33 per cent of children under five years of age were stunted and 9 per cent were wasted in 2016-2017. The prevalence of anaemia among girls aged 15-19 years was 42.6 per cent in 2016-2017. Food insecurity is still significant, and the causes of undernutrition need to be addressed.



### SDG 3: Good health and well-being

In Lao PDR, the maternal mortality ratio was reduced from 405 per 100,000 live births in 2005 to 206 maternal deaths per 100,000 live births in 2015. Recent estimates (2017) situate it at 185 per 100,000 live births. Significant progress has been made in reducing infant and childhood mortality. The adolescent birth rate still remains high at 83 births per 1,000 adolescent girls aged 15-19 years. Unmet need for contraception among sexually active unmarried women aged 15-49 years is still 75.4 per cent. Disparities in health service coverage are prominent, and malaria resurgence, non-communicable diseases and traffic injuries are posing growing threats.



### SDG 4: Quality education

Universal coverage in primary education enrolment is 98.8 per cent, and gender parity has been achieved at the primary education level. The Gender Parity Index (GPI), calculated with gross enrolment ratios, was 0.98, and the GPI of primary education completion rates reached 1.00 in 2017. Hence the proportion of girls making it to Grade 5 is the same as that of boys. Significant gains have been achieved in secondary education as well as in technical and vocational education and training. However, 41.8 per cent of girls aged 15-17 years were not in school in 2016-2017. Education completion rates and learning outcomes for children require significant improvement. Addressing the high dropout rates and gender gaps at the secondary education level are priorities.



### SDG 5: Gender equality

A relatively high proportion of women (27.5 per cent) has been achieved in the Lao National Assembly. However, the proportion of women in other decision-making positions is still low. The National Law on Preventing and Combating Violence against Women and Children has been passed. Hotlines, counselling and protection services for women and children who are victims of violence are available at the central level and in all provinces. The Noi 2030 Framework, as included in the VNR 2018, is being implemented for achieving gender equality and empowerment of adolescent girls. Women and girls lag behind in access to secondary level education, health and legal services, and in livelihood and economic opportunities. Adolescent girls are particularly vulnerable, due to high rates of early marriage and adolescent pregnancy, 23.5 per cent of girls aged 15-19 years were currently married/in union in 2016-2017.



### SDG 6: Clean water and sanitation

The MDG targets for 2015 on improved water and sanitation have already been achieved. In 2015, 76 per cent and 71 per cent of the population had access to improved sources of drinking water and improved sanitation facilities, respectively. Lao PDR is rich in water resources and has passed an updated Water and Water Resources Law. However, rural areas have made limited progress in sanitation and hygiene. Open defecation practices (23 per cent in 2015) need to be eliminated, and water management, safety and quality need to be given greater attention.

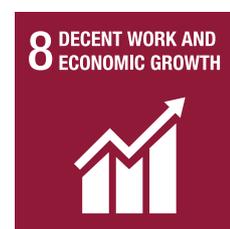
### SDG 7: Affordable and clean energy

Continued progress is being made towards nationwide electrification, including in rural areas without road access. By 2016, 92 per cent of households had access to electricity. There is high use of renewable energy. Only 4 per cent and 2 per cent of households, respectively, use electricity and gas for cooking, while two thirds of households still cook with firewood or charcoal. These households need to switch to cleaner fuels.



### SDG 8: Decent work and economic growth

Lao PDR achieved 5.5 per cent per capita annual economic growth and 7 per cent GDP growth in 2016, there significant expansion of skills training and development programmes. However, it should be noted that 42.4 per cent of girls aged 5-17 years are involved in child labour. The economy is still heavily reliant on the natural resource sectors. Access to social protection is limited, with only workers in the formal economy having social security coverage while workers in the informal economy lack adequate access to basic coverage.



### SDG 9: Industry, innovation and infrastructure

Significant progress has been made in transport infrastructure development, especially the roads connecting cities to rural areas and the railway project as part of the 'One Belt One Road Initiative'. Over 84 per cent of the rural population live in villages with all-weather road access. Locally owned small and medium enterprises (SMEs) need to improve productivity and competitiveness.



### SDG 10: Reduced inequalities

Lao PDR achieved a 16 per cent decline in poverty nationwide between 2005 and 2015. However, poverty reduction was almost four times higher in urban areas than in rural areas. Rapid economic growth has not sufficiently resulted in an equal reduction of poverty. The World Bank estimates that for every 1 per cent of GDP growth, poverty declined only by 0.4 per cent. Inequality has widened, with an increase in the Gini coefficient, and the gains for the bottom 40 per cent of the population were lower than the gains for the rest of the population.



### SDG 11: Sustainable cities and communities

Lao PDR is sparsely populated and currently has no major slums even around the major cities. The country has more than 2,000 tourist sites, of which there are 1,200 natural sites, over 600 cultural sites, around 300 historical sites and two UNESCO World Heritage towns. Local disaster risk reduction strategies are being developed and revised. The urban population has increased from 27 per cent in 2005 to 33 per cent in 2015. Urban policies and infrastructure need to be developed and strengthened to meet the needs of existing urban populations and in anticipation of expected growth of cities.



### SDG 12: Responsible consumption and production

Efficient and sustainable management of natural resources and the development of ecotourism are prioritized in the 8th National Socio-Economic Development Plan. Systems and frameworks are still being developed to assess progress towards SDG 12.





### SDG 13: Climate action

Lao PDR was the first ASEAN country to ratify the Paris Agreement on Climate Change on 7 September 2016. The country is on track to phase out ozone-depleting substances. National law on Intended Nationally Determined Contribution has been passed. The country is highly vulnerable to climate change due to dependence on natural resources. Reforestation, afforestation, improved forest management and water resources management need prioritized efforts.



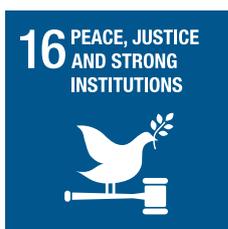
### SDG 14: Life below water

As a landlocked country, Lao PDR has adapted SDG 14 by applying it to its diverse freshwater ecosystem, which provides food and livelihood security for a significant proportion of the population. Large development projects, deforestation and agricultural intensification pose challenges to the country's aquatic resources.



### SDG 15: Life on land

Standardized approaches have been developed for measuring and monitoring forest coverage as the basis for programmes to reduce deforestation and forest degradation, and for reporting on the United Nations Framework Convention on Climate Change (UNFCCC). The governance of natural resource sectors needs further strengthening.



### SDG 16: Peace, justice and strong institutions

Steady progress has been made in improving governance and planning frameworks. The government's transparency and anticorruption drive is yielding results. Implementation and enforcement of laws need to be strengthened.



### SDG 17: Partnership for the goals

Lao PDR has adopted the Vientiane Declaration on Partnership for Effective Development Cooperation (2016-2025). An improved legal framework was established for expanded censuses and generation of disaggregated data. The availability of disaggregated data by sex, income, geography and other criteria is still limited and requires enhanced capacity building and systems strengthening. The predictability and sustainability of funding for SDG-focused programmes also still need to be addressed.



### SDG 18: Lives safe from UXO

UXO casualties have been reduced by 85 per cent over the last decade. A new and more results-oriented methodology has been developed for finding, prioritizing and clearing UXO-contaminated areas. Continued international support is required due to the scale and scope of the UXO problem. Addressing the needs of survivors and victims of UXO remains challenging.

## 1.4 Socio-cultural context and gender issues

Lao PDR is an ethnically diverse country, with 50 recognized ethnic groups speaking a total of 82 distinct living languages. Slightly over half of the country's population (53.2 per cent) belong to the Lao ethnic group. Khmou (11 per cent) and Hmong (9.2 per cent) are the second and third largest ethnic groups, respectively. Buddhism is the predominant faith and is practiced 64.7 per cent of the population, while 31.4 per cent of the population report themselves as having no religion. The following sections address some of the main cultural issues that can deeply impact fertility and population in the country.

### Social and cultural norms

Social and cultural norms have a strong impact on family dynamics as they largely determine the behaviours, thoughts and beliefs. These norms are shaped and changed over time based on the larger social, economic, political, educational and cultural environment.

The traditional Lao culture maintains a hierarchy in the family, with the eldest man in the family considered as the head of the household. He makes decisions about family matters and represents the household at village meetings. The division of labour in Lao traditional society is not very rigid but it does divide certain tasks between male and female members in the family. Men are considered as the main breadwinners and in-charge of hunting, ploughing paddy fields, and caring for buffalo and oxen. Whereas women and girls are usually responsible for cooking, carrying water, maintaining the household, taking care of small domestic livestock and small crops work, and primary caregiving to children and elderly. The responsibilities can result in lost opportunities for recreation, education and paid jobs.

A strong commitment is maintained for the institution of marriage in Lao culture. A total of 64.4 per cent of women aged 15 and older are currently married (62.5 per cent among males). Those who are divorced or separated (3.5 per cent among females and 1.5 per cent among males) or widowed (6.6 per cent among females and 1.5 per cent among males) are more likely to be female.<sup>5</sup> Participation of women, girls and young people in making family decisions is generally limited. Lao PDR has the highest rate of early marriage in ASEAN, with 23.5 per cent for adolescent girls aged 15-19 years already married or in union,<sup>6</sup> and accordingly, the school dropout rate for adolescent girls is also very high.

The proportion of people aged 65 and older in Lao PDR increased to 4.2 per cent in 2015 from 3.9 per cent in 2005.<sup>7</sup> Elderly people receive high respect in Lao society and live with their children in extended families. They are provided primary care and informal support by family members, especially by women and girls. However, the increasing pace of urbanization is replacing extended families with nuclear families, as working people are migrating from rural to urban areas and are having fewer children, while the older people may remain in rural areas. This is reducing the reliance on family and informal support and increasing the tendency to seek support from formal services. However, the social protection and welfare systems are not well developed to respond to the increased demand for services.

Division of labour in Lao traditional society is not very rigid but it does divide certain tasks between male and female members in the family.

The increasing pace of urbanization is replacing extended families with nuclear families, as working people are migrating from rural to urban areas and are having fewer children, while the older people may remain in rural areas.

<sup>5</sup> Lao Statistics Bureau 2016. *The 4th Population and Housing Census (PHC) 2015*. Vientiane, Lao PDR: Lao Statistics Bureau.

<sup>6</sup> Lao Statistics Bureau 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*. Vientiane, Lao PDR: Lao Statistics Bureau and UNICEF.

<sup>7</sup> Lao Statistics Bureau 2016. *The 4th Population and Housing Census (PHC) 2015*. Vientiane, Lao PDR: Lao Statistics Bureau.

These systems need to be further strengthened to provide support and services as the anticipated demographic changes take place in terms of structure, distribution and geography.

## Gender inequalities

Women and girls lag behind in access to education and health services, and they are still constrained in livelihood options and economic opportunities.

The Constitution of Lao PDR provides guarantee for equality between men and women in politics, economy, culture, society and family. The Lao Government is making focused efforts to promote gender equality. However, gender-based inequalities are still widespread in the country. Women and girls lag behind in access to education and health services, and they are still constrained in livelihood options and economic opportunities. The World Economic Forum ranked Lao PDR's Gender Gap Index (GGI) at 43 out of 153 countries in its Global Gender Gap Report 2020.<sup>8</sup>

## Education

The literacy rate among the population 15 years and older in Lao PDR is 84.7 per cent with a large gender gap. The literacy rate for males is 90 per cent, whereas, only the literacy rate for females is 79.4 per cent. However, the gender gap in literacy has been narrowing during the last decade. The female literacy rate increased by around 30 per cent between 2005 and 2015 compared to only a 13 per cent increase for males. As per the 2015 Population and Housing Census, 54.4 per cent of children and youth aged 6-25 years are currently enrolled in education institutions. There is high dropout rate for females older than the age of 16 years, as 24.8 per cent males aged 17-25 years are still attending schools compared to only 19.2 per cent females in the same age group.<sup>9</sup>

## Gender-based violence

National survey on women's health and life experiences conducted in 2014 revealed that for ever-partnered women 11.6 per cent experienced physical violence and 7.2 per cent experienced sexual violence in their lifetime.

Despite significant progress in translating international agreements related to the advancement of women and the elimination of violence against women into its national policies and legislations, violence against women is prevalent in Lao PDR. Gender-based violence is a violation of human rights and cannot be justified on any account. However, 30 per cent of women and 16 per cent of men reported that violence against women was justified if women did not follow traditional gender norms, roles and relations.<sup>10</sup> A national survey on women's health and life experiences conducted in 2014 revealed that for ever-partnered women 11.6 per cent experienced physical violence and 7.2 per cent experienced sexual violence in their lifetime. This survey also revealed that 5.1 per cent of women also experienced physical violence from a non-partner after the age of 15 years. In addition, 5.3 per cent of women had experienced some type of sexual violence and 1.1 per cent had forced sexual intercourse after the age of 15 years.<sup>11</sup>

The same national survey conducted in 2014 also revealed that 30 per cent of interviewed women agreed that a wife must not refuse sex, and 50 per cent of all women agreed that a husband could hit his wife if she was unfaithful. It also showed that 43 per cent of women who encountered partner violence did not seek help or report the incident(s) due to discriminatory gender stereotypes coupled with discouraging existing

<sup>8</sup> World Economic Forum 2019. *Global Gender Gap Report 2020*. World Economic Forum, Geneva, Switzerland.

<sup>9</sup> Lao Statistics Bureau 2016. *The 4th Population and Housing Census (PHC) 2015*. Vientiane, Lao PDR: Lao Statistics Bureau.

<sup>10</sup> Lao Statistics Bureau 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*. Vientiane, Lao PDR: Lao Statistics Bureau and UNICEF.

<sup>11</sup> National Commission for the Advancement of Women, Lao PDR 2015. *National Survey on Women's Health and Life Experiences 2014*. NCAW, Vientiane, Lao PDR 2015.

services and complaint mechanisms. The majority of victims/survivors who did seek help first turned to their immediate network of family and friends, rather than reaching out to a formal network and services such as police and other related law enforcement officers.

Girls in Lao PDR are vulnerable to child marriage and early pregnancy. The country has the highest percentage of married children in the East Asia and Pacific region. More than one third of women are married before the age of 18. According to the Population and Housing Census (2015) over 62,000 adolescent girls aged 15-19 years were married compared to 23,500 boys of the same ages.<sup>12</sup> The adolescent birth rate in Lao PDR is 83 births/per 1,000 adolescent girls aged 15-19 years, which is the highest in the region.<sup>13</sup>

More than one third of women are married before the age of 18.

## Female participation

Women's political participation in Lao PDR has been gradually increasing during the last few decades. The Lao People's Revolutionary Party (LPRP) leads the political processes at all levels of government. The Party leadership is male dominated with only one woman in the 11-member politburo and 7 women in the Party's Central Committee of 69 members. However, women's political representation in the National Assembly is now among the highest in the South-East Asia region. The proportion of female members in the Lao National Assembly increased from 6 per cent to 27.5 per cent between 1990 and 2016. Currently there are 41 female members out of 149 members of Lao National Assembly. Women represent around 45 per cent of civil servants in the country. There were 183,680 civil servants in Lao PDR in 2017, of which 84,268 were females. However, the women's proportion in senior government positions is limited. Female ministers or equivalent and vice-ministers and equivalent in 2017 were only 12.3 per cent and 14.8 per cent, respectively.<sup>14</sup>

Lao Women's Union (LWU), a mass organization mandated to represent women of all ethnic groups in the country, works to raise the voices of women and protect women's rights and interests. Through its extensive network and presence at village, district, province and national levels, it serves as a bridge between the LPRP, the Government and Lao women across the country. The LWU has 1,042,529 members covering 47.1 per cent of Lao women aged 15 years and older.

Women's access to wage employment has been slowly increasing during the last few decades. The share of women in wage employment increased from 38 per cent to 44 per cent between 1995 and 2015, at a rate of 1 per cent each year.<sup>15,16</sup> The employment rate for people between the ages of 15 to 64 years was 83 per cent for males and 80 per cent for females.

Share of women in wage employment increased from 38 per cent to 44 per cent between 1995 and 2015, at a rate of 1 per cent each year.

<sup>12</sup> Lao Statistics Bureau 2016. *The 4th Population and Housing Census (PHC) 2015*. Vientiane, Lao PDR: Lao Statistics Bureau.

<sup>13</sup> Lao Statistics Bureau 2016. *The 4th Population and Housing Census (PHC) 2015*. Vientiane, Lao PDR: Lao Statistics Bureau.

<sup>14</sup> Lao Women's Union 2018. *Lao PDR Gender Profile 2018*. Lao Women's Union, Vientiane, Lao PDR.

<sup>15</sup> State Planning Committee, National Statistical Centre, 1997. *Lao Census 1995 Country Report*. Vientiane, Lao PDR: National Statistical Centre.

<sup>16</sup> Lao Statistics Bureau 2016. *The 4th Population and Housing Census (PHC) 2015*. LSB, Vientiane, Lao PDR: Lao Statistics Bureau.

The self-employment rate favours females (87.6 per cent) compared to males (79.2 per cent). Despite increasing participation of women in wage employment, there are persistent gender disparities within the labour market, as female workers earn 15-20 per cent less than their male counterparts. Other forms of persistent gender discrimination in the labour market are differences in job security and working conditions for males and females.<sup>17</sup> Traditionally, female-dominated sectors are accommodation and food service, wholesale and retail trade, and social work. The proportions of female workers in these sectors are 67 per cent, 65 per cent and 60 per cent, respectively.

**Discrimination against women is an offense under the Lao Penal Law and it carries penalties of imprisonment and fines.**

### Access to justice

The Lao Constitution of 1991 and the amendment of 2015 guarantee equal rights for women and men. The Lao Family Law 2008 provides men and women equal rights in all aspects to family relations and sets the minimum age for marriage at 18 years. The inheritance law in the country is gender-neutral. It endorses the same inheritance rights for women and men. The revised Lao Labour Law 2014 provides for the legal framework for non-discrimination and equality at work for men and women. The Law on Development and Protection of Women 2004 was formulated by the National Assembly to support and uphold women's status, to prevent and combat trafficking of women and children, to eradicate all forms of discrimination against women, and to create conditions for women to strongly and fully participate in national defence and development. Discrimination against women is an offense under the Lao Penal Law and it carries penalties of imprisonment and fines.

Despite having progressive laws, access to the formal legal system in Lao PDR is low for both men and women. As a result, quasi-judicial and customary law institutions are approached by most Lao people for justice, which has important gender implications. Law enforcement and citizen awareness remain weak. The majority of women's complaints and disputes are resolved at the village level. Women's limited knowledge and awareness about their rights and legal provisions, and limited mobility in rural and ethnic areas limit their access to justice, as women are largely reliant on village-based mediation and justice mechanisms, which appear to be influenced by strong cultural gender biases.<sup>18</sup> The Lao National Assembly has recently passed the Law on Gender Equality with the aim to protect and upgrade women's rights and gender status, ensure true gender equality, and eliminate all acts of exclusion, isolation, limitation and refusal of gender equality.

<sup>17</sup> FAO, IFAD, ILO, *Gender Dimensions of Agricultural and Rural Employment: Differentiated pathways out of Poverty*, (2010).

<sup>18</sup> Lao Women's Union 2018. *Lao PDR Gender Profile 2018*. Lao Women's Union, Vientiane, Lao PDR.

# 2

## Population Dynamics in Lao PDR

### 2.1 Population growth and demographic transition

A striking aspect of the demography in Lao PDR is that its population from 1950 until the last population census of 2015 has increased four-fold, increasing from 1.7 to 6.7 million inhabitants, at an average rate of growth of 2.1 per cent per annum.<sup>19</sup> This near record at the regional level, if not globally, was reached in spite of significant international migration, which put the number of Lao people living outside the country at some 1.3 million people (World Bank estimate). This means that the rate of natural increase has remained high and that, even with a declining death rate throughout this period, the crude birth rate and the fertility rates have remained high.

The paradigm of demographic transition stipulates that modernization, in all its aspects, decreases the death rate, which is followed by a decrease of the birth rate at an even higher pace. However, this does not seem to be what happened in Lao PDR. In the long term, the death rate was reduced to less than one third of its value, from 22 per 1,000 in 1950 to 7 per 1,000 in 2015, whereas the birth rate was reduced by half its level between 1950 and 2015 (from 45 per 1,000 to 26 per 1,000). The rate of natural increase remained high during these six decades, going from 23 per 1,000 in 1950 to 19 per 1,000 in 2015 (a rate which enabled a doubling of the population in 37 years).

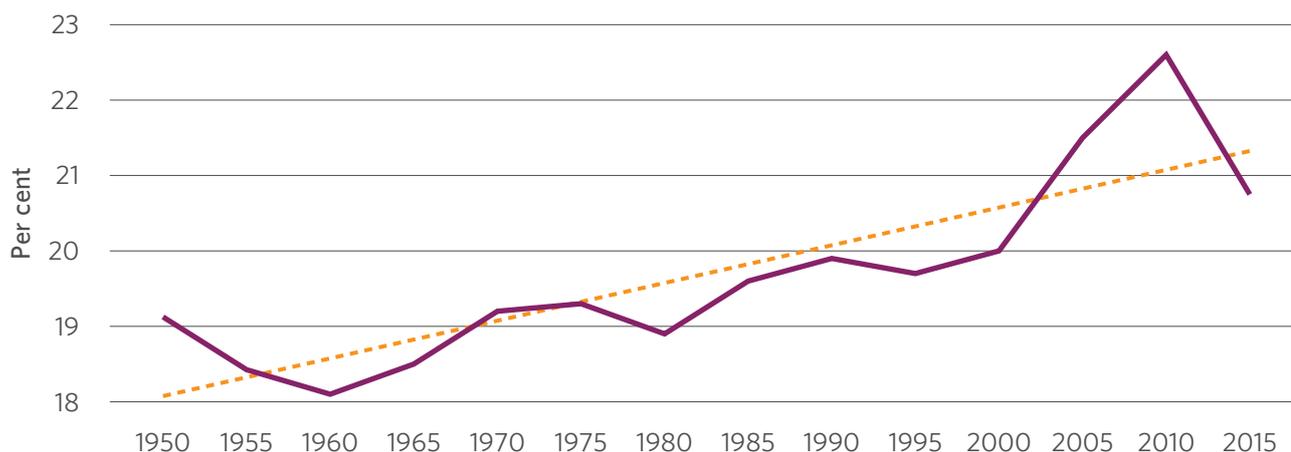
The birth rate was reduced by half its level between 1950 and 2015 (from 45 per 1,000 to 26 per 1,000).

Hence, the demographic transition in Lao PDR has some peculiarities. These include the low educational attainment of women and men, the low contribution of females to activities outside of the home, the overwhelming rural location of the population, and multiple ethnicities. Other determinants of the demographic transition have to be analysed, such as the impact of the low population density on the birth rate and on population growth.

### 2.2 Changes in age structure

Together with population size, demographic transition, depending on its pace, significantly modifies the age structure of the population, and has, therefore, profound impact on population needs and the development process, provided it takes into account those needs.

<sup>19</sup> Occasionally, when Lao PDR data are missing, reference is made to United Nations Population Division, *World Population Prospects 2019*, New York 2019, which covers the demographic past from 1950 until now and the future until 2100. Another possible source is US Census Bureau, *International Data Base* (Last update September 2018, Washington DC, 2019). However, the estimations of the past in this source start only in 1995.

**Figure 2.1** Long-term proportion of youth (aged 15-24 years) to the total population (%), 1950-2015

Source: United Nations Population Division, *World Population Prospects 2019*.

The last population census in Lao PDR, undertaken in 2015,<sup>20</sup> showed that children and youth (from ages 0 to 14 years) still represented one third of the population at 33.6 per cent, the adults (from age 15 to 64 years) were the majority group at 62.2 per cent and the elderly (age 65 years and older) a tiny 4.2 per cent. In 1950, these figures were respectively: 40.5 per cent, 57.4 per cent and 2.1 per cent. This shows that, in the long term from 1950 to 2015, there was a change in the age distribution, but a very slight one, signifying that the demographic dependency ratio did not change meaningfully. Another aspect is that the youth bulge, or the proportion of youth aged 15 to 24 years, to the total or the adult population skyrocketed from 2000 until about 2010, declining after that to 2015 (Figure 2.1).

Share of the youth population had been increasing (with oscillations) until 2010. Some political scientists consider the rapid increase of this particular group as a disadvantage, while others consider it a benefit.

The number of youths aged 15 to 24 years, exploded from 322,000 in 1950 to 1.35 million in 2015, a multiplication by 4.2 times more than the increase in the total population. The share of the youth population had been increasing (with oscillations) until 2010. Some political scientists consider the rapid increase of this particular group as a disadvantage, while others consider it a benefit. In any case, it is a serious developmental issue in terms of the emergence of youth as a priority group in the population since 2000, creating an urgency to address youths' educational needs, access to the labour force, and physical and mental health, along with addressing the issue of gender equity. However, since 2015 the youth bulge has fallen, inaugurating a new era where the share of this group is shrinking.

The most recent age and sex structure obtained through direct observation during the household survey of 2017 (see Table A2.1). The sex ratio is rather low for the total population at 98.1, as for some of the older adult age groups, the ratio reflects that females are living longer than males (for ages 80 to 84 years the ratio is 68.1). One cannot rule out some error in declaration and misstatement of age, higher for females than for males. There is probably selective out-migration by gender that is higher for males than females, which should be examined for its possible impact on socio-economic conditions, family life and gender roles (females becoming household heads).

<sup>20</sup> Ministry of Planning and Investment, Lao Statistics Bureau, *Results of Population and Housing Census 2015*, Vientiane, 2018 and Ministry of Planning and Investment, Lao Statistics Bureau *Lao Population projections 2015-2045*, Vientiane Capital 2018, p.9 (these are the adjusted figures).

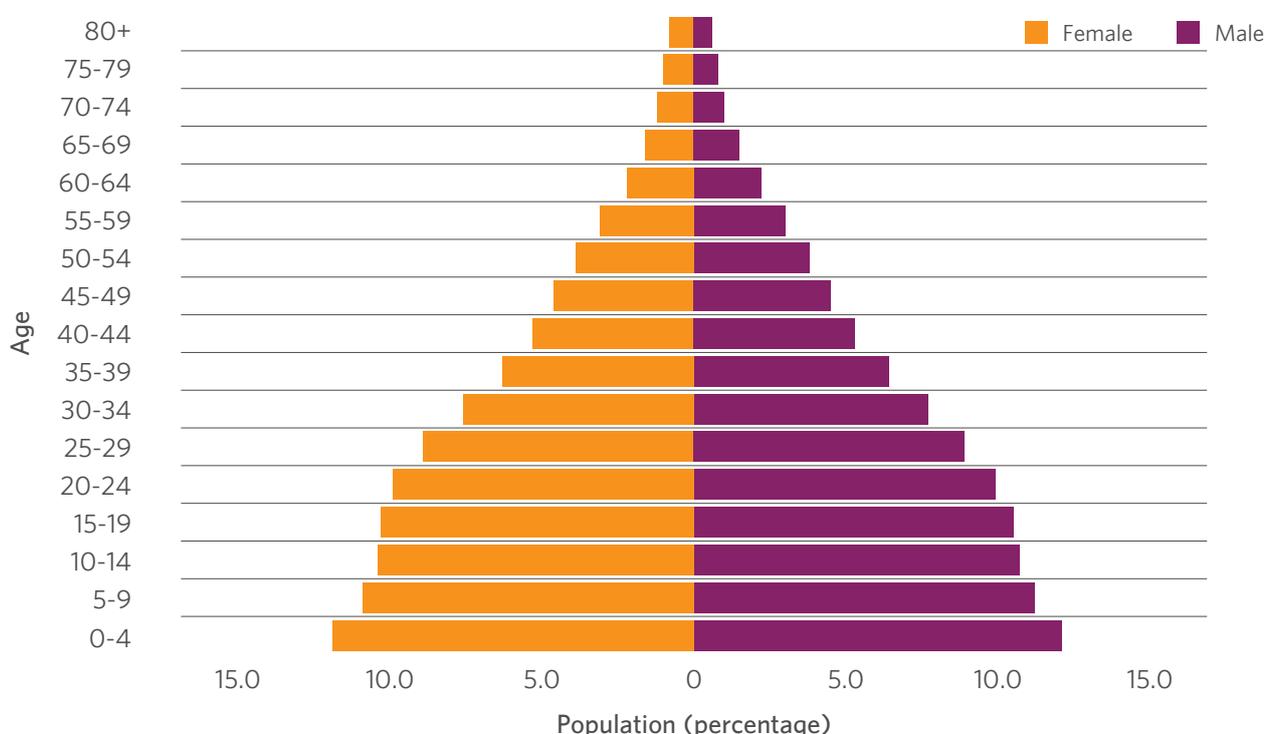
The most recent age and sex structure can be obtained through direct observation during the household survey of 2017. From this data, the shape of the the age pyramid developed from the 2017 data (Figure 2.2) reveals the population attrition at the younger ages, reflecting a sharp decrease in the fertility rate, with the age group 0-4 years smaller than the age group 5-9 years, which is smaller than the age group 10-14 years (Figure 2.2). This indicates that a decrease in the dependent population (ages 0-14 years) is well advanced, and that Lao PDR is on the way to benefiting from the first demographic dividend, which is when the fertility rate declines leading to the rise in the number of the working people relative to the number of dependents.

Similarly, the distribution by larger-range age groups shows the rapid decline of children aged 0-14 years, the relative stability of the elderly population, and the consecutive increases of the adult population aged 15 to 64 years (Figure 2.3). The significant increase of the adults compared to the dependents shows that fertility transition had begun. The analysis of fertility and mortality shows that this is essential for reaping the demographic dividend.

Another way to gauge demographic transition using the age structure is through the children to women ratio (CWR), which is the annual ratio of children aged 0 to 4 years in comparison to the number of women in the fertile age group of 15 to 49 years. Reviewing the age distribution since 1995, the CWR has been decreasing from 152 per 1,000 in 1995 to 100 per 1,000 in 2005, 91 per 1,000 in 2011/12, and 78 per 1,000 in 2015. In 2017, the CWR was 87 per 1,000.<sup>21</sup>

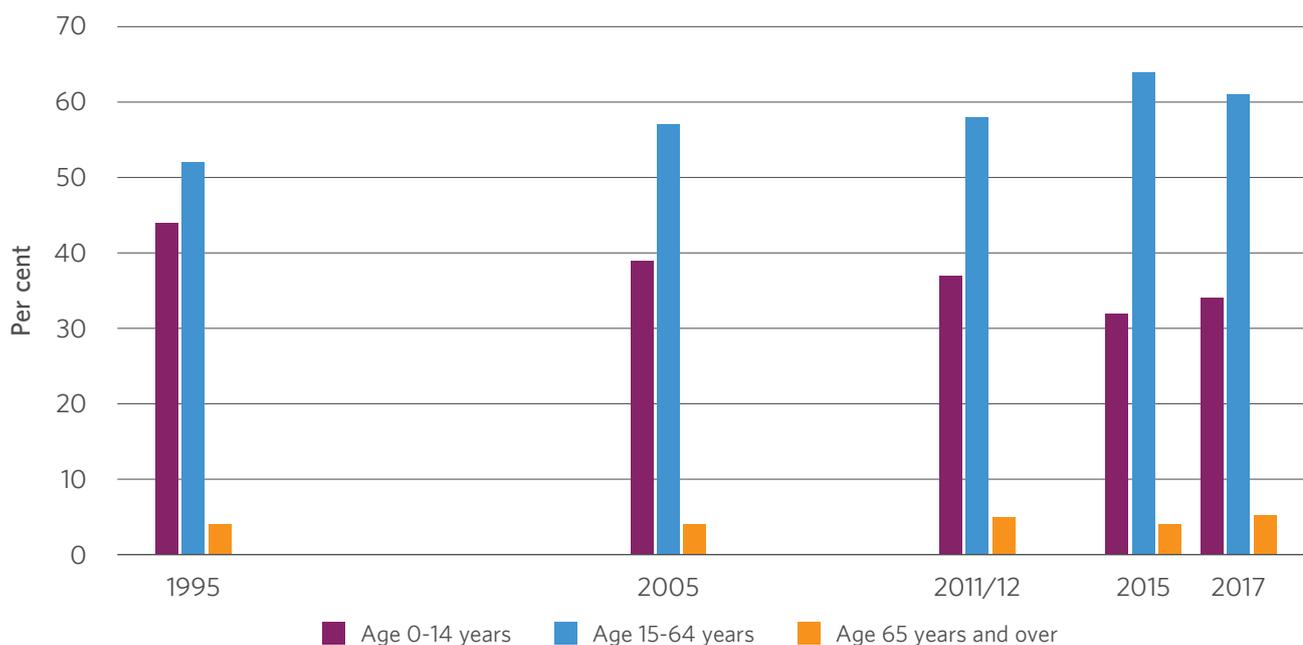
Another way to gauge demographic transition using the age structure is through the children to women ratio (CWR), which is the annual ratio of children aged 0 to 4 years in comparison to the number of women in the fertile age group of 15 to 49 years.

**Figure 2.2** Age-pyramid, 2015



Source: Lao Statistics Bureau, Results of Population and Housing Census 2015.

<sup>21</sup> Which roughly corresponds to a total fertility rate of 3.0 children per woman.

**Figure 2.3** Age distribution by age groups: 0-14, 15-64 and 65+ (%), 1995 to 2017

Source: Population censuses of 1995, 2005 and 2015 and Lao Social Indicator Surveys of 2011–2012 and 2017.

## 2.3 Decrease of infant, child and maternal mortality

Population projections are based on mortality estimates in infancy, childhood, reproductive ages, and through adulthood. There is a close connection between fertility levels and mortality, particularly in infancy and childhood,<sup>22</sup> and for females of reproductive age. For example, high infant and childhood mortality encourage high fertility rates, as parents have many children as insurance against the probable death of some of their children. Reciprocally, high fertility might lead to higher mortality in infancy, childhood or in reproductive age. Assessing the trends of mortality is essential for monitoring progress toward the SDGs and for providing quantitative indicators for the next development plan in Lao PDR.

**Investing in the health of children and mothers should be a top priority in the next development plan on order to lower the mortality rates of infants, children and mothers to acceptable levels.**

The 2017 survey offers a wealth of information on mortality. Findings from the survey show that the infant mortality rate (IMR) has receded to half its value, going from an extremely high 83 per 1,000 live births in 2000 to 40 per 1,000 live births from 2012–2017. However, if one looks at the current rates in its neighbouring countries, Lao PDR still has a high IMR, with the exception of Myanmar, which has a rate of 38 per 1,000 live births. The IMR for China and Philippines is 20 per 1,000 live births, Viet Nam's rate is 23 per 1,000 live births and Cambodia's is 24 per 1,000 live births. In developed countries in the region, such as Japan, Republic of Korea and Singapore, IMR is a very low with rates from 2 to 5 per 1,000 live births. Hence, the conclusion is straightforward: investing in the health of children and mothers should be a top priority in the next development plan in order to lower the mortality rates of infants, children and mothers to acceptable levels.

<sup>22</sup> This is the "replacement effect". When infant and childhood mortality are high, couples tend to have more children than what would be necessary to aspire to a certain number of desired children. Reciprocally, a high fertility may lead to higher mortality among children; there is an effect of neglect, which could be selective, namely against girls babies.

These current relatively high infant and childhood mortality rates reflect inequity in the distribution of education, wealth, infrastructure and investment among population groups (Table 2.1).

Inequality in mortality rates concerns almost all socio-economic groups. Rural populations without roads have an infant mortality rate that is three times higher than urban populations, with an IMR of 56 per 1,000 live births in remote rural areas compared to 20 per 1,000 live births in urban areas.

Rural populations without roads have an infant mortality rate that is three times higher than urban populations

For the region of residence, the central region is better placed and has infant and child mortality rates lower than in the northern and southern regions, however, the difference between the highest and lowest rates is not large.

In terms of ethnicity, the Lao Tai group has the lowest mortality rates; whereas ethnic groups that belong to the “others” category have the highest mortality rates by quite a large difference. The mortality rates for the Hmong Mien are quite close to that of the Lao Tai.

A mother’s educational level and wealth are the variables that have the greatest correlation to mortality rates at younger ages: the more highly educated mothers benefited from an infant mortality rate seven times lower than that for those mothers who did not go to school or who only attended kindergarten (early childhood education). Not surprisingly, the children of the richest quintiles are dying three times less frequently than the poorest quintiles. Yet, in Lao PDR, even for the children of the rich and the highly educated, death is more prevalent than in developed countries in the region, such as the Republic of Korea or Singapore.

To decrease infant and childhood mortality rates, family planning is essential. Spacing of birth with at least three years between children reduces infant mortality from 75 to 23 per 1,000 live births, and childhood mortality from 9 to 4 per 1,000 live births. Rates of infant and child mortality were extremely high for mothers who were giving birth to their seventh or more child during the last five years: for infant mortality the rate was 97 per 1,000 live births and for child mortality the rate was 15 per 1,000 live births (Table 2.2). For mothers on their second or third birth, these rates fell for the infant mortality rate to 31 per 1,000 live births for and for the child mortality rate to 5 per 1,000 live births.

Family planning to help promote adequate birth spacing and fewer numbers of births per woman is an essential component of population and health policy.

The mother’s age at birth also impacts mortality rates, which are extremely high for premature births before 20 years of age: 59 per 1,000 live births, and for births with mothers later in the fertile period from ages 35 to 40 years, which has an infant mortality rate of 62 per 1,000 live births. The infant mortality rate for mothers aged 20-34 years is 33 per 1,000 live births. Hence, family planning to help promote adequate birth spacing and fewer births per woman is an essential component of population and health policy.

Finally, in the struggle against death, there is discrimination against girls. Usually, girls and females at all ages benefit from lower mortality rates (and higher life expectancy) than males. Yet, childhood mortality rate was 40 per cent higher for girls than for boys: 7 per 1,000 live births for girls and 5 per 1,000 live births for boys in the five years preceding the 2017 survey. This might indicate an unequal access to resources, such as food and medical treatment or a preference for boys. It is noteworthy that this situation has deteriorated since the last survey in 2011-2012. At this time the child mortality rates were equal for boys and girls, but with a lower magnitude than in 2017, at 14 per 1,000 live births for both boys and girls. This is not only a socio-economic issue but also a cultural one, which needs adequate education, both formal and informal, to alleviate the burden on girls and women.

**Table 2.1** Infant and child mortality rates by selected characteristics (per 1,000 live births), 2017

|                                   | Neo-natal | Post neo natal | Infant    | Child    | Under five |
|-----------------------------------|-----------|----------------|-----------|----------|------------|
| <b>Total</b>                      | <b>18</b> | <b>22</b>      | <b>40</b> | <b>6</b> | <b>46</b>  |
| <b>Area</b>                       |           |                |           |          |            |
| Urban                             | 14        | 7              | 20        | 4        | 24         |
| Rural with roads                  | 18        | 27             | 45        | 6        | 51         |
| Rural without roads               | 24        | 31             | 56        | 7        | 62         |
| <b>Region</b>                     |           |                |           |          |            |
| North                             | 20        | 23             | 43        | 6        | 49         |
| Central                           | 16        | 20             | 36        | 6        | 42         |
| South                             | 17        | 27             | 44        | 5        | 49         |
| <b>Province</b>                   |           |                |           |          |            |
| Bokeo                             | 26        | 27             | 53        | 6        | 59         |
| Savannakhet                       | 3         | 29             | 32        | 6        | 38         |
| Attapeu                           | 35        | 2              | 56        | 3        | 59         |
| <b>Mother's education</b>         |           |                |           |          |            |
| None or early childhood education | 17        | 32             | 49        | 6        | 54         |
| Primary                           | 23        | 27             | 51        | 8        | 59         |
| Lower secondary                   | 16        | 18             | 34        | 3        | 37         |
| Upper secondary                   | 18        | 5              | 24        | 3        | 26         |
| Post secondary                    | 0         | 4              | 4         | 1        | 5          |
| Higher                            | 4         | 2              | 7         | 3        | 10         |
| <b>Ethno-linguistic group</b>     |           |                |           |          |            |
| Lao Tai                           | 15        | 15             | 30        | 5        | 35         |
| Mon Khmer                         | 22        | 35             | 57        | 6        | 63         |
| Hmong Mien                        | 21        | 19             | 40        | 5        | 44         |
| Chinese Tibetan                   | 19        | 34             | 53        | 20       | 72         |
| Other                             | 21        | 64             | 85        | 5        | 89         |
| <b>Wealth index quintile</b>      |           |                |           |          |            |
| Poorest                           | 20        | 36             | 56        | 7        | 63         |
| Second                            | 21        | 35             | 57        | 6        | 62         |
| Middle                            | 14        | 16             | 31        | 5        | 35         |
| Fourth                            | 16        | 5              | 21        | 6        | 27         |
| Highest                           | 14        | 5              | 19        | 4        | 23         |

Source: Lao Statistics Bureau, 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*.

**Table 2.2** Early childhood mortality rates by mother's age at birth, birth order and birth interval (per 1,000 live births), 2017

|                                | Neo natal | Post neonatal | Infant | Child | Under five |
|--------------------------------|-----------|---------------|--------|-------|------------|
| <b>Sex</b>                     |           |               |        |       |            |
| Males                          | 19        | 24            | 43     | 5     | 47         |
| Females                        | 17        | 20            | 37     | 7     | 44         |
| <b>Mothers age at birth</b>    |           |               |        |       |            |
| Less than 20 years             | 25        | 33            | 59     | 6     | 64         |
| 20-34 years                    | 14        | 19            | 33     | 5     | 37         |
| 35-49 years                    | 32        | 30            | 62     | 12    | 73         |
| <b>Birth order</b>             |           |               |        |       |            |
| 1st child                      | 18        | 22            | 40     | 5     | 45         |
| 2nd to 3rd child               | 14        | 17            | 31     | 5     | 36         |
| 4th to 6th child               | 21        | 30            | 50     | 7     | 57         |
| 7th or more child              | 49        | 48            | 97     | 15    | 111        |
| <b>Previous birth interval</b> |           |               |        |       |            |
| Less than 2 years              | 34        | 41            | 75     | 9     | 83         |
| 2 years                        | 16        | 24            | 40     | 5     | 45         |
| 3 years                        | 9         | 14            | 23     | 4     | 27         |
| 4 years or more                | 11        | 13            | 25     | 6     | 31         |

Source: Lao Statistics Bureau, 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*.

Maternal mortality has been decreasing, although remained at a high level in the 2017 survey. According to UNFPA, "improving access to family planning has been one important strategy for improving mothers' survival. By lowering the risks related to unplanned pregnancies, family planning substantially reduces maternal death rates."<sup>23</sup> The maternal mortality ratio (MMR) was estimated to be as high as 796 per 100,000 live births in 1995, and 530 per 100,000 live births in 2009.<sup>24</sup> In 2011-2012, the survey estimated the MMR at 357 per 100,000 live births, and the estimated MMR in the census of 2015 was 206 deaths per 100,000 live births. While great strides were made, similar to the child mortality rate, MMR in Lao PDR remains among the highest in the region and in the world. As stated by Geoffrey Hayes in 2015, Lao PDR was still far from "reducing maternal mortality rate to levels where it no longer constitutes a public health problem."<sup>25</sup>

**Improving access to family planning has been one important strategy for improving mothers' survival. By lowering the risks related to unplanned pregnancies, family planning substantially reduces the maternal death rate.**

## Mortality at other ages

Ideally, mortality estimates for all ages should be possible by using the deaths recorded with the civil registration authorities, either directly or indirectly by adjusting the recorded deaths according to methods of estimation of the under recording of deaths.

<sup>23</sup> UNFPA, *Maternal death rate plunges in Lao Peoples Democratic Republic*, Vientiane, 2016.

<sup>24</sup> Gavin Jones, *Population, Development in Lao PDR – Understanding Opportunities, Challenges, and Options for Socio-Economic Development*, UNFPA, Vientiane, p. 15.

<sup>25</sup> Quoted from ICPD POA in Geoffrey Hayes, *Population Situation: Lao PDR*, UNFPA, Vientiane, 2015.

In 2015, a life-table for Lao PDR was constructed according to one of these methods (Table 2.3). Obtained by indirect means, this life-table shows a life expectancy at birth of 61.8 years for males, which is younger than the age for female life expectancy of 65.2 years.

Childhood mortality at 1-5 years was higher for females. However, at reproductive ages from 15 to 50 years, the death rate of females was much lower than for males, although the maternal mortality rate is still very high. Hence, a slight difference which needs further analysis.

Therefore, it is required to greatly improve the data on mortality, which will help in prioritizing development plans that address mortality at all ages, and particularly for children and women of reproductive ages.

**Table 2.3** Life table by age and sex, 2015

| Age | Males     |            |                 | Females   |            |                 |
|-----|-----------|------------|-----------------|-----------|------------|-----------------|
|     | Survivors | Death-rate | Life expectancy | Survivors | Death-rate | Life expectancy |
| x   | lx        | qx         | ex              | lx        | qx         | ex              |
| 0   | 100,000   | 0.05900    | 61.8            | 100,000   | 0.05600    | 65.2            |
| 1   | 94,100    | 0.03766    | 64.7            | 94,400    | 0.03363    | 68.1            |
| 5   | 90,556    | 0.01613    | 63.2            | 91,226    | 0.01422    | 66.4            |
| 10  | 89,096    | 0.01054    | 59.1            | 89,928    | 0.01037    | 62.3            |
| 15  | 88,157    | 0.01322    | 54.8            | 88,996    | 0.01090    | 57.9            |
| 20  | 86,991    | 0.01464    | 50.5            | 88,026    | 0.01095    | 53.5            |
| 25  | 85,718    | 0.01455    | 46.2            | 87,061    | 0.01084    | 49.1            |
| 30  | 84,471    | 0.01681    | 41.8            | 86,118    | 0.01291    | 44.6            |
| 35  | 73,051    | 0.02168    | 37.5            | 85,006    | 0.01711    | 40.2            |
| 40  | 81,250    | 0.03114    | 33.3            | 83,552    | 0.02506    | 35.8            |
| 45  | 78,719    | 0.04250    | 29.2            | 81,459    | 0.03441    | 31.7            |
| 50  | 75,373    | 0.05808    | 25.4            | 78,656    | 0.04820    | 27.7            |
| 55  | 70,996    | 0.08111    | 21.8            | 74,865    | 0.06496    | 24.0            |
| 60  | 65,237    | 0.11419    | 18.6            | 70,002    | 0.09242    | 20.5            |
| 65  | 57,788    | 0.15702    | 15.6            | 63,533    | 0.12353    | 17.3            |
| 70  | 48,714    | 0.20979    | 13.1            | 55,684    | 0.17228    | 14.4            |
| 75  | 38,494    | 0.27852    | 10.9            | 46,091    | 0.24854    | 11.9            |
| 80  | 27,773    | 1.00000    | 9.1             | 34,636    | 1.00000    | 10.0            |

Source: Unpublished document provided to the author of this report.

## 2.4 Fertility trends

The total fertility rate (TFR) constitutes the most effective demographic parameter of population dynamics, reflecting its growth and structure. Hence, the trends of fertility and their precise forecasting are essential to measure expected population dividends in the future.

Lao PDR, with a TFR at 2.75 in 2017, still has a rate that is higher than in other ASEAN countries and almost one third (31 per cent) above the global average TFR of 2.1. The Philippines, which previously had the highest fertility rate in the region at 2.58, has been surpassed.<sup>26</sup>

The last observed fertility indices through direct observation for Lao PDR are those of the 2017 survey.

Although high, the TFR in Lao PDR has decreased significantly since the 1980s when it was 6.36.<sup>27</sup> The findings from the 2011-2012 survey, which used a comparable methodology to the 2017 survey, had a TFR of 3.17 (Table 2.4). The trend of the fertility decrease using the 2011-2012 survey data and the 2017 survey data can be used to calculate a 2 per cent decrease per year. This fertility transition is also evident in the birth histories in years prior to the 2011-2012 survey, with a TFR steeply declining from a level of almost 5 children per woman (4.96) in the 12 to 14 years preceding the 2011-2012 survey (Table 2.5).

Unfortunately, data for the survey of 2017 are not yet published. In 2011-2012, women at the end of their reproductive period had an average of 5.1 children per woman (5.3 for currently married ones). At the time of the 2015 census, this had sharply diminished to 3.7 for the married women (Table 2.6), which means even lower parity for all women. This is additional proof of the fertility transition in recent years.

**Table 2.4** Age-specific fertility rate (per 1,000), general fertility rate and crude birth rate, 2011-2012 and 2017

| Age                                | 2011-2012   | 2017        |
|------------------------------------|-------------|-------------|
| 15-19 years                        | 94          | 83          |
| 20-24 years                        | 185         | 162         |
| 25-29 years                        | 157         | 150         |
| 30-34 years                        | 104         | 91          |
| 35-39 years                        | 60          | 45          |
| 40-44 years                        | 23          | 14          |
| 45-49 years                        | 10          | 5           |
| <b>Total fertility rate</b>        | <b>3.17</b> | <b>2.75</b> |
| General fertility rate (per 1,000) | 111         | 90          |
| Crude birth rate (per 1,000)       | 25          | 22          |

Source: Lao Statistics Bureau, 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*. Lao Statistics Bureau, *Lao Social Indicator Survey II 2011-12, Survey Findings Report*.

<sup>26</sup> A TFR of 2.58 in 2015-2020 in the Philippines, which have two strong pro-birth traditions: the Catholic one, which regroups the majority of the population and the minority of Muslims in the South.

<sup>27</sup> United Nations, United Nations Population Division, *World Population Prospects 2019*.

**Table 2.5** Trends in age-specific fertility rates and total fertility rate, 2011-2012 survey and years preceding the survey

| Age                         | Number of years preceding the survey |             |             |             |             |
|-----------------------------|--------------------------------------|-------------|-------------|-------------|-------------|
|                             | 0-2                                  | 3-5         | 6-8         | 9-11        | 12-14       |
| 15-19 years                 | 94                                   | 102         | 111         | 127         | 116         |
| 20-24 years                 | 185                                  | 204         | 219         | 245         | 264         |
| 25-29 years                 | 157                                  | 174         | 196         | 212         | 246         |
| 30-34 years                 | 104                                  | 204         | 142         | 166         | 197         |
| 35-39 years                 | 60                                   | 71          | 91          | 108         | 169         |
| 40-44 years                 | 23                                   | 33          | 64          | 77          | na          |
| 45-49 years                 | 10                                   | 9           | na          | na          | na          |
| <b>Total fertility rate</b> | <b>3.17</b>                          | <b>3.99</b> | <b>4.12</b> | <b>4.68</b> | <b>4.96</b> |

Source: Lao Statistics Bureau, *Lao Social Indicator Survey II 2011-12, Survey Findings Report*.

**Table 2.6** Average number of children born by age group of the mother, 2011-2012 and 2015

| Age         | Survey 2011-12 | Census 2015        |
|-------------|----------------|--------------------|
|             | All women      | Ever-married women |
| 15-19 years | 0.18           | 0.6                |
| 20-24 years | 1.01           | 1.2                |
| 25-29 years | 2.06           | 1.9                |
| 30-34 years | 3.00           | 2.5                |
| 35-39 years | 3.80           | 3.1                |
| 40-44 years | 4.50           | 3.5                |
| 45-49 years | 5.10           | 3.7                |

Source: Lao Statistics Bureau, *Lao Social Indicator Survey II 2011-12, Survey Findings Report*, and Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

## 2.5 Determinants of fertility

In Lao PDR, fertility norms of the more privileged groups have not yet spread to the less privileged groups, and there are fertility differences among different areas (Table 2.7). This includes both TFR and adolescent age-specific fertility, which is the annual number of births to women aged 15-19 years per 1,000 women.

Almost all determinants impact the TFR level. The most significant is the ethno-linguistic group, with a TFR almost twice as high for the Hmong Mien than for the Lao Tai group. Yet, only a multivariate analysis might disentangle the relationships among all these determinants, including education levels and wealth quintile, and their real weight.

**Table 2.7** Determinants of the total fertility rate and adolescent age-specific fertility rate, 2017

|                                   | Total fertility rate | Adolescent age-specific fertility rate (per 1,000 women) |
|-----------------------------------|----------------------|--|
| <b>Total</b>                      | <b>2.7</b>           | <b>83</b>  |
| <b>Area</b>                       |                      |  |
| Urban                             | 2.1                  | 42   |
| Rural with road                   | 2.9                  | 95   |
| Rural without road                | 3.9                  | 136  |
| <b>Region</b>                     |                      |  |
| North                             | 2.7                  | 109  |
| Central                           | 2.6                  | 70   |
| South                             | 3.1                  | 77   |
| <b>Province</b>                   |                      |  |
| Bokeo                             | 2.9                  | 113  |
| Savannakhet                       | 2.7                  | 69   |
| Attapeu                           | 2.8                  | 84   |
| <b>Education</b>                  |                      |  |
| None or early childhood education | 3.9                  | 176  |
| Primary                           | 3.2                  | 146  |
| Lower secondary                   | 2.7                  | 111  |
| Upper secondary                   | 2.2                  | 20   |
| Post secondary                    | 2.3                  | 8  |
| Higher                            | 2.1                  | 3  |
| <b>Ethno-linguistic group</b>     |                      |  |
| Lao Tai                           | 2.4                  | 54   |
| Mon Khmer                         | 3.0                  | 99   |
| Hmong Mien                        | 4.6                  | 192  |
| Chinese Tibetan                   | 3.2                  | 113  |
| <b>Wealth</b>                     |                      |  |
| Poorest                           | 4.1                  | 156  |
| Second                            | 3.2                  | 114  |
| Middle                            | 2.7                  | 71   |
| Fourth                            | 2.2                  | 53   |
| Richest                           | 2.0                  | 20   |

Source: Lao Statistics Bureau, 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*.

**Table 2.8** Index (for 100) of the total fertility rate and adolescent age-specific fertility rate, 2017

| Determinant            | Total fertility rate | Adolescent age-specific fertility rate (per 1,000) |
|------------------------|----------------------|--|
| Area                   | 186                  | 324  |
| Region                 | 119                  | 156  |
| Province*              | 190                  | 530  |
| Education              | 186                  | 587  |
| Ethno-linguistic group | 192                  | 356  |
| Wealth index           | 205                  | 780  |

\* For all the provinces

Source: Lao Statistics Bureau, 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*.

**Table 2.9** Total fertility rate by mothers' level of education, 2011-2012, 2015 and 2017

| Level of education                | 2011-2012 | 2015 | 2017 | Index 2015/2011-12 |
|-----------------------------------|-----------|------|------|--------------------|
| None or early childhood education | 4.8       | 4.2  | 3.9  | 81                 |
| Primary education                 | 3.3       | 3.2  | 3.2  | 97                 |
| Lower secondary education         | 2.7       | 2.5  | 2.7  | 100                |
| Upper secondary education         | 2.6       | 2.5  | 2.2  | 85                 |
| Post secondary education          | 2.0       | 2.2  | 2.3  | 110                |
| Higher education                  |           |      | 2.1  |                    |
| Index (Low/high)                  | 42        | 52   | 59   |                    |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*, Lao Statistics Bureau, 2018. Lao Statistics Bureau. *Lao Social Indicator Survey II 2011-12, Survey Findings Report*, op. cit. *Lao Social Indicator Survey II 2017, Survey Findings Report*.

**Advocacy encouraging women not to birth children at too young or too old an age should be initiated or reinforced.**

Ideally, to protect the health of the mothers and their babies, births should be concentrated in the reproductive age group from 25-34 years, when women are more mature than in younger age groups and in better health than in older age groups. In Lao PDR, this proportion of births outside of the age group of 25-34 years has slightly declined, going from 49 per cent in 2015 to 43 per cent in 2017. However, this share of 'misplaced' births (not in the age group from 25-34 years) is still high. Out of a TFR of 2.75, 1.1 children were contributed by younger or older women. Advocacy encouraging women not to birth children at too young or too old an age should be initiated or reinforced.

Wealth quintile and level of education are the most prominent factors in fertility differences. Level of education (Table 2.9) is one factor that the Government or the civil society can act on more easily than some of the other factors, such wealth or place of residence. In Lao PDR, public policies to improve education are less expensive than in other sectors, including implementing infrastructure projects for road improvements in rural areas that are still unequipped.<sup>28</sup>

<sup>28</sup> There are certain determinants where changes are difficult to put into policy, such as the region or the province of residence, ethno-linguistic group or wealthy quintile.

## 2.6 Marital status

In countries where contraception use is not widespread, marriage remains the most important proximate (direct) determinant of fertility. Table 2.10 provides marital status of females then males by age group from the 2015 population census.

In Lao PDR, remaining single after a certain age is very rare. This age is 25 years for females and 30 years for males. The majority of adults are either married or have been married (divorced, separated or widowed) by this age, with a small minority living in consensual unions. By the end of reproductive age, there were few women who were never married, around 4 per cent at ages 45-49 years, with almost same for men at 3.3 per cent. Marriage is almost universal and it does not play a major role as an 'inhibiting' factor of fertility.

**Marriage is almost universal and it does not play a major role as an 'inhibiting' factor of fertility.**

The singulate mean age at marriage (SMAM), computed by the Hajnal's method, shows that females' age at first marriage was still relatively young in 2015 at 24.4 years, although it has been increasing since the survey of 2011-2012, when it was 21.9 years. For males the SMAM in 2015 was 27.3 years.

In 2015, the difference in age at marriage between spouses was low at 2.9 years. In 2017, the survey showed a significant increase in the share of currently married or in consensual unions aged 15-49 years, from 64.6 per cent in 2015 to 73.3 per cent in 2017, and a reciprocal decrease of the never married from 30.4 per cent in 2015 to 22.5 per cent in 2017. This boom in marriage should draw attention to the responsible family planning programmes.

**The boom in marriage should draw attention to the responsible family planning programmes.**

Marriage stability appears to be high in Lao PDR. The proportion of women divorced or separated reaches its peak at 30-34 years at 4.9 per cent. For men it is a lower peak of 3.0 per cent at 70-74 years. In most cases, only death ends marriage, judging by the relatively high proportion of widows at older ages. The overall proportion of widows is 1.5 per cent for men and 3.5 per cent for women, reflecting the higher mortality rates of men compared to women.

**In most cases, only death ends marriage, judging by the relatively high proportion of widows at older ages.**

Censuses and surveys are essential to measure the trends in marriage. However, they should be complemented by the civil registration, the most current record of marriage that can be used to measure the direct determinants of fertility.

## 2.7 Family planning

In Lao PDR, nearly all women and men of reproductive age (15-49 years) have heard about contraception. Findings from the 2011-2012 survey showed that this was 96 per cent for women and 97 per cent for men. However, despite contraception knowledge among women and men of reproductive age, its current use is generally still limited, with almost one out of two women currently married or in union not using a contraceptive method either modern or traditional (Table 2.11).

**Table 2.10** Marital status by sex and age group, 2015

| Age                                   | Never married | Married     | Divorced/Separated | Widowed    | Consensual union | Total        |
|---------------------------------------|---------------|-------------|--------------------|------------|------------------|--------------|
| <b>Females</b>                        |               |             |                    |            |                  |              |
| 15-19 years                           | 80.3          | 18.0        | 0.9                | 0.3        | 0.6              | 100.0        |
| 20-24 years                           | 43.5          | 52.3        | 3.0                | 0.3        | 0.9              | 100.0        |
| 25-29 years                           | 20.2          | 73.9        | 4.2                | 0.7        | 1.0              | 100.0        |
| 30-34 years                           | 10.1          | 83.0        | 4.9                | 1.2        | 0.8              | 100.0        |
| 35-39 years                           | 6.3           | 87.0        | 4.3                | 1.9        | 0.5              | 100.0        |
| 40-44 years                           | 4.6           | 87.3        | 4.0                | 3.5        | 0.6              | 100.0        |
| 45-49 years                           | 4.1           | 85.0        | 4.1                | 6.1        | 0.7              | 100.0        |
| 50-54 years                           | 3.5           | 80.1        | 4.3                | 11.3       | 0.7              | 100.0        |
| 55-59 years                           | 3.0           | 75.1        | 4.1                | 17.3       | 0.5              | 100.0        |
| 60-64 years                           | 4.1           | 64.1        | 4.1                | 27.3       | 0.4              | 100.0        |
| 65-69 years                           | 3.9           | 56.6        | 3.9                | 35.2       | 0.4              | 100.0        |
| 70-74 years                           | 5.2           | 47.1        | 2.6                | 44.5       | 0.5              | 100.0        |
| 75 years and more                     | 5.2           | 36.6        | 1.7                | 55.8       | 0.5              | 100.0        |
| <b>Total</b>                          | <b>24.9</b>   | <b>64.3</b> | <b>3.5</b>         | <b>6.6</b> | <b>0.7</b>       | <b>100.0</b> |
| Singulate mean age at marriage (SMAM) | 24.4          |             |                    |            |                  |              |
| <b>Males</b>                          |               |             |                    |            |                  |              |
| 15-19 years                           | 92.4          | 6.8         | 0.3                | 0.0        | 0.6              | 100.0        |
| 20-24 years                           | 67.4          | 31.1        | 0.9                | 0.0        | 0.6              | 100.0        |
| 25-29 years                           | 37.1          | 59.7        | 1.9                | 0.3        | 1.0              | 100.0        |
| 30-34 years                           | 17.1          | 79.3        | 2.4                | 0.4        | 0.8              | 100.0        |
| 35-39 years                           | 8.5           | 88.2        | 2.4                | 0.5        | 0.5              | 100.0        |
| 40-44 years                           | 4.7           | 92.4        | 1.8                | 0.6        | 0.6              | 100.0        |
| 45-49 years                           | 3.3           | 92.7        | 2.0                | 1.3        | 0.7              | 100.0        |
| 50-54 years                           | 2.3           | 93.0        | 1.6                | 2.3        | 0.8              | 100.0        |
| 55-59 years                           | 2.0           | 93.9        | 1.0                | 3.1        | 0.0              | 100.0        |
| 60-64 years                           | 1.4           | 91.8        | 1.4                | 5.5        | 0.0              | 100.0        |
| 65-69 years                           | 2.1           | 87.5        | 2.1                | 8.3        | 0.0              | 100.0        |
| 70-74 years                           | 3.0           | 81.8        | 3.0                | 12.1       | 0.0              | 100.0        |
| 75 years and more                     | 4.3           | 72.3        | 2.1                | 21.3       | 0.0              | 100.0        |
| <b>Total</b>                          | <b>33.9</b>   | <b>62.4</b> | <b>1.5</b>         | <b>1.5</b> | <b>0.6</b>       | <b>100.0</b> |
| Singulate mean age at marriage (SMAM) | 27.3          |             |                    |            |                  |              |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

Modern methods of contraception largely dominate, with 49 per cent of users of modern methods compared to 5 per cent using traditional methods. The same contraceptive rate prevalence seems to be spread evenly in urban and remote rural areas. The prevalence of contraception in the Northern region is the highest, however, the differences with the Central and Southern regions are not so marked, even in the provinces of Bokeo, Savannakhet and Attapeu.

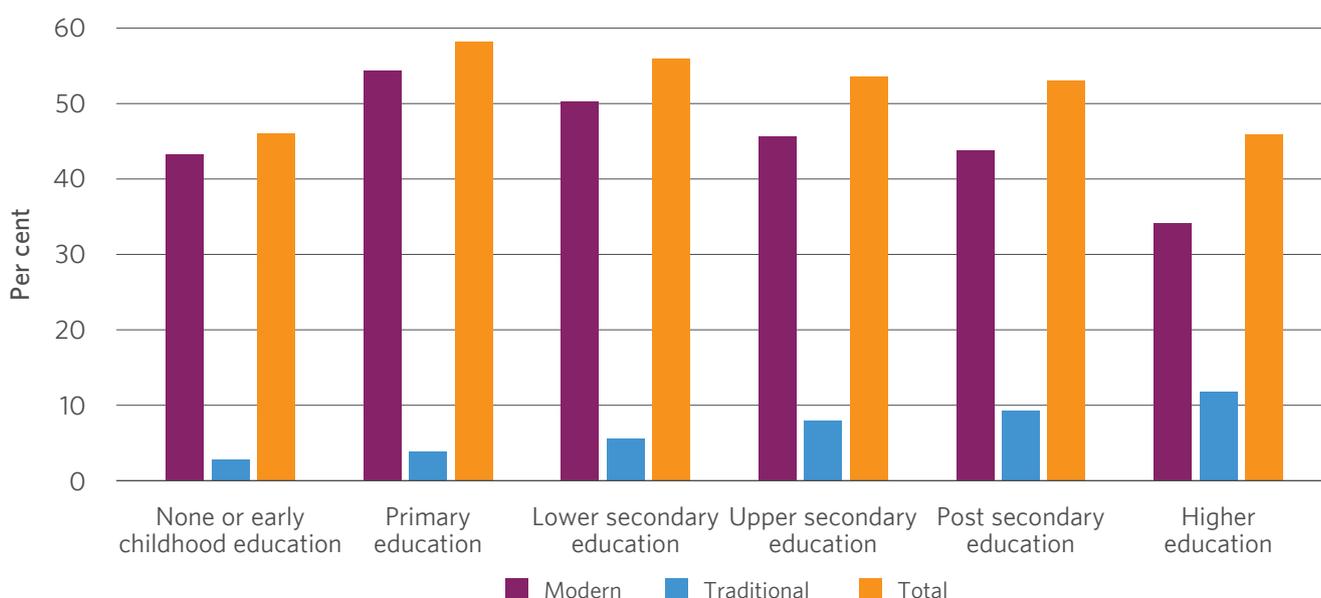
The same contraceptive rate prevalence seems to be spread evenly in urban and remote rural areas.

Across all groupings, the birth control pill is the most popular modern contraception method at 27.3, per cent, followed by the injectable method at 12.6 per cent. All other modern methods are marginally used. Among traditional methods, withdrawal is the most popular, but with only 0.9 per cent of users. Unmet need for family planning, either for spacing or limiting births, has declined between the two surveys from 20 per cent in 2011–2012 to 14 per cent in 2017 but still remains problematic.

Contrary to our expectations, education level does not seem to impact significantly on contraception (**contraceptive use**) prevalence (Figure 2.4). It is the lowest for the two extreme groups: for the less educated it is 45.9 per cent and the more educated it is 48.6 per cent. Moreover, women with higher education are more inclined to use traditional methods: 11.8 per cent compared to the less educated at only 2.8 per cent. Ethnicity is not a strong predictor of contraceptive prevalence, the only exception being the Hmong Mien group, where it is remarkably low at 33.7 per cent, with 25 per cent using modern methods. The poorest group of women corresponds to those who use contraception the least, at 43.4 per cent use. But, highest users of contraception are in the middle and fourth quintiles, at 57.0 and 60.1 per cent, respectively, while the richest quintile is at 55.3 per cent. In this percentage of the richest quintile, almost one out of ten women (9.4 per cent) prefer traditional methods, which is the highest use of traditional methods in all quintiles.

Contrary to our expectations, education level does not seem to impact significantly on contraception prevalence.

**Figure 2.4** Contraceptive use (%), modern and traditional (%), by level of education, 2017



Source: Lao Statistics Bureau. 2018. Lao Statistics Bureau, *Lao Social Indicator Survey II, Survey Findings Report*.

**Table 2.11** Present use of contraception, modern and traditional, for women currently married or in union (%), 2017

|                                   | MODERN               |                    |            |             |            |             |             |               |            |
|-----------------------------------|----------------------|--------------------|------------|-------------|------------|-------------|-------------|---------------|------------|
|                                   | Female sterilization | Male sterilization | IUD        | Injectables | Implants   | Pill        | Male condom | Female condom | Diaphragm  |
| <b>Total</b>                      | <b>4.4</b>           | <b>0.0</b>         | <b>2.1</b> | <b>12.6</b> | <b>1.4</b> | <b>27.3</b> | <b>1.1</b>  | <b>0.1</b>    | <b>0.0</b> |
| <b>Area</b>                       |                      |                    |            |             |            |             |             |               |            |
| Urban                             | 5.9                  | 0.0                | 3.2        | 6.7         | 1.7        | 25.8        | 2.3         | 0.1           | 0.0        |
| Rural with road                   | 4.0                  | 0.0                | 1.6        | 15.1        | 1.3        | 28.4        | 0.6         | 0.1           | 0.0        |
| Rural without road                | 2.2                  | 0.0                | 0.9        | 16.5        | 0.6        | 25.9        | 0.1         | 0.0           | 0.0        |
| <b>Region</b>                     |                      |                    |            |             |            |             |             |               |            |
| North                             | 4.7                  | 0.0                | 1.3        | 12.4        | 1.5        | 35.5        | 0.4         | 0.0           | 0.0        |
| Central                           | 3.9                  | 0.0                | 2.2        | 11.9        | 1.3        | 24.9        | 1.7         | 0.1           | 0.0        |
| South                             | 5.5                  | 0.0                | 3.0        | 14.7        | 1.3        | 19.8        | 0.6         | 0.0           | 0.0        |
| <b>Province</b>                   |                      |                    |            |             |            |             |             |               |            |
| Bokeo                             | 14.8                 | 0.3                | 0.1        | 17.0        | 0.7        | 26.1        | 0.5         | 0.0           | 0.0        |
| Savannakhet                       | 6.4                  | 0.0                | 0.9        | 16.8        | 1.1        | 19.5        | 0.6         | 0.1           | 0.0        |
| Attapeu                           | 6.1                  | 0.0                | 4.2        | 12.2        | 1.4        | 21.4        | 1.1         | 0.0           | 0.0        |
| <b>Education</b>                  |                      |                    |            |             |            |             |             |               |            |
| None or early childhood education | 3.1                  | 0.0                | 1.2        | 19.2        | 1.0        | 18.5        | 0.2         | 0.0           | 0.0        |
| Primary education                 | 4.8                  | 0.0                | 1.7        | 15.3        | 1.3        | 30.9        | 0.3         | 0.1           | 0.0        |
| Lower secondary education         | 4.9                  | 0.0                | 3.3        | 8.5         | 1.5        | 30.9        | 1.1         | 0.1           | 0.0        |
| Upper secondary education         | 4.6                  | 0.0                | 2.7        | 5.0         | 1.5        | 29.4        | 2.3         | 0.1           | 0.0        |
| Post secondary education          | 6.8                  | 0.0                | 2.7        | 5.4         | 2.0        | 24.8        | 2.1         | 0.0           | 0.0        |
| Higher education                  | 3.0                  | 0.0                | 2.7        | 3.3         | 2.4        | 19.0        | 6.2         | 0.2           | 0.0        |
| <b>Ethno-linguistic group</b>     |                      |                    |            |             |            |             |             |               |            |
| Lao Tai                           | 5.2                  | 0.0                | 2.5        | 11.6        | 1.4        | 30.3        | 1.5         | 0.1           | 0.0        |
| Mon Khmer                         | 2.8                  | 0.0                | 1.2        | 16.2        | 1.1        | 26.3        | 0.3         | 0.0           | 0.0        |
| Hmong Mien                        | 1.9                  | 0.0                | 0.9        | 8.1         | 1.9        | 11.8        | 0.3         | 0.0           | 0.0        |
| Chinese Tibetan                   | 9.9                  | 0.0                | 2.1        | 17.2        | 2.5        | 19.0        | 0.3         | 0.0           | 0.0        |
| <b>Wealth</b>                     |                      |                    |            |             |            |             |             |               |            |
| Poorest                           | 1.8                  | 0.0                | 0.7        | 16.8        | 0.7        | 21.4        | 0.1         | 0.0           | 0.0        |
| Second                            | 3.4                  | 0.0                | 1.2        | 17.9        | 1.1        | 25.9        | 0.3         | 0.0           | 0.0        |
| Middle                            | 4.1                  | 0.0                | 1.6        | 14.9        | 1.4        | 30.5        | 0.5         | 0.1           | 0.0        |
| Fourth                            | 5.6                  | 0.0                | 2.6        | 9.5         | 1.4        | 34.0        | 1.2         | 0.1           | 0.0        |
| Richest                           | 6.9                  | 0.0                | 3.8        | 5.3         | 2.2        | 24.3        | 3.2         | 0.2           | 0.0        |

Source: Lao Statistics Bureau, 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*.

**Table 2.11** Present use of contraception, modern and traditional, for women currently married or in union (%), 2017 (continued)

|                                   | TRADITIONAL         |            |            | Modern methods | Traditional methods | All methods |
|-----------------------------------|---------------------|------------|------------|----------------|---------------------|-------------|
|                                   | Periodic abstinence | Withdrawal | Other      |                |                     |             |
| <b>Total</b>                      | <b>3.8</b>          | <b>0.9</b> | <b>0.3</b> | <b>49.0</b>    | <b>5.0</b>          | <b>54.0</b> |
| <b>Area</b>                       |                     |            |            |                |                     |             |
| Urban                             | 6.1                 | 1.6        | 0.6        | 45.7           | 8.3                 | 54.0        |
| Rural with road                   | 0.6                 | 0.1        | 0.0        | 51.1           | 0.7                 | 51.8        |
| Rural without road                | 0.5                 | 0.2        | 0.0        | 46.2           | 0.7                 | 46.9        |
| <b>Region</b>                     |                     |            |            |                |                     |             |
| North                             | 0.4                 | 0.2        | 0.0        | 55.8           | 0.6                 | 56.4        |
| Central                           | 1.2                 | 0.4        | 0.0        | 46.0           | 1.6                 | 47.6        |
| South                             | 1.2                 | 0.2        | 0.0        | 44.9           | 1.4                 | 46.3        |
| <b>Province</b>                   |                     |            |            |                |                     |             |
| Bokeo                             | 1.6                 | 0.2        | 0.4        | 59.5           | 2.2                 | 61.7        |
| Savannakhet                       | 1.6                 | 0.0        | 0.1        | 45.4           | 1.7                 | 47.1        |
| Attapeu                           | 2.9                 | 0.7        | 0.4        | 46.4           | 4.0                 | 50.4        |
| <b>Education</b>                  |                     |            |            |                |                     |             |
| None or early childhood education | 2.1                 | 0.6        | 0.1        | 43.2           | 2.8                 | 46.0        |
| Primary education                 | 2.9                 | 0.7        | 0.2        | 54.4           | 3.8                 | 58.2        |
| Lower secondary education         | 4.4                 | 1.0        | 0.2        | 50.3           | 5.6                 | 55.9        |
| Upper secondary education         | 5.7                 | 1.6        | 0.7        | 45.6           | 8.0                 | 53.6        |
| Post secondary education          | 7.9                 | 1.2        | 0.2        | 43.8           | 9.3                 | 53.1        |
| Higher education                  | 8.0                 | 2.8        | 1.0        | 34.1           | 11.8                | 45.9        |
| <b>Ethno-linguistic group</b>     |                     |            |            |                |                     |             |
| Lao Tai                           | 4.3                 | 0.9        | 0.3        | 52.6           | 5.5                 | 58.1        |
| Mon Khmer                         | 0.3                 | 0.2        | 0.0        | 47.9           | 0.5                 | 48.4        |
| Hmong Mien                        | 2.4                 | 0.1        | 0.0        | 24.9           | 2.5                 | 27.4        |
| Chinese Tibetan                   | 0.9                 | 0.0        | 0.0        | 51.0           | 0.9                 | 51.9        |
| <b>Wealth</b>                     |                     |            |            |                |                     |             |
| Poorest                           | 1.4                 | 0.4        | 0.0        | 41.5           | 1.8                 | 43.3        |
| Second                            | 2.9                 | 0.6        | 0.2        | 49.8           | 3.7                 | 53.5        |
| Middle                            | 3.0                 | 0.7        | 0.2        | 53.1           | 3.9                 | 57.0        |
| Fourth                            | 4.5                 | 1.0        | 0.2        | 54.4           | 5.7                 | 60.1        |
| Richest                           | 6.7                 | 1.9        | 0.8        | 45.9           | 9.4                 | 55.3        |

Source: Lao Statistics Bureau, 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*.

Family planning is unanimously considered essential for the protection of the health of mothers and children, and important for reaching fertility control, as well as for avoiding the use of forced abortion.

Women want to limit their offspring but, on the other hand, many families either are reluctant to use contraception.

Surprisingly, the trend in contraceptive prevalence has hardly increased between the two surveys (2011-2012 and 2017), although the interval between them covers six years. The prevalence of contraception for all methods, increased from 50 per cent in 2011-2012 to 54 per cent in 2017. For modern methods, only it increased from 42 per cent to 49 per cent, and traditional methods became less popular decreasing from 8 per cent to 5 per cent. It is serious problem that the use of any contraception has not increased to higher level, as family planning is unanimously considered essential for the protection of the health of mothers and children, and important for reaching fertility control, as well as for avoiding the use of forced abortion.

For families with two children born alive and surviving, a majority (53.4 per cent) wanted no more children in 2011-2012. Hence, on the one hand, women want to limit their offspring but, on the other hand, many families either are reluctant to use contraception, or they are deprived of the possibility to use it, which could be for many reasons including the difficulty in accessing contraceptive means.

## 2.8 Induced abortion and breastfeeding

Although restricted since Lao PDR was a French Protectorate (1889), induced abortion is currently practiced, very often unsafely. This raises major health issues, as a percentage of maternal morbidity and subsequent deaths are due to these practices. In 2016, the Ministry of Health relaxed the prohibition of abortion, and therefore, women can now rely on safer abortions obtainable for a number of reasons, including contraceptive failure and on request.<sup>29</sup> As a direct consequence of the increased openness in addressing abortion, the 2017 survey included a data gathering on this (Table 2.12).

The total abortion rate, 0.21 is very low as compared to the total fertility rate of 2.75 in 2017. As suggested in the report of the 2017 survey, this might be due to the social stigma and fear of abortion, since the relaxation of the measures on abortion came only one year before the survey. Moreover, considering the relatively low age at marriage and low rate of contraceptive prevalence, the real abortion rate is probably higher, particularly in relation to the decreased TFR of 2.75.

**Table 2.12** Induced abortion rate by age group, 2017

| Age-group                  | Total       | Urban       | Rural       |
|----------------------------|-------------|-------------|-------------|
| 15-19 years                | 2           | 2           | 2           |
| 20-24 years                | 9           | 13          | 6           |
| 25-29 years                | 10          | 12          | 8           |
| 30-34 years                | 10          | 14          | 8           |
| 35-39 years                | 8           | 9           | 8           |
| 40-44 years                | 4           | 3           | 4           |
| 45-49 years                | 0           | 1           | 0           |
| <b>Total abortion rate</b> | <b>0.21</b> | <b>0.27</b> | <b>0.18</b> |

Source: Lao Statistics Bureau, 2018. *Lao Statistics Bureau, Lao Social Indicator Survey II, Survey Findings Report.*

<sup>29</sup> Lao Statistics Bureau. 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report.*

Breastfeeding, a traditional method of family planning, is relatively efficient for spacing of births, if not for decreasing the number of births. It prolongs the duration of the amenorrhoea postpartum, which inhibits fertility for a time. Louis Henry's model shows that for a woman married, for example, at the age of 15 years, so-called 'natural' fertility (without any constraint for limitation) decreases from 15.2 children without breastfeeding, to 12.3 in the case of short-term breastfeeding and to 10.0 in case of long-term breastfeeding. This is one means of family planning, in addition to voluntary celibacy, delaying age of marriage and using contraception. Also to be considered is the separation of spouses due to labour migration, which, in the case of Lao PDR, is quite significant, although unstudied.<sup>30</sup> It is hard to measure this due to the incomplete registration of in and out-migrants at the borders and the absence of surveys on international migration from and to Lao PDR.

Breastfeeding is widespread in Lao PDR, with almost all babies having had some breastfeeding, with 95.6 per cent in 2011-2012, and 97.0 per cent in 2017 (Table 2.13). Early initiation of breastfeeding has increased from 39 per cent in 2011-2012 to 50 per cent in 2017. Other results, however, show less positive attitudes in favour of breastfeeding. Predominant breastfeeding under 6 months has diminished from 68.3 per cent in 2011-2012 to 59.5 per cent in 2017. There was also a decrease in breastfeeding for babies at one and two years of the age. Overall, the average duration of breastfeeding has fallen from around 19.5 months in 2011-2012 to 16.0 months in 2017, which might be factor that could push fertility rates upwards.

Breastfeeding is an important issue for better health for children and population policies. Governments, United Nations agencies and NGOs should use their influence, including the media, to encourage the population to turn to healthier practices regarding breastfeeding.

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Overall, the average duration of breastfeeding has fallen from around 19.5 months in 2011-2012 to 16.0 months in 2017, which might be factor that could push fertility rates upwards.

**Table 2.13** Breastfeeding practices (%), 2011-2012 and 2017

|   | 2011-12 | 2017 |
|---|---------|------|
| Children ever breast fed                  | 95.6    | 97.0 |
| Early initiation of breast feeding        | 39.1    | 50.1 |
| Exclusive breastfeeding under 6 monthes   | 40.4    | 44.9 |
| Predominant breastfeeding under 6 monthes | 68.3    | 59.5 |
| Continued breastfeeding at 1 year         | 73.0    | 64.9 |
| Continued breastfeeding at 2 years        | 40.0    | 27.2 |
| Duration of breastfeeding (monthes)       | 19.5    | 16.0 |
| Age appropriate breastfeeding             | 36.7    | 51.0 |

Source: Lao Statistics Bureau, *Lao Social Indicator Survey II 2011-12, Survey Findings Report*, op. cit., *Lao Social Indicator Survey II 2017, Survey Findings Report*.

<sup>30</sup> Because of intensive international migration of married females and males abroad, mainly to Thailand, couples live apart, for long periods of time. This limitation on time for sexual intercourse contributes, therefore, to diminishing birth rates.

## 2.9 Household size and structure

Since many important decisions on health or economic life are taken at the household level, rather than by individuals, it is an important to understand household size and structure. The 2015 census provides recent data on this subject.

The annual rate of increase in the number of households between 2005 and 2015 was 2.17 per cent (Table 2.14). This was almost twice the rate of population growth at 1.32 per cent between 2005 and 2015. This suggests that the growing number of households combined with the fertility decrease, which reduces of the average number of children in the household, may be due to an increase of smaller nuclear family households, rather than more extended family households.

Simon Kuznets<sup>31</sup> developed a method to estimate the role of children and adults, including elderly people, in the change of household size. It consists of applying the age structure by large age groups to the average size of the household. In 2005, the average number of children below age 15 years in the household was 2.3 and in 2015 it was 1.7, which reflects the decisive impact of the fertility decrease. During the same time, the average number of adults in the household remained almost stationary going from 3.5 in 2005 to 3.6 in 2015 (Table 2.15), indicating no significant change in cohabitation.

**Table 2.14** Population and average size of private households, 2015

| Area                | Population in private households (1000) |       |                             | Number of private households (1000) |       |                             |
|---------------------|---|-------|-----------------------------|-------------------------------------|-------|-----------------------------|
|                     | 2005                                    | 2015  | Annual rate of increase (%) | 2005                                | 2015  | Annual rate of increase (%) |
| All country         | 5,499                                   | 6,278 | 1.32                        | 952                                 | 1,183 | 2.17                        |
| Urban               | 1,436                                   | 2,003 | 3.33                        | 265                                 | 409   | 4.34                        |
| Rural with roads    | 2,862                                   | 3,767 | 2.75                        | 490                                 | 687   | 3.38                        |
| Rural without roads | 1,194                                   | 507   | -8.57                       | 195                                 | 87    | -8.07                       |
| Area                | Average size of households              |       |                             |                                     |       |                             |
|                     | 2005                                    | 2015  |                             |                                     |       |                             |
| All country         | 5.8                                     | 5.3   |                             |                                     |       |                             |
| Urban               | 5.4                                     | 4.9   |                             |                                     |       |                             |
| Rural with roads    | 5.8                                     | 5.5   |                             |                                     |       |                             |
| Rural without roads | 6.1                                     | 5.8   |                             |                                     |       |                             |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

<sup>31</sup> Simon Kuznets, "Economic Growth and Income Inequality", *The American Economic Review*, Vol. 45, N°1, 1955.

**Table 2.15** Proportion of children and adults, and the average number of people in households, 2005 and 2015

|          | Proportions |      | Average number in the household |      |
|----------|-------------|------|---------------------------------|------|
|          | 2005        | 2015 | 2005                            | 2015 |
| Children | 39.4        | 32.0 | 2.29                            | 1.70 |
| Adults   | 60.6        | 68.0 | 3.51                            | 3.60 |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

In a patrilineal society such as Lao PDR, males dominate as the head of households at 87 per cent in the country as a whole, with 13 per cent of female-dominated households in 2015. This proportion is largely dependent on the level of development or on differential migration by gender, as well as by location. In urban areas, 18 per cent per cent of households are headed by women. But this figure is only 11 per cent in the rural areas with roads, and 7 per cent in the rural areas without roads.

In a patrilineal society such as Lao PDR, males dominate the head of households. In 2015, the proportion was 87% male dominated households and 13% female-dominated households.

## 2.10 Population mobility: Internal migration, regional distribution and international migration

Internal migration has drawn much more attention in Lao PDR than international (or external) migration. Yet, both internal and external migration play direct roles in the demographic rate of growth and indirect roles in the demographic transition of mortality and fertility reductions. Migration, both internal and external, also generates a flow of financial transfers to the country overall and to its different provinces.

The 2015 population census is the most recent source for assessing migration. Results of the migration analysis provide the proportion of life-time migrants by province in 2015 (Table 2.16). Life-time migration refers to persons residing, at census time, somewhere other than their place of birth.

At the national level, the proportion of life-time migrants is only about 17 per cent, a rather low proportion in comparison to the world standard. However, this average hides important regional disparities in which Vientiane Capital and its vicinity in Vientiane Province dominate in having the highest proportion of life-time migration, along with Xaysomboun Province at about 37 per cent. At the lower end, there are five provinces with a proportion of life-time migrants at 10 per cent or less, with the lowest province being Saravane at 7.7 per cent for life-time migrants.

At the national level, the proportion of life-time migrants is only about 17 per cent, a rather low proportion in comparison to the world standard.

For recent migrants, those who moved in the last ten years and those who were residing in another province 10 years before the 2015 census, the share in the total population is not high (7.4 per cent), and there are notable differences among provinces. Interestingly, in this proportion, the capital no longer dominates the scene, as Xaysomboun, with 20.7 per cent internal migrants (compared to Vientiane Capital at 15.3 per cent) is highest, with most migrants coming from other provinces (Table 2.17).<sup>32</sup>

<sup>32</sup> The reason is that Xaysomboon Province was recently created, two years before the 2015 census close to the capital and where 300 families were relocated after the construction of the Nam Gun Dam.

**Table 2.16** Proportions of life-time migrants by province, from highest to the lowest, 2015

| Province           | Proportion (%) |
|--------------------|----------------|
| Vientiane Capital  | 38.1           |
| Xaysomboon         | 37.3           |
| Vientiane province | 27.4           |
| Bokeo              | 22.9           |
| Borikhamxay        | 21.5           |
| Sekong             | 20.0           |
| Luangnamtha        | 19.1           |
| Xienghuang         | 16.8           |
| Luangprabang       | 15.8           |
| Attapeu            | 12.7           |
| Oudomxay           | 12.5           |
| Xayabury           | 11.4           |
| Phongsaly          | 10.6           |
| Champasack         | 10.2           |
| Khammuane          | 9.5            |
| Huaphanh           | 8.1            |
| Savannakhet        | 7.9            |
| Saravane           | 7.7            |
| <b>All country</b> | <b>16.7</b>    |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.**Table 2.17** Proportion (%) of recent migrants by province, from the highest to the lowest, 2015

| Province           | Proportion (%) |
|--------------------|----------------|
| Xaysomboon         | 20.7           |
| Vientiane Capital  | 15.3           |
| Bokeo              | 9.4            |
| Borikhamxay        | 9.1            |
| Vientiane province | 8.9            |
| Attapeu            | 7.8            |
| Sekong             | 7.6            |
| Luangnamtha        | 7.4            |
| Luangprabang       | 6.9            |
| Phongsaly          | 6.1            |
| Xienghuang         | 6.0            |
| Oudomxay           | 5.7            |
| Xayabury           | 5.4            |
| Champasack         | 4.8            |
| Khammuane          | 4.8            |
| Savannakhet        | 4.8            |
| Saravane           | 4.5            |
| Huaphanh           | 4.3            |
| <b>All country</b> | <b>7.4</b>     |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

There is a close link between life-time migration and recent migration by province, which appears to confirm that recent migration is determined by life-time migration.

#### Reasons that motivate the change of place of residence

- 15%** Search for education is the motivation
- 13%** Transfer of work place, search for employment
- 10%** Marriage
- 2%** Change of residence for business purposes

By sex and age, recent findings show that internal migration is dominated by males, with a sex ratio of 146 males for 100 females; and with an overwhelming majority of persons of both sexes in the young active working ages of 20-34 years. Among the reasons that motivate the change of place of residence, work is the main one, with the transfer of work place and search for employment both at 13 per cent; and change of residence for business purposes at 2 per cent. Search for education is the motivation for 15 per cent of movement, and marriage for 10 per cent. Internal migration due to the family moving is at 18 per cent, while other reasons account for 4 per cent of the internal migration. However, in the survey results there were many who did not state reasons (24 per cent), which might affect the validity of the overall results for the reasons for internal migration.

Table 2.18 shows the movements during the last ten years preceding the 2015 census 2015, by province. A province is either attractive or not, usually for economic reasons, including employment opportunities. It is, therefore

important for national policy at the regional level and for the preparation of the next development plan to identify those regions that are most in need of public investment or private and public investment from foreign sources, or the assistance of international donors.

Vientiane Capital has attracted about 34,000 immigrants aged 10 years and over, which means if we include the children, that is 39 per cent of internal immigrants, whereas Vientiane Capital has lost only 7.7 per cent of the population by out migration to the benefit of other provinces.

Demo-economic literature is now reconsidering the effects of urbanization, as the existence of activities in the fields of industry and service are reliant on larger cities and populations. However, it would be appropriate to consider the cost benefit of urbanization in order to inform decisions and policy making.

**Demo-economic literature is now reconsidering the effects of urbanization.**

Among the other provinces, only one other along with Vientiane emerges as attractive for migrants: Xaysomboon. Of the remaining provinces, the majority is losing population because of net out-migration. The most severe cases of provincial out migration need special attention and further investigation. The net out-migration rates of these provinces are Huaphanh at -9.6, Phongsaly -6.9, Xiengkhuang, -7.6 and, curiously, Luangprabang -5.5 per 1,000 people (Table 2.18).

**Table 2.18** Number of immigrants and out-migrants (aged 10 years and older) by province, 2015

| Province           | Immigrants    | Out-migrants   | Net immigrants | Population over age 10 years (in thousands) |
|--------------------|---------------|----------------|----------------|---|
| Vientiane Capital  | 33,559        | -6,683         | 26,876         | 349.6                                       |
| Phongsaly          | 1,003         | -5,562         | -4,559         | 66.3  |
| Luangnamtha        | 2,980         | -1,904         | 1,076          | 69.0  |
| Oudomxay           | 3,403         | -4,218         | -815           | 117.7                                       |
| Bokeo              | 2,834         | -1,364         | 1,470          | 69.0  |
| Luangprabang       | 3,493         | -12,649        | -9,156         | 165.4                                       |
| Huaphanh           | 1,198         | -11,665        | -10,467        | 108.5                                       |
| Xayabury           | 2,501         | -4,011         | -1,510         | 151.1                                       |
| Xienghuang         | 1,529         | -8,526         | -6,997         | 92.5  |
| Vientiane province | 9,200         | -8,829         | 371            | 166.0                                       |
| Borikhamxay        | 4,675         | -3,593         | 1,082          | 105.8                                       |
| Khammuane          | 2,579         | -2,930         | -351           | 157.8                                       |
| Svannakhet         | 4,650         | -3,452         | 1,198          | 389.1                                       |
| Saravane           | 2,097         | -1,963         | 134            | 155.0                                       |
| Sekong             | 1,350         | -1,063         | 287            | 41.0  |
| Champasack         | 3,084         | -4,618         | -1,534         | 280.9                                       |
| Attapeu            | 1,865         | -911           | 954            | 54.0  |
| Xaysomboon         | 4,089         | -2,148         | 1,941          | 29.4  |
| <b>Total</b>       | <b>86,089</b> | <b>-86,089</b> |                | <b>2,568.1</b>                              |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

**Table 2.18** Number of immigrants and out-migrants (aged 10 years and older) by province, 2015 (*continued*)

| Province           | Annual rate of immigration | Annual rate of emigration | Net rate of immigration |
|--------------------|----------------------------|---------------------------|-------------------------|
| Vientiane Capital  | 9.6                        | -1.9                      | 7.7                     |
| Phongsaly          | 1.5                        | -8.4                      | -6.9                    |
| Luangnamtha        | 4.3                        | -2.8                      | 1.6                     |
| Oudomxay           | 2.9                        | -3.6                      | -0.7                    |
| Bokeo              | 4.1                        | -2.0                      | 2.1                     |
| Luangprabang       | 2.1                        | -7.6                      | -5.5                    |
| Huaphanh           | 1.1                        | -10.8                     | -9.6                    |
| Xayabury           | 1.7                        | -2.7                      | -1.0                    |
| Xienghuang         | 1.7                        | -9.2                      | -7.6                    |
| Vientiane province | 5.5                        | -5.3                      | 0.2                     |
| Borikhamxay        | 4.4                        | -3.4                      | 1.0                     |
| Khammuane          | 1.6                        | -1.9                      | -0.2                    |
| Svannakhet         | 1.2                        | -0.9                      | 0.3                     |
| Saravane           | 1.4                        | -1.3                      | 0.1                     |
| Sekong             | 3.3                        | -2.6                      | 0.7                     |
| Champasack         | 1.1                        | -1.6                      | -0.5                    |
| Attapeu            | 3.5                        | -1.7                      | 1.8                     |
| Xaysomboon         | 13.9                       | -7.3                      | 6.6                     |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

It is difficult to record population movements in relation to the country's porous borders with its five neighbouring countries.

## International migration

International migration has been side-lined in the studies on the demography of Lao PDR, although it is widely felt as important for its impact on the population and on the economy of the country. One reason for this is the difficulty of recording population movements in relation to the country's porous borders with its five neighbouring countries.

The Lao diaspora worldwide is estimated between 800,000 and 2,500,000 persons of Lao origin.<sup>33</sup> This wide variation is not rare, and for almost all diasporas, there is a wide range of estimations. Therefore, the figures in Table 2.19 are very rough estimates.

This range of estimates raises some doubts about their reliability. However, a range of 850,000 to 2,500,000, is what might be found in the estimates of other diasporas.<sup>34</sup> Turning to international sources, Table 2.20 provides the estimates from the Population Division of the United Nations and of the US Census Bureau for international out-migration from Lao PDR.

<sup>33</sup> "Laotian diaspora", *Wikipedia* (retrieved 1 October 2019). These figures are far from precise, yet they can show that this question has raised attention. Indeed, Lao are found even in unexpected locations, such as Argentina.

<sup>34</sup> Such as the Irish, Italian, Lebanese, Jewish, Armenian diasporas among others.

**Table 2.19** Estimates of Lao diaspora in selected countries, 2016-2018

| Country                  | Number         |                            |
|--------------------------|----------------|----------------------------|
| Thailand                 | 288,000        |                            |
| United States of America | 265,000        | (other estimate 1,200,000) |
| France                   | 200,000        | (other estimate 325,000)   |
| Canada                   | 24,580         | (other estimate 212,000)   |
| Cambodia                 | 21,600         |                            |
| Myanmar                  | 17,000         |                            |
| Viet Nam                 | 14,900         |                            |
| Australia                | 12,372         |                            |
| Argentina                | 1,800          |                            |
| New Zealand              | 1,374          |                            |
| <b>Total</b>             | <b>846,626</b> | (other estimate 2,500,000) |

Source: See footnote 34

**Table 2.20** Estimates for out-migration from Lao PDR, 1975-2018

| United Nations Population Division |        |           |        |              |            |
|------------------------------------|--------|-----------|--------|--------------|------------|
| Period                             | Number | Period    | Number | Period       | Number     |
| 1975-1980                          | 199    | 1995-2000 | 135    | 2015-2018    | 44         |
| 1980-1985                          | 35     | 2000-2005 | 148    | <b>Total</b> | <b>844</b> |
| 1985-1990                          | 0      | 2005-2010 | 110    |              |            |
| 1990-1995                          | 61     | 2010-2015 | 112    |              |            |
| US Census Bureau                   |        |           |        |              |            |
| Year                               | Number | Year      | Number | Year         | Number     |
| 1995                               | 8      | 2004      | 29     | 2013         | 8          |
| 1996                               | 8      | 2005      | 28     | 2014         | 7          |
| 1997                               | 7      | 2006      | 18     | 2015         | 8          |
| 1998                               | 7      | 2007      | 7      | 2016         | 8          |
| 1999                               | 8      | 2008      | 7      | 2017         | 7          |
| 2000                               | 31     | 2009      | 4      | 2018         | 8          |
| 2001                               | 31     | 2010      | 8      | <b>Total</b> | <b>281</b> |
| 2002                               | 68     | 2011      | 8      |              |            |
| 2003                               | 31     | 2012      | 8      |              |            |

Source: United Nations, 2017, US Census Bureau, 2019.

**Table 2.21** Number of immigrants from abroad (aged 10 years and older) by country of previous residence, 2015

| Country      | Number        | %            |
|--------------|---------------|--------------|
| Thailand     | 15,497        | 36.8         |
| Viet Nam     | 10,880        | 25.9         |
| China        | 9,798         | 23.3         |
| Myanmar      | 2,637         | 6.3          |
| Other Asia   | 1,228         | 2.9          |
| Europe       | 634           | 1.5          |
| America      | 536           | 1.3          |
| Cambodia     | 489           | 1.2          |
| Australia    | 196           | 0.5          |
| Africa       | 121           | 0.3          |
| Others       | 62            | 0.1          |
| <b>Total</b> | <b>42,078</b> | <b>100.0</b> |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

The United Nations estimates the total number of net out-migrants from 1975 until now at 844,000 persons. This figure is lower than the number of persons in the Lao diaspora since it does not take into account its natural growth through births outside the country. The US Census Bureau provides a lower estimation of out-migrants of 281,000 persons. However, it is limited to the period 1995-2018, half what has been estimated by the United Nations for the same period, which was 549,000 people. This shows the immense difficulties measuring this phenomenon, although it is of prime importance for the demography and economy of the country.

Finally, population census of 2015 provides the number of entrants aged 10 years and older into Lao PDR during the last 10 years by country of previous residence (Table 2.21). However, data do not distinguish between Lao citizens and foreign nationals.

The entrants to Lao PDR during the last ten years, whether Lao citizens or expatriates from neighbouring countries, were not many, with Thailand dominating the numbers, followed by Viet Nam, China and Myanmar. Immigrants from elsewhere than Asia were very few, generally less than one thousand per country.

Although the capital province welcomed more immigrants during the last ten years, its share was 18.6 per cent, which is rather small. The capital province was followed by Savannakhet at 18 per cent, with all other provinces below 10 per cent (Table 2.22).

**Table 2.22** Distribution of immigrants in the previous ten years by province (highest to lowest), 2015

| Province           | Number        | %            |
|--------------------|---------------|--------------|
| Vientiane Capital  | 7,840         | 18.6         |
| Savannakhet        | 7,572         | 18.0         |
| Champasack         | 3,933         | 9.3          |
| Bokeo              | 3,799         | 9.0          |
| Borikhamxay        | 3,041         | 7.2          |
| Saravane           | 3,016         | 7.2          |
| Khammuane          | 2,038         | 4.8          |
| Xayabury           | 1,623         | 3.9          |
| Attapeu            | 1,470         | 3.5          |
| Phongsaly          | 1,336         | 3.2          |
| Vientiane province | 899           | 2.1          |
| Oudomxay           | 878           | 2.1          |
| Sekong             | 858           | 2.0          |
| Huaphanh           | 822           | 2.0          |
| Luangnamtha        | 805           | 1.9          |
| Xienghuang         | 727           | 1.7          |
| Luangprabang       | 720           | 1.7          |
| Xaysomboon         | 698           | 1.7          |
| <b>Total</b>       | <b>42,078</b> | <b>100.0</b> |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

## Regional population distribution

Fertility differences, migration movements inside and outside the country, rural exodus, and reclassification of villages (from without roads to with roads) contributed to the reshuffling of population distribution between 2005 and 2015.

Urban areas grew at an annual rate of 3.4 per cent between 2005 and 2015, whereas rural areas (with or without roads) at a modest rate of 0.6 per cent, meaning that almost all their natural growth was wiped out by emigration (or by reclassification). Inside rural areas, the population that was living in settlements without roads was divided by more than two, decreasing at a negative rate of -8.5 per cent per year.

Some provinces, including Phongsaly, Luangprabang Xienghuang and Vientiane provinces, had very low growth rates.

By province, the annual rates of growth were very diverse (Table 2.23). From a minimum of 0.30 per cent in Huaphanh to the booming province of Xaysomboon at 7.71 per cent as already mentioned. Some provinces, including Phongsaly, Luangprabang Xienghuang and Vientiane provinces, had very low growth rates. These are the provinces that should draw the attention of regional planners, since these low rates of growth might signal harsh living conditions and deteriorating situations regarding job creation.

Vientiane Capital, which grew at a rate of 1.6 per cent, does not seem to have gained many immigrants from elsewhere, which seems unusual and a phenomenon that requires further analysis.

**Table 2.23** Population distribution by province, 2005 and 2015, and rate of growth (%)

| Province            | 2005           |              | 2015           |              | Annual growth (%) |
|---------------------|----------------|--------------|----------------|--------------|-------------------|
|                     | Number         | %            | Number         | %            |                   |
| Vientiane Capital   | 698.3          | 12.4         | 820.9          | 12.6         | 1.62              |
| Phongsaly           | 165.9          | 3.0          | 178.0          | 2.7          | 0.70              |
| Luangnamtha         | 145.3          | 2.6          | 175.8          | 2.7          | 1.91              |
| Oudomxay            | 265.2          | 4.7          | 307.6          | 4.7          | 1.48              |
| Bokeo               | 145.3          | 2.6          | 179.1          | 2.8          | 2.09              |
| Luangprabang        | 407.0          | 7.2          | 431.9          | 6.7          | 0.59              |
| Huaphanh            | 280.9          | 5.0          | 289.4          | 4.5          | 0.30              |
| Xayabury            | 338.7          | 6.0          | 381.4          | 5.9          | 1.19              |
| Xienghuang          | 229.6          | 4.1          | 244.7          | 3.8          | 0.64              |
| Vientiane province  | 388.9          | 6.9          | 419.1          | 6.5          | 0.75              |
| Borikhamxay         | 225.3          | 4.0          | 273.7          | 4.2          | 1.95              |
| Khammuane           | 337.4          | 6.0          | 392.1          | 6.0          | 1.50              |
| Savannakhet         | 825.9          | 14.7         | 969.7          | 14.9         | 1.61              |
| Saravane            | 324.3          | 5.8          | 396.9          | 6.1          | 2.02              |
| Sekong              | 85.0           | 1.5          | 113            | 1.7          | 2.85              |
| Champasack          | 607.4          | 10.8         | 694.1          | 10.7         | 1.33              |
| Attapeu             | 112.1          | 2.0          | 139.6          | 2.2          | 2.19              |
| Xaysomboon          | 39.4           | 0.7          | 85.2           | 1.3          | 7.71              |
| <b>Total</b>        | <b>5,621.9</b> | <b>100.0</b> | <b>6,492.2</b> | <b>100.0</b> | <b>1.44</b>       |
| Urban               | 1,522.1        | 27.1         | 2,135.9        | 32.9         | 3.39              |
| Rural with roads    | 2,895.2        | 51.5         | 3,843.4        | 59.2         | 2.83              |
| Rural without roads | 1,198.1        | 21.3         | 512.9          | 7.9          | -8.48             |
| NS                  | 6.6            | 0.1          |                |              |                   |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

# 3

## Population Projections in Lao PDR

Population projections from 2015 (the base year) until 2030, are established on basis of the official Lao Statistics Bureau (LSB) calculations, which took into account the results of the 2015 Population Census and those of the preceding Survey of 2011-2012.

These projections up to 2030 cover a rather short period. The reason is that projections for a longer period of time are hazardous in the context of rapid demographic transition, as is the case in Lao PDR. One main purpose of these projections is to help in preparing the next development plan, which ends in 2030.

### 3.1 Population by age group and sex at the start of the projections

The start of the projections starts with the age-sex distribution data from 2015, as shown in Table 3.1.

In 2015, with 33.6 per cent of the total population younger than age 15 years, the population of Lao PDR is still young, and its aging is still contained, with only 4.2 per cent older than 65 years. Adults (aged 15-64 years) are still a weak majority at 62.2 per cent. In the future, the increase of this part of the population is fundamental for benefiting from demographic dividend. The “youth bulge”, the proportion of the age group 15-24 years represents 20 per cent of the total population. The global sex ratio is equilibrated with 100 males for 100 females. Only for age group 45-49 years, there is a slight shortage of men in Lao PDR. The combined effects of fertility, mortality and migration, and taking into account the built-in momentum, the size and structure of this population will evolve heading toward 2030.

### 3.2 Projections of fertility

The fertility level and structure are the foremost components of future population growth, more so than mortality and international migration. Developmental factors are decisive on fertility trends and impact proximate determinants, including marriage, contraception, induced abortion, separation of spouses, and length of breastfeeding. These proximate determinants are, in turn affected by socio-economic factors, among which education, particularly female education, plays a primary role.

**Table 3.1** Mid-year adjusted population (in thousands) by age and sex, 2015

| Age          | Males          | Females        | Total          |
|--------------|----------------|----------------|----------------|
| 0-4          | 403.3          | 395.3          | 798.6          |
| 5-9          | 373.0          | 364.2          | 737.2          |
| 10-14        | 357.2          | 347.9          | 705.1          |
| 15-19        | 349.4          | 344.4          | 693.8          |
| 20-24        | 331.3          | 328.2          | 659.5          |
| 25-29        | 296.5          | 295.1          | 591.6          |
| 30-34        | 258.6          | 254.6          | 513.2          |
| 35-39        | 212.3          | 209.8          | 422.1          |
| 40-44        | 178.6          | 176.4          | 355.0          |
| 45-49        | 150.0          | 153.8          | 303.8          |
| 50-54        | 125.8          | 129.0          | 254.8          |
| 55-59        | 100.5          | 104.5          | 205.0          |
| 60-64        | 73.8           | 74.8           | 148.6          |
| 65-69        | 51.7           | 54.6           | 106.3          |
| 70-74        | 34.3           | 38.5           | 72.8           |
| 75-79        | 26.8           | 32.2           | 59.0           |
| 80+          | 19.3           | 25.9           | 45.2           |
| <b>Total</b> | <b>3,342.4</b> | <b>3,329.2</b> | <b>6,671.6</b> |

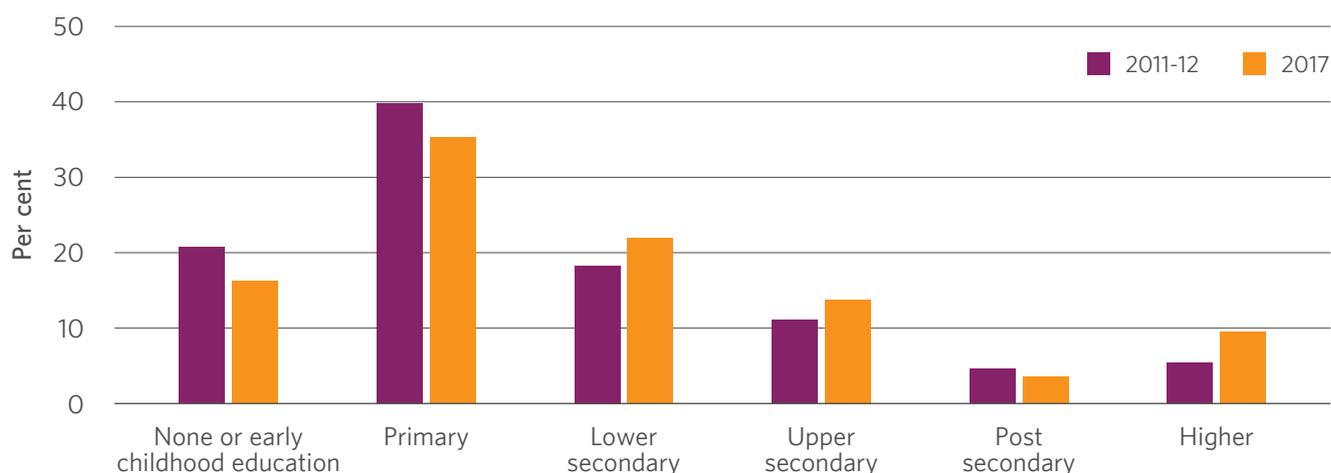
Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*, Vientiane Capital, June 2018.

The restructuring of Lao women in the fertile age group of 15-49 years between the two surveys reflects a decline in the share of less educated women, who are also those with the highest fertility rates.

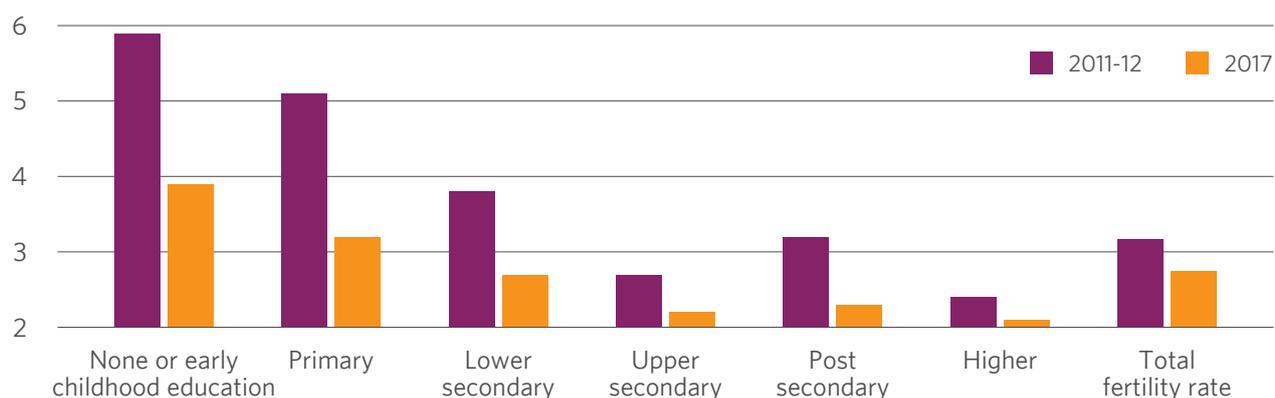
Between the two last surveys of 2011-2012 and 2017, education has impacted fertility (Figures 3.1 and 3.2). The restructuring of Lao women in the fertile age group of 15-49 years between the two surveys reflects a decline in the share of less educated women, who are also those with the highest fertility rates. There is a rise of the more educated women, who are in secondary, vocational and in higher education. Hence, in the recent past and in the future, young cohorts of more educated women are entering reproductive ages, whereas less educated women are becoming older than reproductive age.

The extent to which level of education conditions fertility, either in 2011-2012 or in 2017, can be seen in the steep decline of the total fertility rate (TFR), in harmony with the rise of the level of education. This is a worldwide phenomenon, and countries where this correlation is not present or is not significant are rare. However, in Lao PDR, there is, in addition to this, a very significant diffusion effect: with time, less educated women tend to adopt the reproductive norms of the more educated.

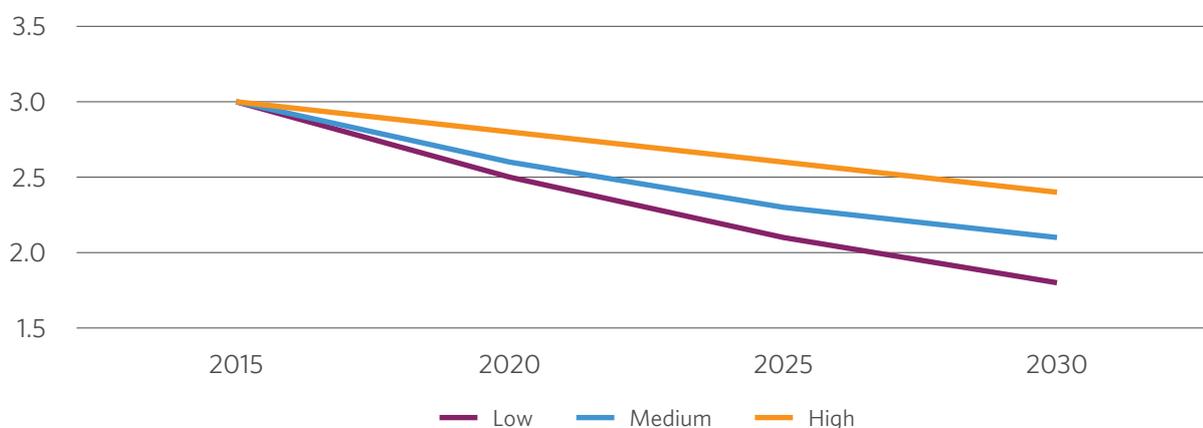
The group of females of reproductive ages and the diffusion of new reproductive choices, from the better educated to the less well educated women, will spark a fertility transition faster than what might have been expected.

**Figure 3.1** Women aged 15-49 years by level of education, Lao PDR, 2011-12 and 2017 (%)

Source: Two last surveys of 2011-2012 and 2017

**Figure 3.2** Total fertility rate by women's level of education, 2011-2012 and 2017

Source: Two last surveys of 2011-2012 and 2017

**Figure 3.3** Total fertility rate, three variants, 2015-2030Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

In the last official set of projections, the TFR was forecasted according to three variants: low, medium and high. TFR observed at the census of 2015 was 3.185, and was 3.0 in the base year in the projection because of the slight time lag between the births observed at the time of the census and the starting point of the projections (Table 3.3).

As mentioned, due to the decisive role of female education on fertility behaviour and in view of the on-going progress of enrolment of females in schools and universities, the low variant, which presupposes a faster demographic transition, is to be considered as the most likely.

Therefore, the TFR could be projected to decline from 3.0 to 1.8 children per woman, a 40 per cent decrease in 15 years, at an annual rate of decrease of -3.4 per cent. This change presupposes that the preference for smaller family size among the population is now well accepted and that the family planning programmes will be accepted and spread to the whole country, even in remote areas in the provinces, including to villages without roads.

A faster demographic transition, such as the one expected in this case, would allow Lao PDR population dynamics to be in harmony with most of the ASEAN countries.

### 3.3 Other assumptions

Assumptions on mortality are the same for the three variants (Table 3.2). For ages younger than 65 years, life expectancy at birth will reach 70 years in 2030, gaining 5 years in 15 years, thus an average annual gain of 0.36 years. This is a reasonable assumption and a necessary pre-condition for fertility transition, since a sharp decrease of infant and childhood mortality (which impact heavily on the level of life expectancy at birth), are indispensable for the acceptance of fertility control.

**Females tend to preserve their health better than males, with less bad habits regarding food, alcohol, or drugs.**

Life expectancy will not grow at the same pace for females and males. Whereas, the gap in favour of females was 3.4 years in 2015, it will widen to reach 4.3 years in 2030. This is also a reasonable assumption, since maternal mortality will rapidly decrease, as it is still at a very high level. In addition, females tend to preserve their health better than males, with less bad habits regarding food, alcohol, or drugs.

**Table 3.2** Estimated life expectancy at birth, 2015-2030

| Sex        | 2015 | 2020 | 2025 | 2030 |
|------------|------|------|------|------|
| Both sexes | 64.7 | 66.7 | 68.4 | 70.1 |
| Males      | 63.0 | 64.8 | 66.4 | 67.9 |
| Females    | 66.4 | 68.5 | 70.5 | 72.2 |

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

The LSB's recent population projections were run according to a zero assumption of net international migration. As mentioned in the report prepared by the LSB: "This is a rather rough assumption, the absence of more solid information about developments in this demographic aspect of Lao PDR population rationalizes the non-inclusion of an assumption... By the time this set of projections are to be updated... the possible impact of international migration can be revisited." Therefore, population estimates in the future are the upper limit due to this assumption of zero net emigration.

### 3.4 Results of the population projections at the national level

Figure 3.4 presents the three projections: national (LSB), United Nations and US Census Bureau by year from 2015 until 2030.

Due to the relatively short time horizon of 15 years, the differences between two of the three sets of projections are rather small: 8.1 and 8.2 million, for LSB and the United Nations projections, respectively, which is less than 2 per cent, although the assumptions on fertility, mortality and international migration were not the same.

This is reassuring, since very often, national and United Nations projections for some countries differ a great deal. Conversely, the differences between the national and the US Census Bureau projections is larger, mainly due to the use of a higher population size at the start of the projection in 2015. Here, the difference reaches 400 thousand in 2030, 5 per cent more in favour of the US Census Bureau projection.

The differences between the national and the US Census Bureau projections is larger, mainly due to the use of a higher population size at the start of the projection in 2015.

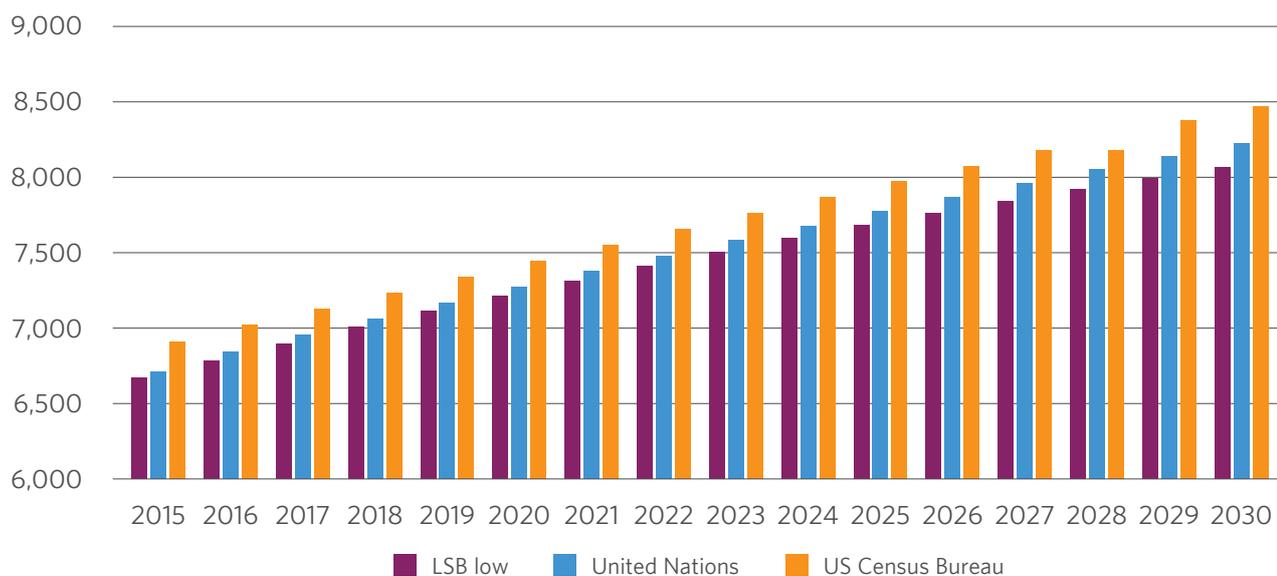
As mentioned, the low variant of LSB is preferred because its fertility assumption adheres better to the trends observed in the past. However, the low, medium and high variant of the national projections provide close results: respectively, 8.1, 8.2 and 8.4 million in 2030.

The crude birth rate will diminish from 21.2 to 15.2 per 1,000, a sharp decrease of 28 per cent, which is of the same order of magnitude as the decrease of the TFR. The crude death rate will slightly decrease from 7.0 to 6.4 per 1,000, mainly because the improvement of the life expectancy – given the accompanying health conditions – is not sufficient enough, but also because of the relative increase of the elderly population, whose mortality is higher than the rest of the population.

Judging by the forecasted modest improvement of the life expectancy at birth and of the decrease in infant and childhood mortality rates – 38 and 49 per 1,000 live births, respectively, expected in the next years – special attention should be devoted by planners and health services to reducing these rates to half of these expected levels as a developmental and health priority.

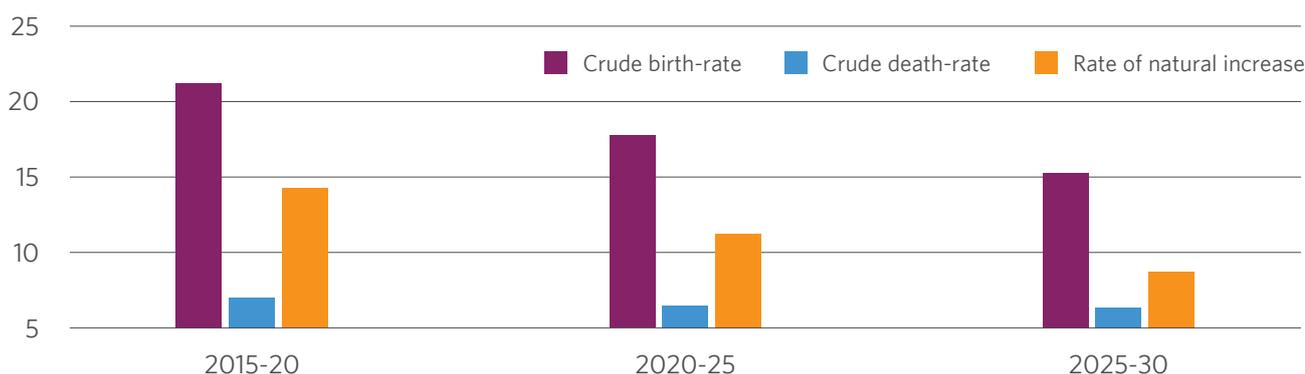
Figure 3.5 shows the divergence between the fall of the crude birth rate and of the crude death rate. Whereas the crude death rate is almost flat, the crude birth rate signals significant progress. As a consequence, the rate of natural increase will significantly decline from 14.2 to 8.8 per 1,000, a noteworthy decline of population pressure.

**Figure 3.4** Comparison between the three projections (in thousands), 2015-2030



Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*, op. cit., United Nations, and US Census Bureau.

**Figure 3.5** Crude birth rate, death rate and rate of natural increase (1,000)



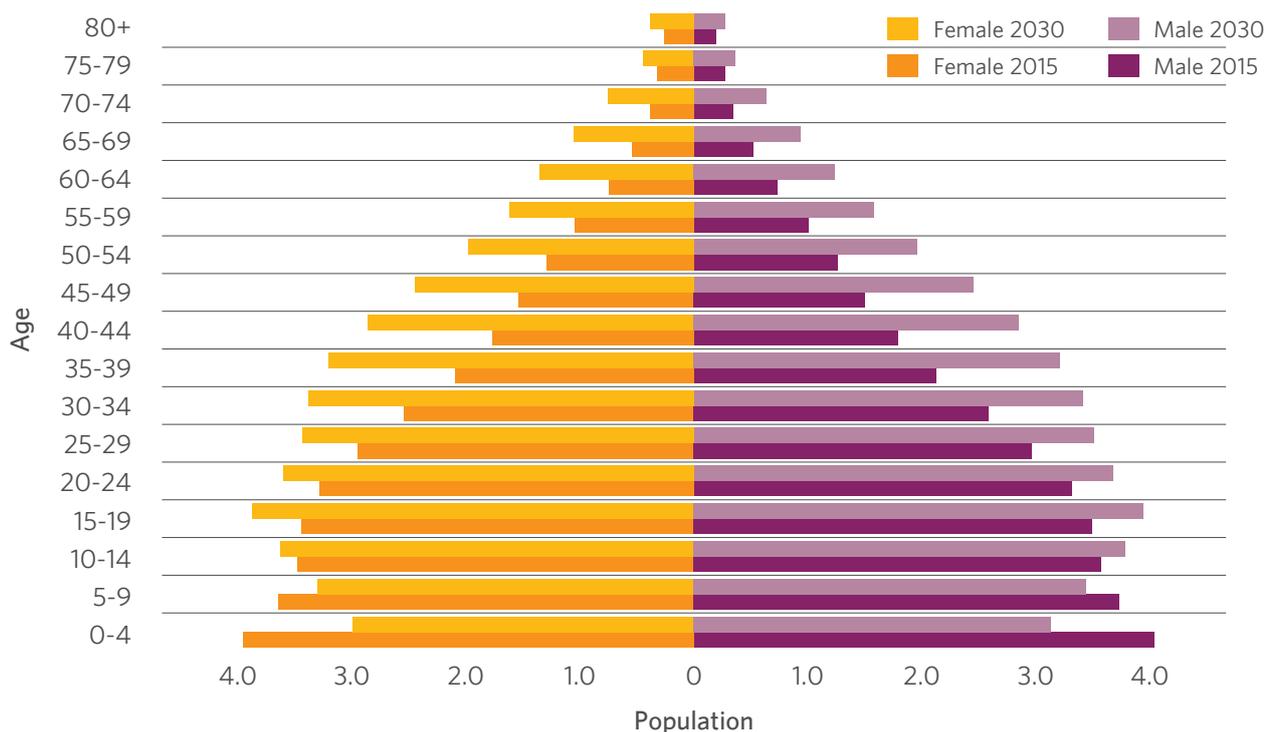
Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

Population aspects take into account not only the growth of the population but also its structure, an important component of the demographic dividend, which will be covered later. Figure 3.6 provides projections by age group and sex of the population of Lao PDR until 2030 according to the low variant.

**The demographic transition, has remarkable socio-economic effects in terms of pressure in the school system and new entrants in the labour market.**

The shape of the age-pyramid will rapidly change. Contrary to the past, each five-years age group will become smaller than the preceding for children below 20 years of age. This shows the attrition of youngsters very clearly. This phenomenon, an outcome of demographic transition, has remarkable socio-economic effects in terms of pressure in the school system and new entrants in the labour market.

Considering the sex ratio, there is nothing peculiar to signal, as it decreases regularly, especially after 50 years, when it becomes lower than 100, as mortality is normally higher for older males than for older females.

**Figure 3.6** The age pyramid, low variant, in 2015 and 2030

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

Let us recall that these projections were prepared under the assumption of zero net international migration, usually higher for males than for females. If international migration was considered, this would impact on the levels of the sex ratio, particularly at working ages.

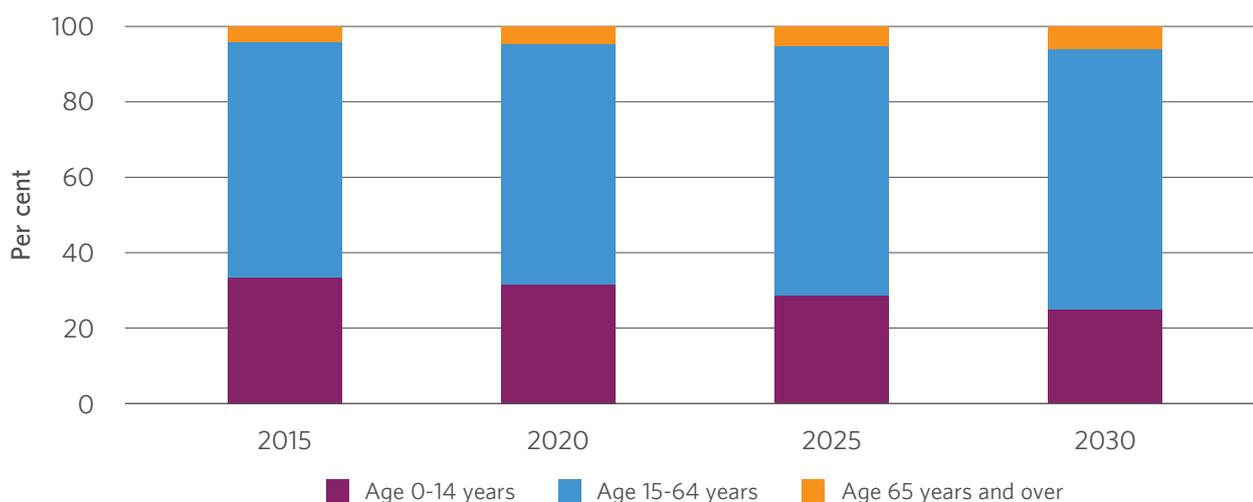
The age pyramid showing 2015 and 2030 reflects fast growth of the population at working ages. Each age group older than 15 years and younger than 65 years increases substantially between 2015 and 2030, which is good for demographic dividends and economic growth.

An increase of the same magnitude also affects the older population, with larger numbers of persons older than 65 in 2030 than in 2015. This may spark additional costs for the society. However, it also might signal the premise of the second demographic dividend, which may offset the preliminary effect of aging. Older females become more numerous than older males, which may have both negative and positive implications.

Larger numbers of older people in Lao PDR will spark additional costs for society.

Figure 3.7 presents the distribution of the population by conventional larger age groups: the young (0-14 years), the active-age (15-64 years) and the elderly (65 years and over). The modification of the age-structure is notable. The number of youngsters will slightly diminish in absolute values from 2.2 to 2.0 million between 2015 and 2030, and in relative terms from 33.6 per cent to 25.1 per cent. The number of persons of working age will increase but at a lower rate than the rate of decrease of the youngsters. They will add 1.3 million to the potential working force in 15 years, and from 62.2 per cent this will grow to 68.9 per cent in 2030. The elderly, will increase from 0.3 to 0.5 million, from 4.2 per cent to 6 per cent; which means that aging will start to become an issue that researchers should be looking at in order determine its possible outcomes on this situation.

The number of persons of working age will increase but at a lower rate than the rate of decrease of the youngsters.

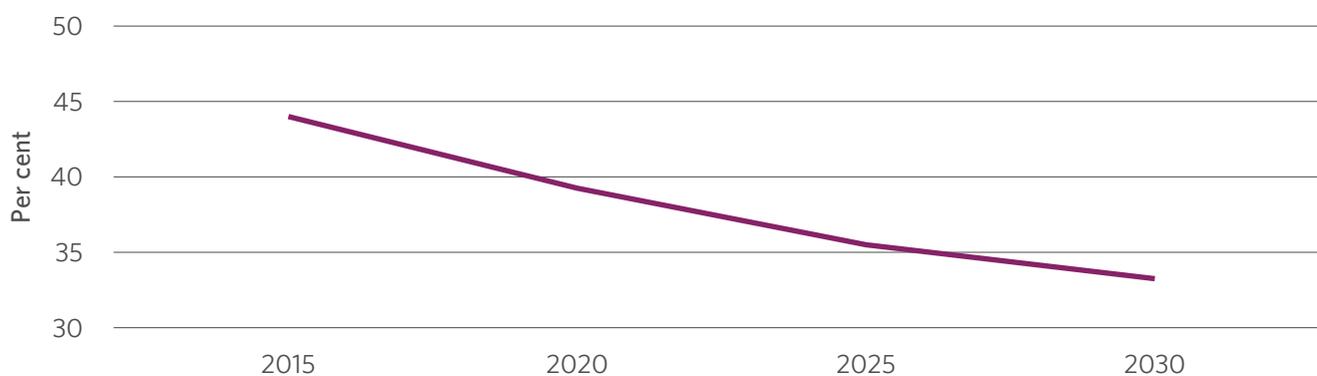
**Figure 3.7** The age structure, Lao PDR 2015-2030 by large age groups

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

The changes in the age-structure will impact the demographic dependency ratio, which is the ratio of the working-age population to dependent children/youngsters and the elderly. This decrease in dependents, especially due to the diminution of the population aged 0-14 years, promises a change for the future of the demographic dividend in the country. However, the demographic dividend is only potential. In order to boost development, socio-economic reforms and good governance are necessary.

### 3.5 Projection of the labour force, 2015-2030

Despite the close linkage between population and employment, the possible increase in the labour force will not correspond exactly to the growth of the total population, though it will depend strongly upon it. The 'youth bulge' – the relative weight of youth aged 15-24 years to the adults age 25 years and older – is projected to decrease steeply in Lao PDR from 2015 to 2030 (Figure 3.8).

**Figure 3.8** The end of the youth bulge in Lao PDR, 2015-2030 (%)

Source: Computed from Lao Statistics Bureau, *Lao Population Projections 2015-2045*.



The variant, whether low, medium or high, does not greatly affect the size and structure of the labour force, since almost all in these age groups were born before the start of the projection.

The first element to consider is the size of the active-age population older than a certain age, usually 15 years by convention.<sup>35</sup> Table 3.3 provides the active-age population from 2015 to 2030 by age group and sex (low variant). However, the variant, whether low, medium or high, does not greatly affect the size and structure of the labour force, since almost all in these age groups were born before the start of the projection.

The active age population (15 years and older) will increase from 4.4 million in 2015 to 6.0 in 2030, a multiplication of 1.36, at an average annual rate of 2 per cent. This result, which does not depend on the variant, is due to the large number of births in the previous decades that account for the population now entering the labour market.

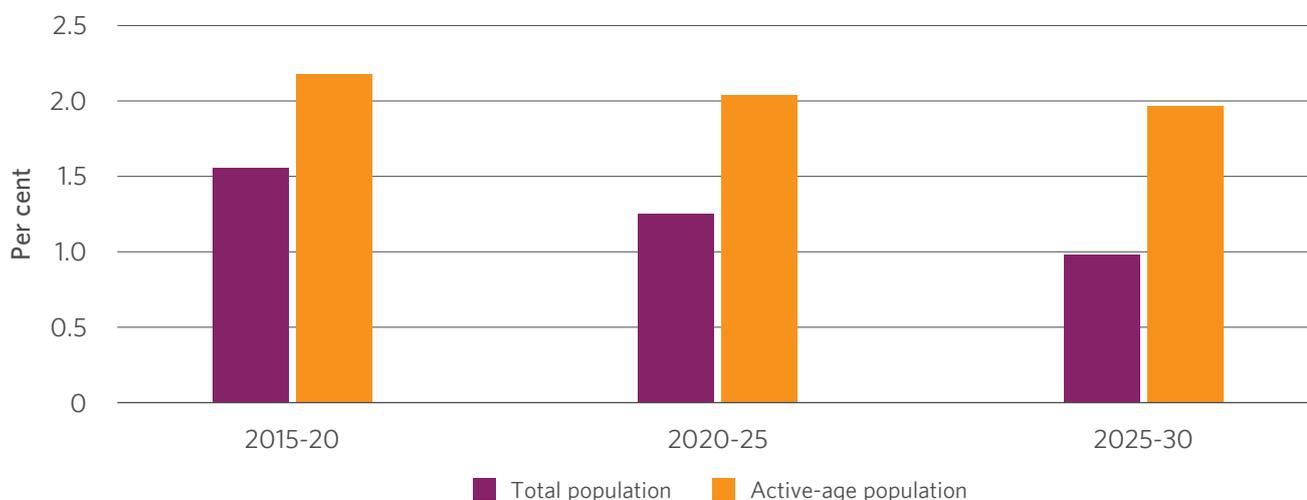
Figure 3.9 shows the difference between the annual rates of growth of the total and active-age population, with the active-age population increasing more than total population. However, it is important to recall that these transformations of the age structure may produce positive effects on economic growth only if the country is in a position to generate enough jobs to cope with the growing entries into the labour force.

One simple method to gauge the effect of demographic transformations on employment is if entries in the labour market are estimated at one tenth of the size of the age group 15 to 24 years (not taking into account mortality, which is not very significant at these ages), with exits estimated at one tenth of those aged 55 to 64 years. Figure 3.10 provides a look at the future to 2030.

This is the effect of the fertility transition leading to deceleration of annual births; thereby, decreasing subsequent entries into the labour market.

Entries into the labour force show a slight increase from 135,000 annually in 2015-2020 to 143,000 in 2025-2030. This is the effect of the fertility transition leading to deceleration of annual births; thereby, decreasing subsequent entries into the labour market (when the survivors of these births are expected in the labour market). Exits from the labour force will increase significantly from 35,000 to 50,000 from 2025-2030, under the effect of a larger advancing age group. Overall, the balance of the labour market will decrease from net entries of 100,000 in 2015-2020 to 93,000 in 2025-2030. Possibly leading to a certain relaxation due to diminishing pressure on the labour market.

**Figure 3.9** Annual rate of growth, total population and active-age population, 2015-2030 (%)



Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

<sup>35</sup> Although there is a significant share of children in activity.

**Table 3.3** Projection of the active age population by age group and sex, 2015-2030

| Age          | 2015           |                |                | 2020           |                |                |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|
|              | Male           | Female         | Total          | Male           | Female         | Total          |
| 15-19        | 349.4          | 344.4          | 693.8          | 355.5          | 346.4          | 701.9          |
| 20-24        | 331.3          | 328.2          | 659.5          | 346.5          | 342.5          | 689.0          |
| 25-29        | 296.5          | 295.1          | 591.6          | 328.0          | 325.7          | 653.7          |
| 30-34        | 258.6          | 254.6          | 513.2          | 293.0          | 292.4          | 585.4          |
| 35-39        | 212.3          | 209.8          | 422.1          | 254.8          | 251.6          | 506.4          |
| 40-44        | 178.5          | 176.4          | 354.9          | 208.0          | 206.5          | 414.5          |
| 45-49        | 149.9          | 153.9          | 303.8          | 173.4          | 172.7          | 346.1          |
| 50-54        | 125.8          | 129.0          | 254.8          | 143.5          | 149.1          | 292.6          |
| 55-59        | 100.5          | 104.5          | 205.0          | 117.5          | 123.2          | 240.7          |
| 60-64        | 73.9           | 74.8           | 148.7          | 90.7           | 97.3           | 188.0          |
| 65+          | 132.2          | 151.2          | 283.4          | 150.5          | 172.2          | 322.7          |
| <b>Total</b> | <b>2,208.9</b> | <b>2,221.9</b> | <b>4,430.8</b> | <b>2,461.4</b> | <b>2,479.6</b> | <b>4,941.0</b> |
| r (%)        |                |                |                |                |                | 2.18           |
| Age          | 2025           |                |                | 2030           |                |                |
|              | Male           | Female         | Total          | Male           | Female         | Total          |
| 15-19        | 369.7          | 361.6          | 731.3          | 394.3          | 387.4          | 781.7          |
| 20-24        | 353.1          | 344.9          | 698.0          | 367.5          | 360.3          | 727.8          |
| 25-29        | 343.6          | 340.5          | 684.1          | 350.5          | 343.2          | 693.7          |
| 30-34        | 324.7          | 323.3          | 648.0          | 340.7          | 338.4          | 679.1          |
| 35-39        | 289.3          | 289.6          | 578.9          | 321.1          | 320.7          | 641.8          |
| 40-44        | 250.3          | 248.4          | 498.7          | 284.8          | 286.4          | 571.2          |
| 45-49        | 202.7          | 202.7          | 405.4          | 244.6          | 244.4          | 489.0          |
| 50-54        | 166.6          | 168.0          | 334.6          | 195.6          | 198.0          | 393.6          |
| 55-59        | 134.9          | 143.1          | 278.0          | 157.5          | 162.0          | 319.5          |
| 60-64        | 106.9          | 115.5          | 222.4          | 123.5          | 135.2          | 258.7          |
| 65+          | 180.8          | 211.9          | 392.7          | 219.6          | 263.4          | 483.0          |
| <b>Total</b> | <b>2,722.6</b> | <b>2,749.5</b> | <b>5,472.1</b> | <b>2,999.7</b> | <b>3,039.4</b> | <b>6,039.1</b> |
|              |                |                | 2.04           |                |                | 1.97           |

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

Demographics is not the only factor impacting the labour market. The propensity to participate in the labour force depends on age and sex. Recent trends from the labour force surveys in 2010 and 2017 show there are discrepancies that are due to significant changes in concept between 2010 and 2017 (Table 3.4), so that identifying trends is not straightforward.

Between 2010 and 2017, the labour force plunged from 3.1 million to 1.9, and employment from 3.0 to 1.8 million, whereas the unemployment rate

**Demographics is not the only factor impacting the labour market. The propensity to participate in the labour force, depends on age and sex.**

**Figure 3.10** Entries, exits and balance of the labour force (in thousands), 2015-2030

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

**Table 3.4** Comparison of key labour indicators, 2010 and 2017 LFS

| Indicator                                      | 2010    | 2017        |
|--|---------|-------------|
| Working age population (1000)                  | 3,886.6 | 4,758.0     |
| Labour force (1000)                            | 3,079.9 | 1,940.2     |
| Employment (1000)                              | 3,021.2 | 1,757.7     |
| Labour force participation rate (%)            | 79.2    | 40.8        |
| Unemployment rate (%)                          | 1.9     | 9.4         |
| Composite rate of labour underutilization (%)  |         | 25.8        |
| Youth unemployment rate, 15-24 years (%)       |         | 18.2        |
| Share of wage workers in total employment (%)  |         | 32.4        |
| Average. month income employees (kips) 280 USD |         | 2,481,000.0 |

Source: Lao Statistics Bureau, *Lao PDR Labour Force Survey 2017*, Vientiane, 2018.

increased from 1.9 to 9.4 per cent, which is multiplied by a factor of almost 5. It is requested to harmonize the two sets of data for the projection.

Table 3.5 presents the raw data by age group and sex (essential for projections of the labour force) in 2010 and 2017.

The participation rates by age group and sex in 2010 and 2017 are presented in Table 3.6 (with a unique group for the elderly 65 years and over) without harmonization between the two sets of data.

In 2017, the concepts for some categories were not used in 2010. These included in time-related unemployment and in potential labour force, in addition to unemployment. Their sum gives the composite rate of underutilization. Efforts should be devoted to reconcile the results of the two surveys (Table 3.7).

**Table 3.5** Data on employment by age group and sex in the labour force surveys of 2010 and 2017

| 2010, Labour force survey |                   |            |                   |                         |
|---------------------------|-------------------|------------|-------------------|-------------------------|
| Age                       | Actually Employed | Unemployed | Unemployment rate | Non economically active |
| Males (%)                 |                   |            |                   |                         |
| 15-19                     | 42.3              | 1.2        | 2.8               | 56.5                    |
| 20-24                     | 79.3              | 2.9        | 3.5               | 17.8                    |
| 25-29                     | 93.7              | 1.8        | 1.9               | 4.5                     |
| 30-34                     | 96.5              | 1.2        | 1.2               | 2.3                     |
| 35-39                     | 97.2              | 1.3        | 1.3               | 1.5                     |
| 40-44                     | 96.8              | 1.1        | 1.1               | 2.1                     |
| 45-49                     | 96.7              | 0.9        | 0.9               | 2.4                     |
| 50-54                     | 94.5              | 0.6        | 0.6               | 4.9                     |
| 55-59                     | 90.9              | 1.3        | 1.4               | 7.8                     |
| 60-64                     | 75.9              | 2.6        | 3.3               | 21.5                    |
| 65-69                     | 55.6              | 0.6        | 1.1               | 43.8                    |
| 70-74                     | 34.3              | 1.2        | 3.4               | 64.5                    |
| 75-79                     | 24.4              | 2.4        | 9.0               | 73.2                    |
| 80+                       | 9.5               | 0.9        | 8.7               | 89.6                    |
| <b>Total</b>              | <b>79.3</b>       | <b>1.5</b> | <b>1.9</b>        | <b>19.2</b>             |
| Females (%)               |                   |            |                   |                         |
| 15-19                     | 52.9              | 1.4        | 2.6               | 45.7                    |
| 20-24                     | 82.2              | 2.9        | 3.4               | 14.8                    |
| 25-29                     | 91.5              | 1.3        | 1.4               | 7.1                     |
| 30-34                     | 91.8              | 1.7        | 1.8               | 6.5                     |
| 35-39                     | 92.8              | 1.2        | 1.3               | 6.0                     |
| 40-44                     | 92.8              | 1.1        | 1.2               | 6.1                     |
| 45-49                     | 90.8              | 1.0        | 1.1               | 8.2                     |
| 50-54                     | 84.8              | 1.2        | 1.4               | 14.1                    |
| 55-59                     | 75.7              | 2.0        | 2.6               | 22.4                    |
| 60-64                     | 56.8              | 1.5        | 2.6               | 41.7                    |
| 65-69                     | 32.4              | 1.1        | 3.3               | 66.2                    |
| 70-74                     | 17.2              | 0.9        | 5.0               | 81.9                    |
| 75-79                     | 10.6              | 1.4        | 11.7              | 88.0                    |
| 80+                       | 4.2               | 1.1        | 20.8              | 94.7                    |
| <b>Total</b>              | <b>76.2</b>       | <b>1.5</b> | <b>1.9</b>        | <b>22.2</b>             |

Source: Lao Statistics Bureau, *Lao PDR Labour Force Survey 2010*, Vientiane Capital, and Lao Statistics Bureau, *Lao PDR Labour Force Survey 2017*, Vientiane Capital, 2011.

**Table 3.5** Data on employment by age group and sex in the labour force surveys of 2010 and 2017 (*continued*)

| 2017 Labour Force survey |               |                 |               |                 |                     |                 |
|--------------------------|---------------|-----------------|---------------|-----------------|---------------------|-----------------|
| Age                      | Employed      |                 | Population    |                 | Employment rate (%) |                 |
|                          | Males (1,000) | Females (1,000) | Males (1,000) | Females (1,000) | Males (1,000)       | Females (1,000) |
| 15-19                    | 57            | 60              | 352           | 345             | 16.2                | 17.4            |
| 20-24                    | 88            | 93              | 337           | 334             | 26.1                | 27.9            |
| 25-29                    | 134           | 131             | 309           | 307             | 43.4                | 42.6            |
| 30-34                    | 130           | 125             | 272           | 270             | 47.7                | 46.3            |
| 35-39                    | 133           | 108             | 229           | 227             | 58.0                | 47.7            |
| 40-44                    | 108           | 92              | 190           | 188             | 56.8                | 48.8            |
| 45-49                    | 95            | 80              | 159           | 161             | 59.6                | 49.6            |
| 50-54                    | 73            | 55              | 133           | 137             | 54.9                | 40.1            |
| 55-59                    | 61            | 44              | 107           | 112             | 56.8                | 39.3            |
| 60-64                    | 35            | 18              | 81            | 84              | 43.4                | 21.5            |
| 65+                      | 25            | 12              | 140           | 160             | 17.9                | 7.5             |
| <b>Total</b>             | <b>939</b>    | <b>818</b>      | <b>2,310</b>  | <b>2,325</b>    | <b>40.7</b>         | <b>35.2</b>     |

Source: Lao Statistics Bureau, *Lao PDR Labour Force Survey 2010*, Vientiane Capital, and Lao Statistics Bureau, *Lao PDR Labour Force Survey 2017*, Vientiane Capital, 2011.

**Table 3.6** Participation rates by age groups and sex, raw data, in 2010 and 2017

| Age          | 2010        | 2017        | Age          | 2010        | 2017        |
|--------------|-------------|-------------|--------------|-------------|-------------|
| Males        |             |             | Females      |             |             |
| 15-19        | 43.5        | 16.2        | 15-19        | 54.3        | 17.4        |
| 20-24        | 82.2        | 26.1        | 20-24        | 85.1        | 27.9        |
| 25-29        | 95.5        | 43.4        | 25-29        | 92.8        | 42.6        |
| 30-34        | 97.7        | 47.7        | 30-34        | 93.5        | 46.3        |
| 35-39        | 98.5        | 58.0        | 35-39        | 94.0        | 47.7        |
| 40-44        | 97.9        | 56.8        | 40-44        | 93.9        | 48.8        |
| 45-49        | 97.6        | 59.6        | 45-49        | 91.8        | 49.6        |
| 50-54        | 95.1        | 54.9        | 50-54        | 86.0        | 40.1        |
| 55-59        | 92.2        | 56.8        | 55-59        | 77.7        | 39.3        |
| 60-64        | 78.5        | 43.4        | 60-64        | 58.3        | 21.5        |
| 65+          | 38.4        | 17.9        | 65+          | 23.3        | 7.5         |
| <b>Total</b> | <b>80.8</b> | <b>40.7</b> | <b>Total</b> | <b>76.2</b> | <b>35.2</b> |

Source: Lao Statistics Bureau, *Lao PDR Labour Force Survey 2010*, op. cit, and Lao Statistics Bureau, *Lao PDR Labour Force Survey 2017*.

**Table 3.7** Key labour indicators, both sexes, in 2010 and 2017

| Indicator                                     | 2010    | 2017        | Annual rate of increase (%) |
|---|---------|-------------|-----------------------------|
| Working age population (1000)                 | 3,886.6 | 4,758.0     | 2.89                        |
| Labour force (1000)                           | 3,079.9 | 1,940.2     | -6.60                       |
| Employment (1000)                             | 3,021.2 | 1,757.7     | -7.74                       |
| Labour force participation rate (%)           | 79.2    | 40.8        | -9.48                       |
| Unemployment rate (%)                         | 1.9     | 9.4         | 22.84                       |
| Composite rate of labour underutilization (%) |         | 25.8        |                             |
| Youth unemployment rate, 15-24 years (%)      |         | 18.2        |                             |
| Share of wage workers in total employment (%) |         | 32.4        |                             |
| Average gross monthly income employees (kips) |         | 2,481,000.0 | (280 USD app.)              |

Source: Ministry of Planning and Investment, Lao Statistics Bureau, *Survey Finding Report, Lao PDR, Labour Force Survey 2017*, Vientiane, 2018.

**Table 3.8** Projection of the participation rates, by age group and sex (%), assuming decrease of the participation rates below 25 years and increasing participation rates for seniors above 65 years 2015-2030

| Age   | 2015 | 2020 | 2025 | 2030 | Age     | 2015 | 2020 | 2025 | 2030 |
|-------|------|------|------|------|---------|------|------|------|------|
| Males |      |      |      |      | Females |      |      |      |      |
| 15-19 | 41.4 | 39.3 | 37.4 | 35.6 | 15-19   | 48.8 | 43.9 | 39.5 | 35.5 |
| 20-24 | 80.2 | 78.2 | 76.2 | 74.4 | 20-24   | 82.4 | 79.7 | 77.2 | 74.7 |
| 25-29 | 95.5 | 95.5 | 95.5 | 95.5 | 25-29   | 92.8 | 92.8 | 92.8 | 92.8 |
| 30-34 | 97.7 | 97.7 | 97.7 | 97.7 | 30-34   | 93.5 | 93.5 | 93.5 | 93.5 |
| 35-39 | 98.5 | 98.5 | 98.5 | 98.5 | 35-39   | 94.0 | 94.0 | 94.0 | 94.0 |
| 40-44 | 97.9 | 97.9 | 97.9 | 97.9 | 40-44   | 93.9 | 93.9 | 93.9 | 93.9 |
| 45-49 | 97.6 | 97.6 | 97.6 | 97.6 | 45-49   | 91.8 | 91.8 | 91.8 | 91.8 |
| 50-54 | 95.1 | 95.1 | 95.1 | 95.1 | 50-54   | 86.0 | 86.0 | 86.0 | 86.0 |
| 55-59 | 92.2 | 92.2 | 92.2 | 92.2 | 55-59   | 77.7 | 77.7 | 77.7 | 77.7 |
| 60-64 | 78.5 | 78.5 | 78.5 | 78.5 | 60-64   | 58.3 | 58.3 | 58.3 | 58.3 |
| 65+   | 40.4 | 42.4 | 44.6 | 46.9 | 65+     | 24.5 | 25.7 | 27.1 | 28.4 |

Source: Author's computation according to the assumptions presented in the text.

In the report of the Labour Force Survey 2017, it is explicitly noted that, "If a definition that is similar to the one used with the 2010 data set, the labour force participation rate can be estimated to be around 82 per cent."<sup>36</sup> In 2010, it was indeed very close: 79.2 per cent.

<sup>36</sup> Ministry of Planning and Investment, Lao Statistics Bureau, *Survey Finding Report, Lao PDR Labor Force Survey 2017*, Vientiane, 2018 p.35.

The lack existence of retirement benefits for certain categories of seniors or for insufficient pensions, such that continued employment is needed for financial reasons. This is a current phenomenon, observed in many countries in South East Asia.

The projection of the participation rates by age group (Table 3.8), agrees to observed trends of participation rates worldwide:

- A decrease of the participation rates of the youth, between 15 and 24 years, due to increasing enrolment rates for both boys and girls. However, the decrease is assumed higher for girls, leading to equal participation rate in 2030.
- Constant participation rates for adults aged 25 to 64 years of both sexes.
- Increasing participation rates for seniors over 65 years, due to increasing “tertiarization” of the economy and less exhausting jobs, along with the improvement of life expectancy and good health continuing beyond age 65. It might be due also to the lack existence of retirement benefits for certain categories of seniors or for insufficient pensions, such that continued employment is needed for financial reasons. This is a current phenomenon, observed in many countries in South East Asia. The product of participation rates by active-age population gives the active population – employed, unemployed or searching for work.

The active population of both sexes (Table 3.9) will grow from 3.5 to 4.7 million from 2015 to 2030 according to these assumptions, although at decreasing annual growth rates for the active-age population: 2.18 per cent from 2015-2020, 2.04 per cent from 2020-2025 and 1.97 per cent from 2025-2030.

The share of the youth (aged 15-24 years) in the active population will diminish from 24.3 per cent to 17.3 per cent, given the combination of fertility decrease and increasing enrolment rates in this age group.

The oldest age group (age 65 years and older) share in the active population will increase from 1.7 per cent to 3.8 per cent, under the effects healthier aging and increased life expectancy, and of the increasing participation rate of seniors.

Active females, who were about half of the total active population (49.3 per cent) will remain in the same order of magnitude in 2030 (48.3 per cent). All these change are positive signs for reaping the demographic dividends in the next decades. However, it should be recalled that these changes are potential that should be enhanced by sound employment policies in favour of women and seniors.

For planning purposes, Figure 3.11 provides the active population by calendar year and sex. The increase of the active population will be fairly equal among males and females.

The proportion of females in the labour force will remain close to 50 per cent, which is promising in terms of women’s empowerment and socio-economic development (Figure 3.12).

Projection of unemployment is certainly the most hazardous part of this review, as unemployment is impacted by many causes, including demographics and economics. It is difficult to forecast the economic future of a country and its GDP growth even for a short period of time, as well as hard to assess the number of jobs that will be created and the trend of employment.

A conservative assumption is to keep the unemployment rate estimate at the 2017 LFS survey level, and distribute it by age group and sex. However, this optimistic assumption requires sustained economic growth, with a GDP growing at an annual rate of at least 5-6 per cent to insure sufficient jobs creation, mainly in the formal sector.

**Table 3.9** Projection of the active population by age group and sex, 2015-2030

| Age          | 2015           | 2020           | 2025           | 2030           | Age                       | 2015           | 2020           | 2025           | 2030           |
|--------------|----------------|----------------|----------------|----------------|---------------------------|----------------|----------------|----------------|----------------|
| Males        |                |                |                |                | Females                   |                |                |                |                |
| 15-19        | 144.5          | 139.9          | 138.3          | 140.3          | 15-19                     | 168.2          | 152.1          | 142.8          | 137.6          |
| 20-24        | 265.6          | 270.9          | 269.2          | 273.3          | 20-24                     | 270.3          | 273.1          | 266.2          | 269.1          |
| 25-29        | 283.2          | 313.2          | 328.1          | 334.7          | 25-29                     | 273.9          | 302.2          | 316.0          | 318.5          |
| 30-34        | 252.7          | 286.3          | 317.2          | 332.9          | 30-34                     | 238.1          | 273.4          | 302.3          | 316.4          |
| 35-39        | 209.1          | 251.0          | 285.0          | 316.3          | 35-39                     | 197.2          | 236.5          | 272.2          | 301.5          |
| 40-44        | 174.8          | 203.6          | 245.0          | 278.8          | 40-44                     | 165.6          | 193.9          | 233.2          | 268.9          |
| 45-49        | 146.3          | 169.2          | 197.8          | 238.7          | 45-49                     | 141.3          | 158.5          | 186.1          | 224.4          |
| 50-54        | 119.6          | 136.5          | 158.4          | 186.0          | 50-54                     | 110.9          | 128.2          | 144.5          | 170.3          |
| 55-59        | 92.7           | 108.3          | 124.4          | 145.2          | 55-59                     | 81.2           | 95.7           | 111.2          | 125.9          |
| 60-64        | 58.0           | 71.2           | 83.9           | 96.9           | 60-64                     | 43.6           | 56.7           | 67.3           | 78.8           |
| 65+          | 20.9           | 63.8           | 80.6           | 102.9          | 65+                       | 37.0           | 44.3           | 57.3           | 74.9           |
| <b>Total</b> | <b>1,767.3</b> | <b>2,013.9</b> | <b>2,228.1</b> | <b>2,446.1</b> | <b>Total</b>              | <b>1,727.3</b> | <b>1,914.8</b> | <b>2,099.1</b> | <b>2,286.2</b> |
| Total        |                |                |                |                | Total                     |                |                |                |                |
| 15-19        | 312.7          | 292.0          | 281.1          | 277.9          | 50-54                     | 230.6          | 264.7          | 302.9          | 356.3          |
| 20-24        | 535.9          | 544.0          | 535.4          | 542.4          | 55-59                     | 173.9          | 204.1          | 235.6          | 271.1          |
| 25-29        | 557.0          | 615.5          | 644.1          | 653.2          | 60-64                     | 101.6          | 127.9          | 151.3          | 175.8          |
| 30-34        | 490.7          | 559.7          | 619.5          | 649.3          | 65+                       | 57.9           | 108.2          | 137.9          | 177.8          |
| 35-39        | 406.3          | 487.5          | 557.2          | 617.7          | <b>Total</b>              | <b>3,494.6</b> | <b>3,928.7</b> | <b>4,327.2</b> | <b>4,732.3</b> |
| 40-44        | 340.4          | 397.5          | 478.3          | 547.7          | Annual rate of growth (%) |                | 2.34           | 1.93           | 1.79           |
| 45-49        | 287.6          | 327.8          | 383.9          | 463.1          |                           |                |                |                |                |

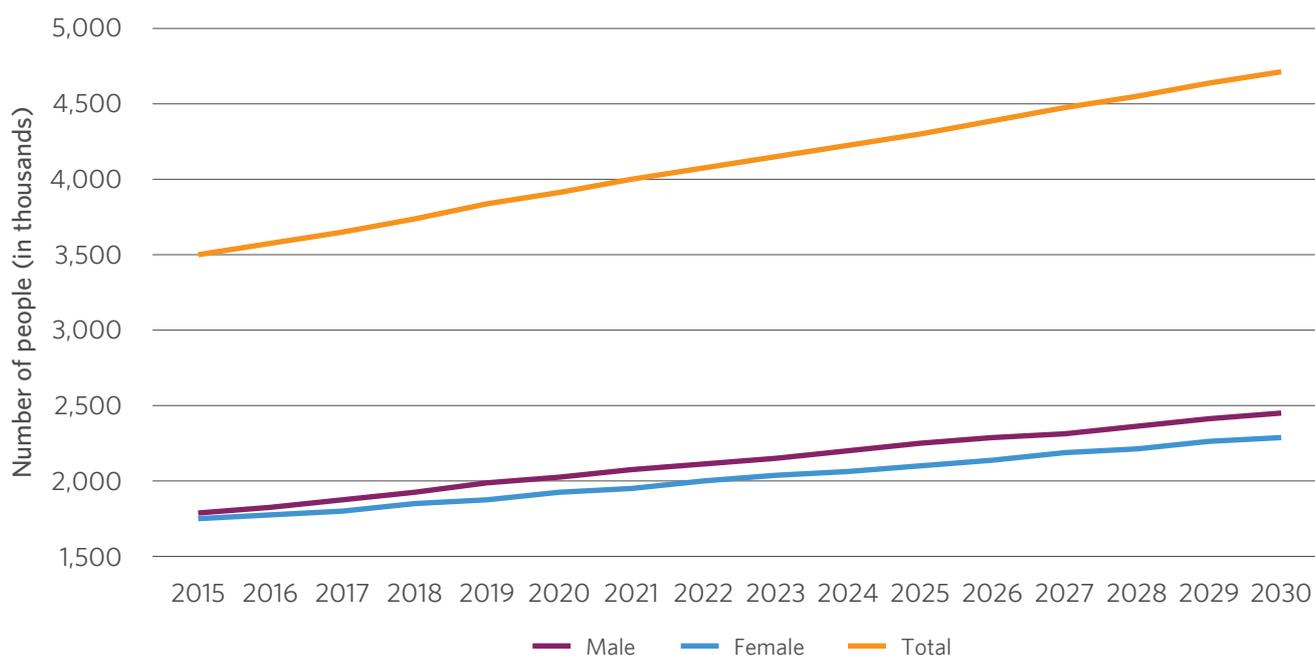
Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045* and Author's computation according to the assumptions presented in the text.

If these conditions are met, unemployment will increase from 321,000 in 2015 to 414,000 in 2030, an increase of 29 per cent – lower than the increase of the active population at 35 per cent – under the impact of demographic factors only, as the unemployment rates by age group and sex are assumed to remain constant until 2030. The global unemployment rate will decrease slightly from 9.2 to 8.8 per cent, because the share of the age groups more susceptible to unemployment – the youngsters below 25 years – will diminish under the effect of fertility transition.

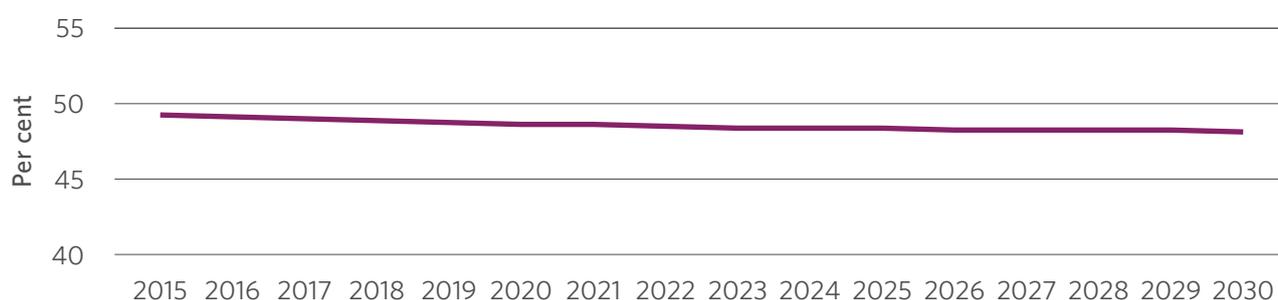
In view of the expected demographic changes in population dynamics, size and structures, and the changes in participation rates, the number of jobs to be created will remain stable, varying from 87,000 yearly creations to 81,000. Yet, for job creation, due consideration should be given to the large reserves of under-used manpower: unemployed and under-employed accumulated in the past. This is especially true for youngsters, eagerly awaiting jobs.

**For job creation, due consideration should be given to the large reserves of under-used manpower: unemployed and under-employed accumulated in the past.**



**Figure 3.11** Males, females and total active population (1,000), 2015-2030

Source: Interpolated from Lao Statistics Bureau, *Lao Population Projections 2015-2045*. Author's computation according to the assumptions presented in the text.

**Figure 3.12** Share of females in the active population (%), 2015-2030

Source: Interpolated from Lao Statistics Bureau, *Lao Population Projections 2015-2045*. Author's computation according to the assumptions presented in the text.

### 3.6 Projections of school enrolments and of requirements in schools and teachers

Population dynamics have an almost immediate effect on education. Especially in recent years, when entry in education starts with kindergartens and pre-primary levels are becoming imperative. Whereas changes in fertility behaviour take at least fifteen years to affect entry in the labour force, it has a much faster impact on education. This is particularly evident for Lao PDR, where efforts have recently been devoted to kindergarten and pre-primary levels of education.

## Projection of school enrolments

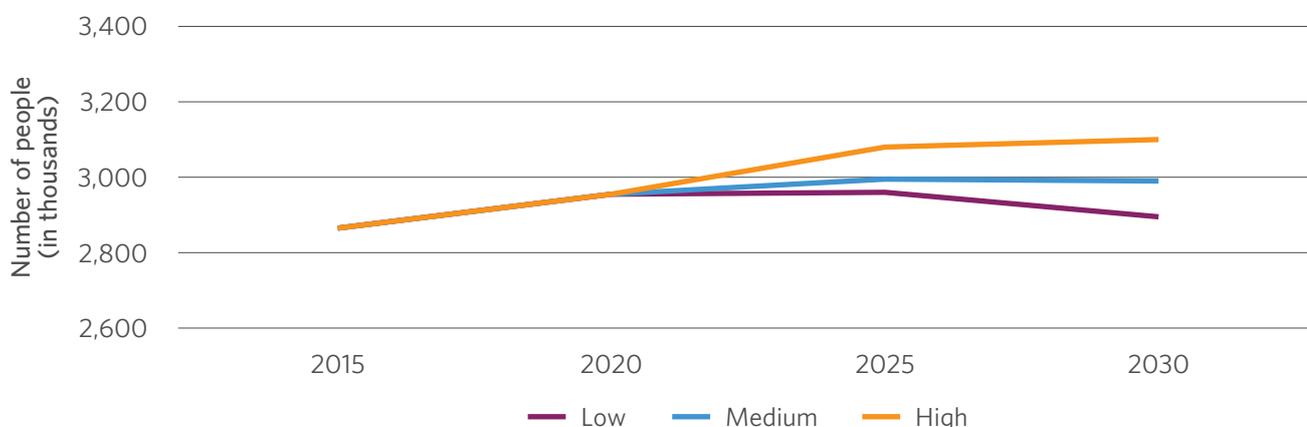
The number of students in Lao PDR now exceeds 3 million, which is almost half the population of the country. In a few years, this will increase, exerting more pressure on the resources of the country, while increasing its human capital. Therefore, particular attention should be devoted to educational development, quantitatively and qualitatively, closely linked to demographic dynamics and on the progress of enrolment rates and access to higher levels of education.

The projection reflecting the trends of the decrease in fertility impacts the school-age population.

Four groups of students will be considered according to their age, although they are not fully congruent (there can be age variations within the levels): pre-primary from ages 3 to 5 years, primary from ages 6 to 10 years, secondary from ages 11 to 17, and tertiary from ages 18 to 22 years. The projection reflecting the trends of the decrease in fertility impacts the school-age population. Figure 3.13, presents the size of the total school-age population according to the three variants, low, medium and high. Differences of size, even in 2030, are very small between variants (only a 7 per cent difference, between low and high).

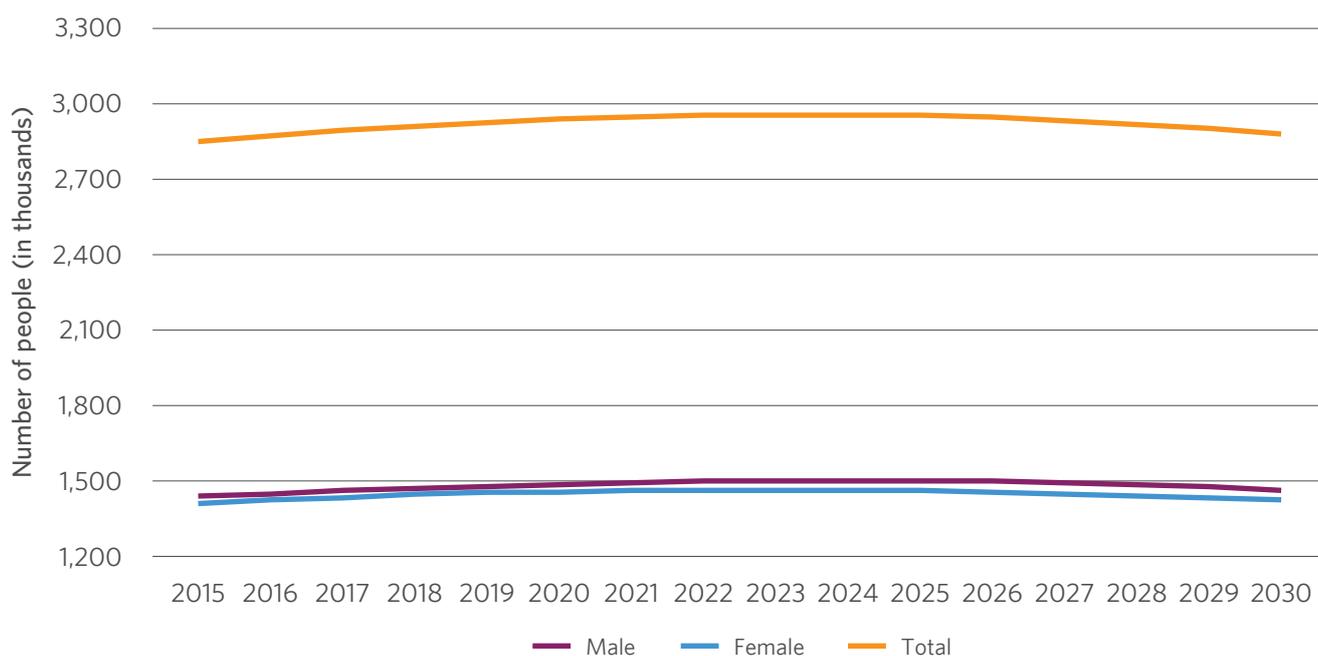
From 2015 to 2030, the total school-age population will increase, slightly, from 2,855,000 to 2,890,000, which is only a 1.2 per cent increase in 15 years. This is the direct effect of TFR decrease, which is likely to accelerate in the coming decade. However, the trend would not be steady, since the school-age population will culminate in 2022, with 2,962,000 before decreasing until 2030 (Figure 3.14). The sex ratio will remain equilibrated (Figure 3.15).<sup>37</sup>

**Figure 3.13** School-age population (in thousands) according to the three variants, 2015-2030

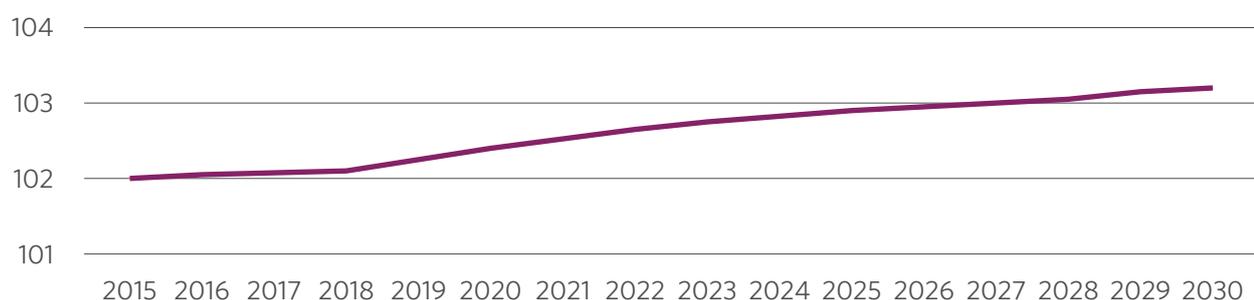


Source: Authors calculation from Lao Statistics Bureau, *Lao Population Projections*.

<sup>37</sup> The sex ratio of the school-age population is mainly determined by the sex ratio at birth, normally 105 males for 100 females. Due to a possible excess mortality of males during infancy, childhood and adolescence, the sex ratio of this population group fell below the 105 mark.

**Figure 3.14** Total school-age population (in thousands) by sex and calendar year, 2015-2030

Source: Calculation from Lao Statistical Bureau, *Lao Population Projections*, op. cit.

**Figure 3.15** Sex ratio school-age population, 2015-2030

Source: Calculation from Lao Statistical Bureau, *Lao Population Projections*, op. cit.

However, the slight deceleration of demographic growth of the school-age population should be compensated for by the quantitative as well as qualitative improvement of education. Therefore, there is an expected increase of enrolment rates at all levels for both sexes.

### Enrolment ratios

Figure 3.19 provides past net enrolment ratios, from 2009 to 2018, by level of education and sex.

At pre-primary level of education, a trend is evident that shows a sustained increase from 2009 to 2018 for girls and boys. It is reasonable to assume universal enrolment if not by 2030 then not long after that.

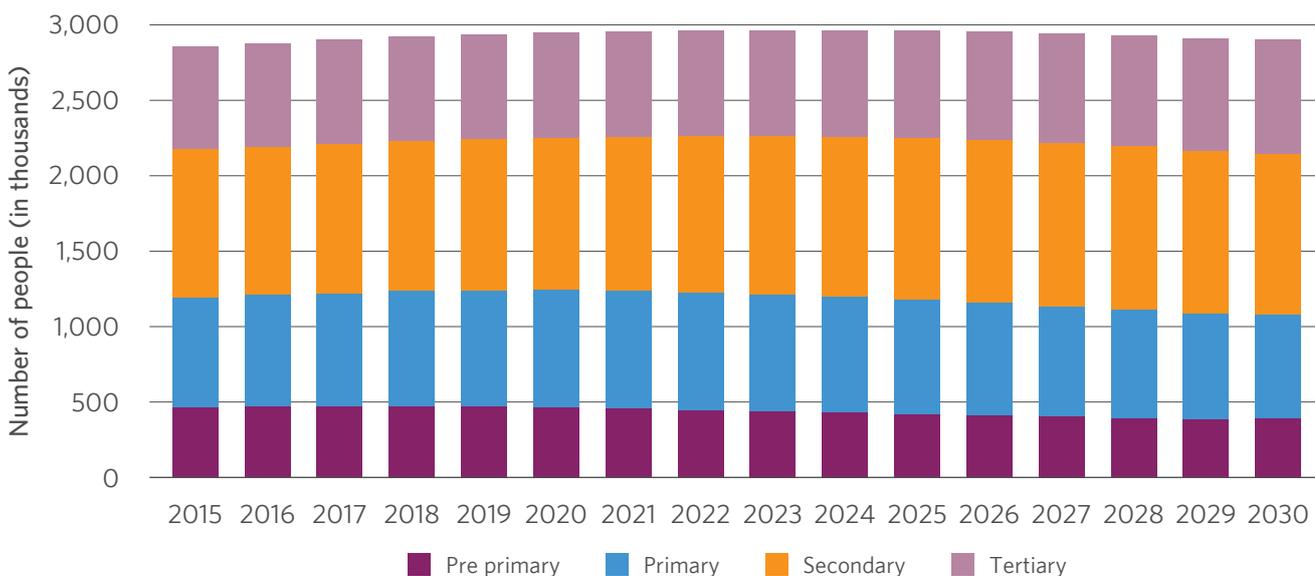
In primary education, there is a slight increase between 2009 and 2013 followed by a slight decrease. However, the aim of the public policy in education is universality at this level, and the reasonable assumption is nearly complete enrolment in 2030.

As for secondary level education, there is a sharp rise in enrolment until 2014, then the trend slows down. However, public policy for education should stimulate higher rates of enrolment.

In tertiary education, enrolment ratios are still very low and they are diminishing.

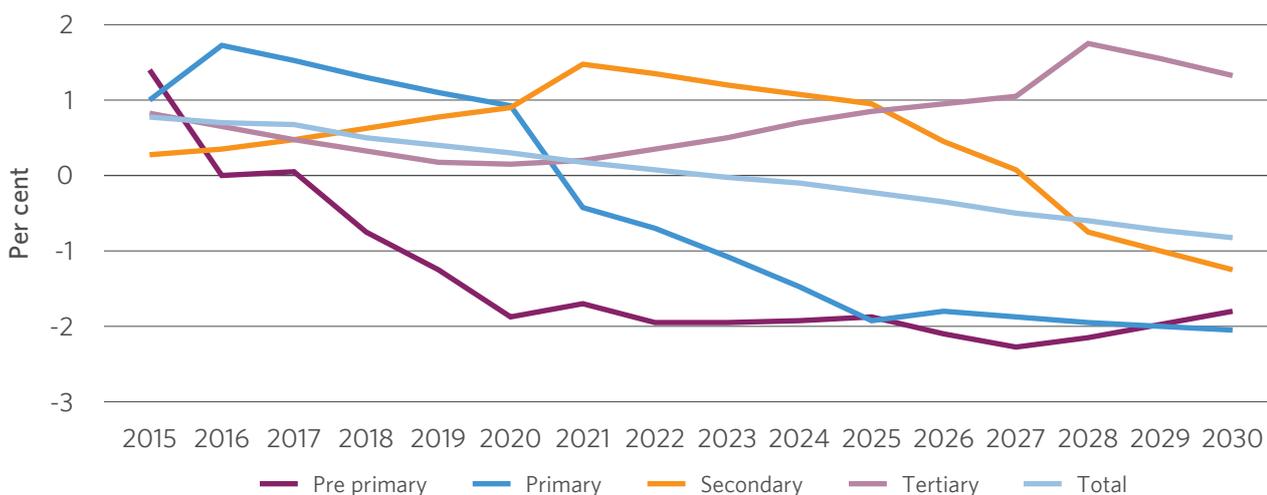
In tertiary education, enrolment ratios are still very low and they are diminishing. Tertiary education is an essential pillar in the development of human resources. A comparison with some Asian countries (the Republic of Korea is at over 90 per cent enrolment for tertiary education) shows that tertiary education should be a priority to allow Lao PDR to be competitive with neighbouring countries.

**Figure 3.16** School-age population (in thousands) by levels of education, 2015-2030

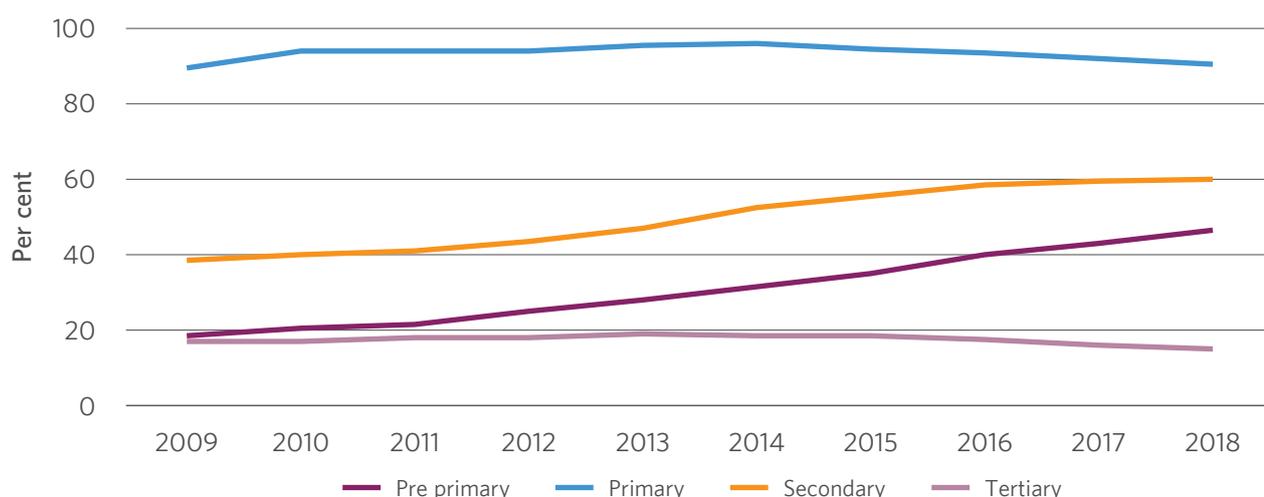


Source: Author's calculations

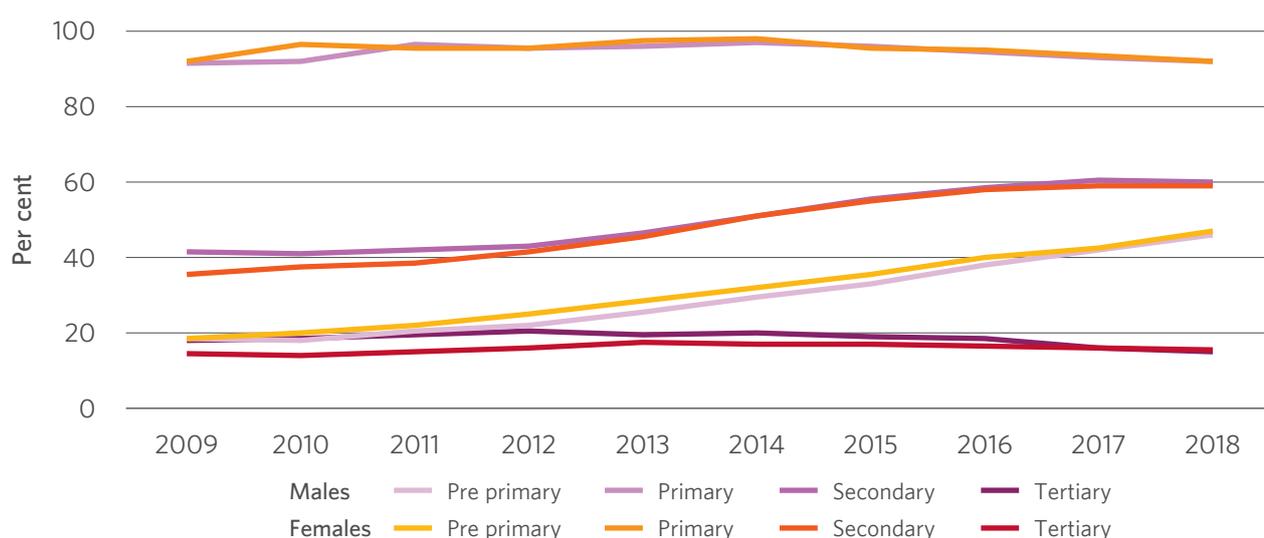
**Figure 3.17** Annual rate of growth (%) of the school age population by level of education, 2015-2030



Source: Authors calculations

**Figure 3.18** Enrolment ratios, by level of education, both sexes, 2009-2018

Source: UNESCO UIS, *Lao People's Democratic Republic*, <http://uis.unesco.org/country/LA>, consulted on 6 November, 2019, taken from official sources.

**Figure 3.19** Enrolment ratios, by level of education, males and females, 2009-2018

Source: UNESCO UIS, *Lao People's Democratic Republic*, <http://uis.unesco.org/country/LA>, consulted on 6 November, 2019, taken from official sources.

Projection of the enrolment ratios, were prepared according to these assumptions:

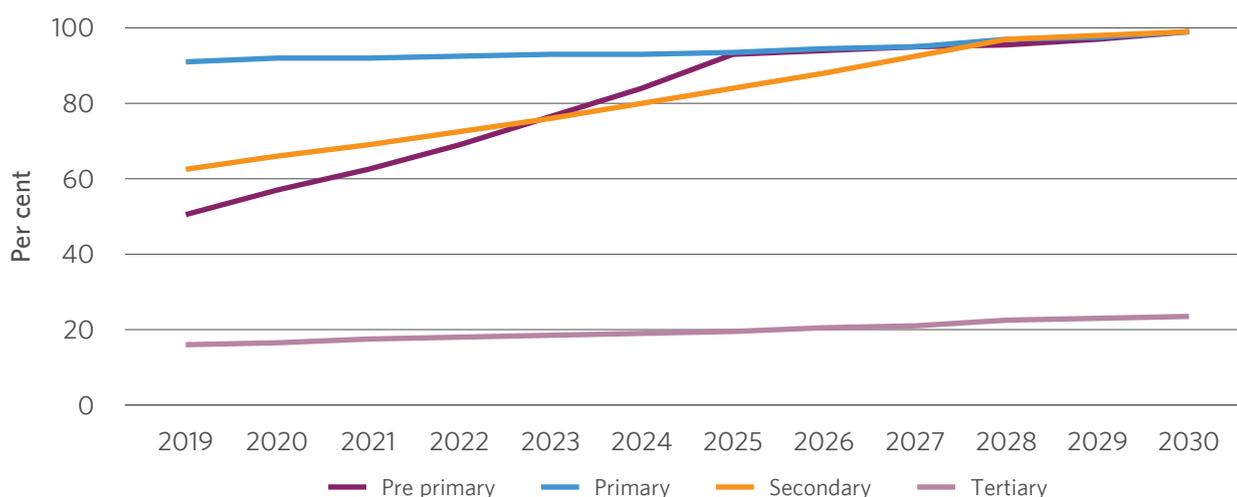
- An extrapolation of past enrolment rates from 2009-2018, unless a decline is observed, such as for males and females in primary level then culminated in 2015, then declined;
- Special efforts are badly needed to enhance university and vocational studies;
- Enrolment rate projections take into account an effort to equilibrate educational opportunities among boys and girls.

The school-age population multiplied by the net enrolment ratio provides the future school-age population by level of education from 2019 to 2030 (Table 3.10).

**Table 3.10** Projection of enrolment ratios, 2019-2030

| Level             | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026  | 2027  | 2028  | 2029  | 2030  |
|-------------------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| <b>Both sexes</b> |      |      |      |      |      |      |      |       |       |       |       |       |
| Pre primary       | 51.4 | 56.8 | 62.9 | 69.5 | 76.9 | 85.0 | 94.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Primary           | 91.9 | 92.4 | 92.9 | 93.4 | 93.9 | 94.4 | 94.9 | 95.3  | 95.8  | 98.0  | 99.0  | 100.0 |
| Secondary         | 63.0 | 66.2 | 69.6 | 73.1 | 76.8 | 80.6 | 84.7 | 89.0  | 93.5  | 98.2  | 100.0 | 100.0 |
| Tertiary          | 15.5 | 16.1 | 16.7 | 17.3 | 18.0 | 18.6 | 19.3 | 20.0  | 20.8  | 21.5  | 22.3  | 23.2  |
| <b>Males</b>      |      |      |      |      |      |      |      |       |       |       |       |       |
| Pre primary       | 50.1 | 55.4 | 61.3 | 67.8 | 75.0 | 82.9 | 91.7 | 92.6  | 93.6  | 98.0  | 99.0  | 100.0 |
| Primary           | 93.6 | 94.1 | 94.6 | 95.1 | 95.6 | 96.1 | 96.6 | 97.1  | 97.6  | 99.8  | 100.0 | 100.0 |
| Secondary         | 64.7 | 68.0 | 71.4 | 75.0 | 78.8 | 82.8 | 87.0 | 91.4  | 96.0  | 100.0 | 100.0 | 100.0 |
| Tertiary          | 15.7 | 16.3 | 16.9 | 17.5 | 18.1 | 18.8 | 19.5 | 20.2  | 21.0  | 21.8  | 22.6  | 23.4  |

Source: For females, enrolment ratios were obtained, through the sex ratio of each educational group.

**Figure 3.20** Projected enrolment ratios, both sexes, 2019-2030

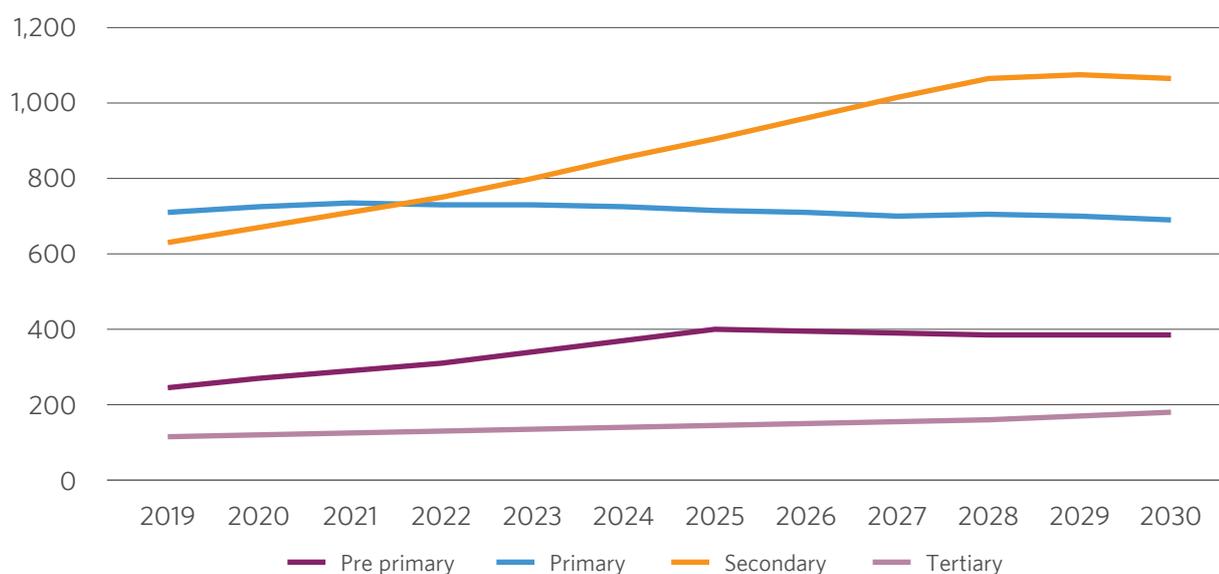
Source: Author's calculation according to past trends

**On average, pre-primary will grow rapidly at the beginning of the period, then will level off and decrease thereafter.**

On average, pre-primary will grow rapidly at the beginning of the period, then will level off and decrease thereafter (Figure 3.20). Its average annual rate of growth during this period would remain high, at around 3 per cent per annum. For the youngest children, the fast population decrease due to the fertility transition, the effects of which are almost immediate, will be more than compensated for by the expanding enrolment ratio, from 51 per cent only to nearly 100 per cent by 2025.

Primary education, for which enrolment is already almost universal at a ratio of 92 per cent is assumed to increase to 100 per cent, will undergo a slight decline in the numbers of students, from 708 to 688 thousand. This quantitative stability could trigger the badly needed improvement in the quality of education at this level.

**Figure 3.21** Projection of school enrolments by number of students (in thousands) by level of education, both sexes, 2019-2030



Source: Authors calculation from Lao Statistics Bureau, *Lao Population projections...*, op. cit.

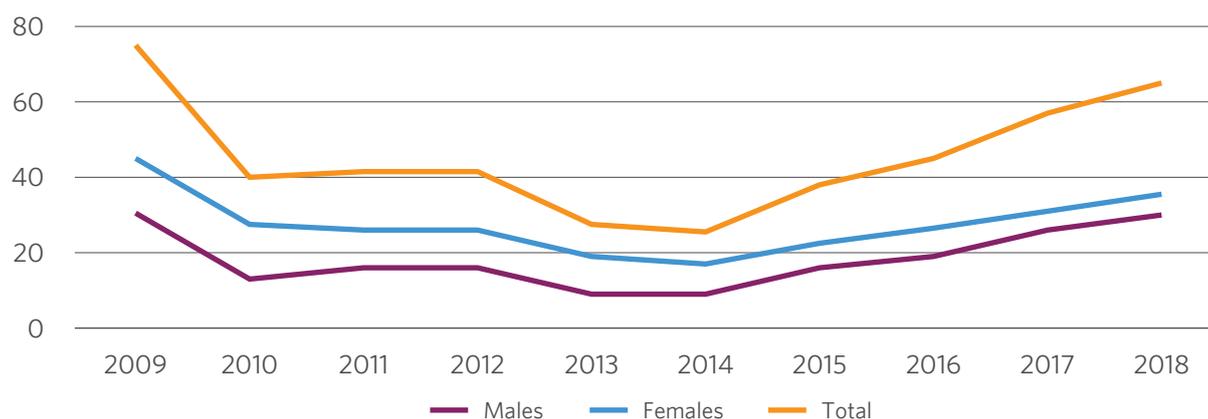
In secondary level education, the number of students will increase very rapidly if the trends previously observed in the recent past carry on into the future (Figure 3.21). The situation would be very sensitive at this strategic level of education, and will require costly investments in human resources to avoid quantity compromising quality.

In tertiary education, a projection according to the past trends will lead to an enrolment ratio higher than the present one (15.5 per cent in 2018), of 23 per cent in 2030. This is not sufficient for contributing what is needed for the human resource for socio-economic development, especially if a large share of students choose general studies rather than technical and scientific ones. Enrolment ratios in tertiary education comparable to those of the some of the other Asian countries are hard to reach in such a short period but should be an ideal to attain by 2050, along with the promotion of scientific and technical studies.

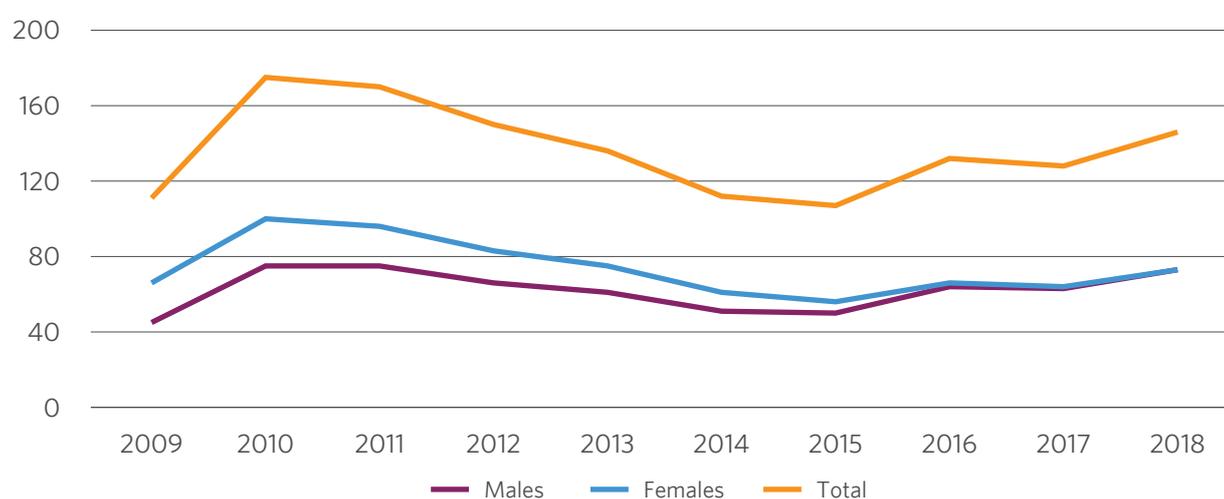
**This is not sufficient for contributing what is needed for the human resource for socio-economic development, especially if a large share of students choose general studies rather than technical and scientific ones.**

Still, the growth from 1.7 in 2019 to 2.3 million students in 2030 for all levels represents an important challenge for the country, especially since the growth will be mainly concentrated in the higher and more expensive levels of education. Economic development with a sustained growth of the GDP during the next decades is, therefore, a pre-condition to insure that enough investment will be devoted to the education sector.

The challenge will be even more acute when including the large number of out-of-school children and adolescents who are also part of the equation. This is a pressing issue, as the number of out-of-school children and adolescents after receding tends to increase (Figures 3.22 and 3.23).

**Figure 3.22** Out-of-school children (in thousands) by sex, 2009-2018

Source: UNESCO UIS, *Lao People's Democratic Republic*, <http://uis.unesco.org/country/LA>, op. cit.

**Figure 3.23** Out of school adolescents by sex (10,000), 2009-2018

Source: UNESCO UIS, *Lao People's Democratic Republic*, <http://uis.unesco.org/country/LA>, op. cit.

### Projection of the number of teachers and professors

One of the main source of expenditures in education is the recurrent cost of the salaries of teachers and professors, and of the administrative staff and logistical and service/maintenance support.

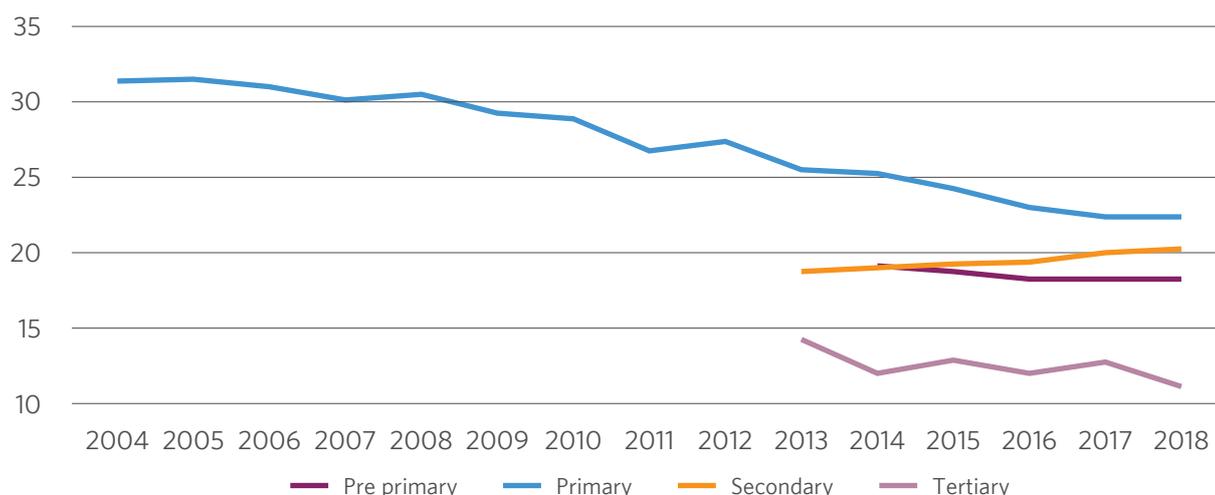
To project the future numbers of teachers and professors, an estimation of how the student to teacher ratio has evolved in the past is needed. Figure 3.24 show trends for primary level education from 2004 to 2018, for secondary and tertiary levels of education from 2013 to 2018, and for pre-primary level education from 2014 to 2018.

The increase of the student to teacher ratio in secondary level education needs to be addressed, as these students are particularly needed for the social, economic and cultural development of the country.

The general decrease of the student to teacher ratio in pre-primary, primary and tertiary levels is promising, since the pressure of high number of students on the teacher is can negatively impact the quality of education. However, the increase of the student to teacher ratio in secondary level education needs to be addressed, as these students are particularly needed for the social, economic and cultural development of the country.

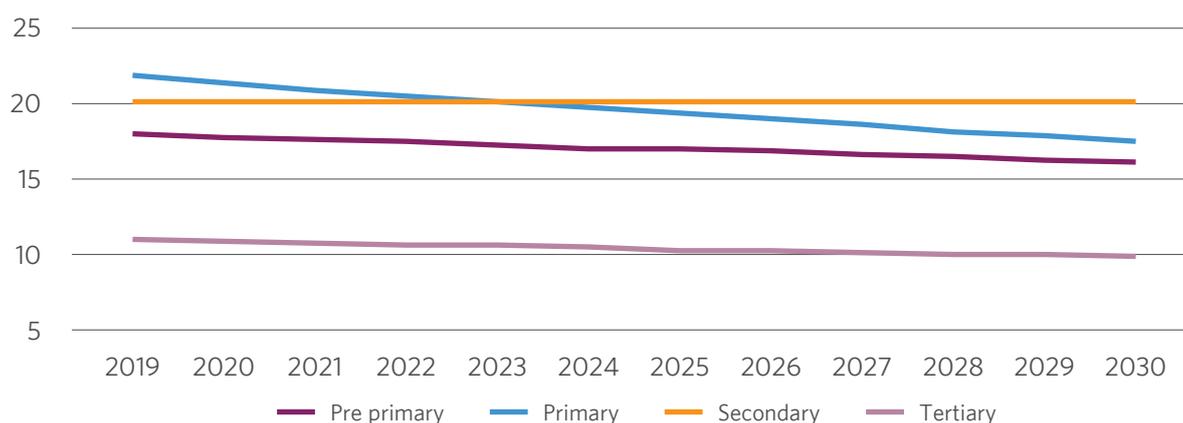


**Figure 3.24** Trends of student to teacher ratios by level of education, 2004-2018



Source: Unesco, [http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT\\_DS](http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS)

**Figure 3.25** Projection of the student to teacher ratios by level of education, 2019-2030

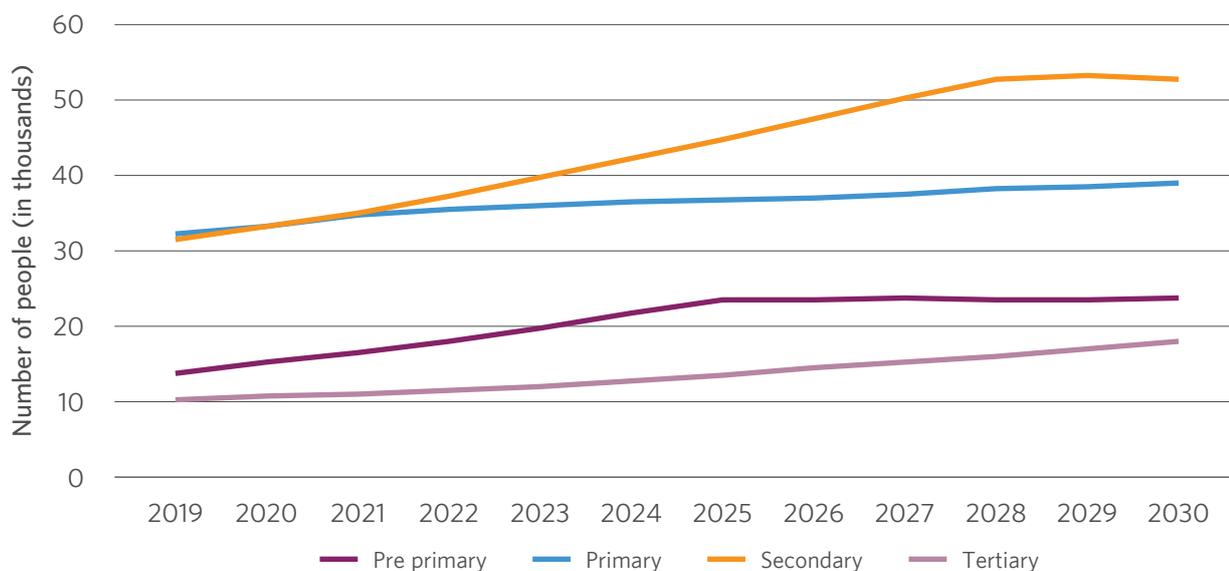


Source: Authors' calculation according to observed trends

Projections of the future student to teacher ratios were mainly based on extrapolation of previous trends, though sometimes using the trends from selected neighbouring countries (Figure 3.25).

**The rationale behind these projections is that student to teacher ratios will show a decrease except at the secondary level of education.**

The rationale behind these projections is that student to teacher ratios will show a decrease except at the secondary level of education, for which they will remain at the last observed level in 2018. This is a reasonable ratio in comparison to those of some neighbouring countries. Figure 3.26 provides the expected numbers of teachers and professors by level of education as well as the annual rates of growth and the consolidated rate for the period from 2019-2030.

**Figure 3.26** Projection of the number of teachers and professors (in thousands), by level of education, 2019-2030

Source: Author's calculation according to orientated trends

Due to the combination of demographic impacts and the expected improvements of the quality of education, as reflected by the decrease of the student to teacher ratios, the number of teachers and professors at all levels will rapidly grow from 84,000 to 134,000, an increase of 60 per cent from 2019 to 2030, at an annual rate of growth of 3.9 per cent. The growth will vary according to level of education, with the highest in tertiary education (5.4 per cent per annum), which is the most expensive level of education for teaching, and the second highest increase will be in the pre-primary level of education at 5.1 per cent. The increase is also high for secondary education at 4.8 per cent. For primary level education, due to the acceleration of the demographic transition, which impacts youngest age groups more and is a level, there already is a sufficient student to teacher ratio.

The country will have to account for increasing educational expenditures during the coming decade in order to meet the investment in human resources and the aspirations of its youth.

### Projection of the number of classrooms

Increasing costs of education will come also from expenditures on infrastructure, mainly new schools needed for the expansion of the school population. Maintenance costs for enlarging existing infrastructure or refurbishing older schools also need to be taken into account.

Table 3.11 provides some data on the number of schools and classrooms, based on observations until 2015, and projections from then until 2020. Not all levels are included, such as vocational schools and higher education. The data include in some cases private and public schools, in other cases only public schools.

The projection until 2030 is based on public classrooms (Table 3.12), which should impact the next development plan. However, these projections could be expanded later by including other levels of education and private schools.

**Table 3.11** Number of schools and classrooms for some levels of education, observed from 2010 to 2015, and projected from 2016 to 2020

|  | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Pre primary (early childhood education)</b> |        |        |        |        |        |        |        |        |        |        |        |
| Schools  | 1,284  | 1,358  | 1,577  | 1,802  | 2,125  | 2,403  |        |        |        |        |        |
| Classrooms (public)                            |        |        |        |        |        |        | 6,617  | 7,454  | 8,427  | 9,575  | 10,950 |
| <b>Primary schools</b>                         |        |        |        |        |        |        |        |        |        |        |        |
| Schools  | 8,968  | 8,902  | 8,912  | 8,927  | 8,884  | 8,887  |        |        |        |        |        |
| Classrooms (public)                            | 31,648 | 31,057 | 31,957 | 32,745 | 3,3173 | 33,666 | 31,714 | 31,384 | 30,979 | 30,833 | 31,192 |
| <b>Secondary (lower)</b>                       |        |        |        |        |        |        |        |        |        |        |        |
| Classrooms (public and private)                | 8,103  | 8,560  | 9,217  | 9,946  | 10,941 | 11,631 |        |        |        |        |        |
| Classrooms (public)                            |        |        |        |        |        |        | 11,500 | 11,762 | 12,003 | 12,499 | 12,967 |
| <b>Secondary (upper)</b>                       |        |        |        |        |        |        |        |        |        |        |        |
| Classrooms (public and private)                | 2,214  | 3,277  | 3,519  | 3,860  | 4,254  | 4,710  |        |        |        |        |        |
| Classrooms                                     |        |        |        |        |        |        | 4,487  | 4,897  | 5,331  | 5,895  | 6,370  |

Source: Ministry of Education and Sports, *Education and Sports sector Development Plan (2016-2020)*, Vientiane, December 2015.

**Table 3.12** Projected number of classrooms (in thousands), public schools, 2020-2030

| Level           | Assumed annual rate of growth (%) | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------------|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Pre primary     | 12.6                              | 10.9 | 12.3 | 13.9 | 15.6 | 17.6 | 19.8 | 22.3 | 25.1 | 28.3 | 31.9 | 35.9 |
| Primary         | -0.4                              | 32.3 | 31.1 | 30.9 | 30.8 | 30.7 | 30.6 | 30.5 | 30.3 | 30.2 | 30.1 | 30.0 |
| Lower secondary | 3.0                               | 13.0 | 13.4 | 13.8 | 14.2 | 14.6 | 15.0 | 15.5 | 15.9 | 16.4 | 16.9 | 17.4 |
| Upper secondary | 8.8                               | 6.3  | 6.9  | 7.5  | 8.2  | 8.9  | 9.7  | 10.5 | 11.4 | 12.5 | 13.5 | 14.7 |

Source: Calculations according to projections of public classrooms in Ministry of Education and Sports, *Education and Sports sector Development Plan (2016-2020)*.

These projections assume a rapid increase of the number of classrooms for the pre-primary level education with a possible multiplication by three from 2020 to 2030, an almost stationary level education for primary level, a sustained expansion in lower secondary level education and a multiplication by two for the costly upper secondary level of education. This projection does not include vocational schools and universities.

### 3.7 Projection of human resources for health

Health services need to respond to all segments of the population, and adequate access to preventive, curative and tertiary health services is essential. The growth of the Lao population, along with its changing structure and regional distribution, will have decisive impacts on health services until 2030 and beyond. Population growth increases the demand for medical services and for hospital beds. The change in age composition means a larger elderly population, and growth in the share of females of reproductive age will also increase the demand for health services.

Availability of health services has a direct impact on mortality. Mortality decreases with the improvement access to and quality of health services. Better health services, including family planning, have a direct and indirect impact on fertility, and improve the survival of infants and children as well as mothers. With better health services and increases in educational levels, future parents marry later and have less children, as there is a higher survival probability for infants and children to reach adulthood.

**Better health services, including family planning, have a direct and indirect impact on fertility, and improve the survival of infants and children as well as mothers.**

The population of Lao PDR will change between now and 2030, with implications for health facilities. In all age groups, the population will increase as shown in the population projections presented earlier, with proportions in the total population varying. The proportion of youngsters younger than age 15 years will decrease, whereas the proportion of the elderly population will increase, although from a presently low proportion.

The number of infants and children younger than age 5 years will decrease at a rapid rate, from around 800,000 to a little over 600,000, which is 23 per cent less, and their share to the total population will go from 12 per cent in 2017 to 7.6 per cent in 2030.

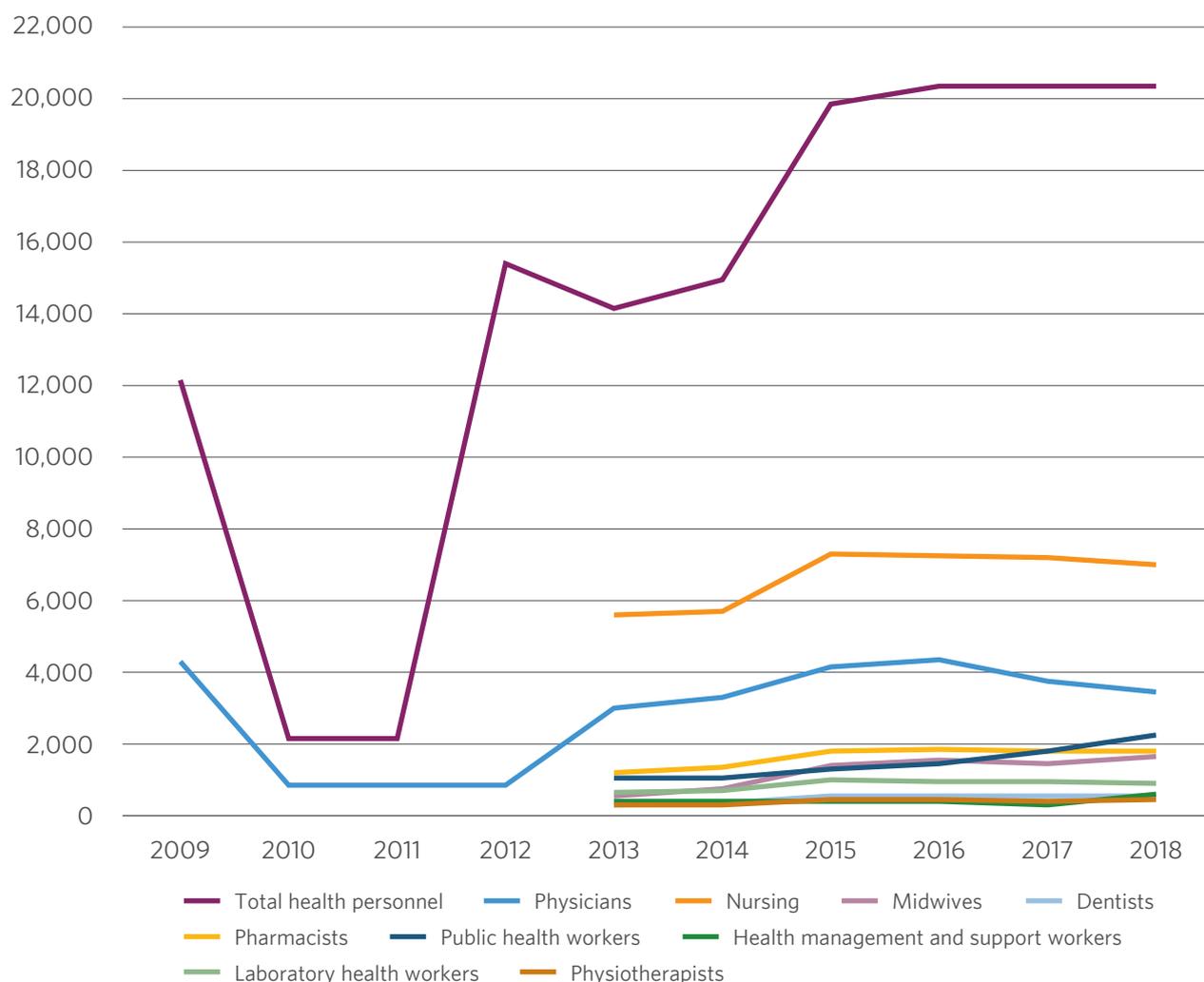
Children younger than 15 years will decrease from 2,241,000 to 2,028,000 in 2030, a decrease of almost 10 per cent, and their share of the total population will go from 33.6 per cent to 25.1 per cent in 2030.

Females of reproductive age have the most rapid increase, from 1,762,000 to 2,279,000, rising from 26.4 per cent to 28.3 per cent.

The number of elderly people will grow from 283,000 thousand in 2015 to 483,000 thousand in 2030, a 71 per cent increase in just 15 years, and their share to the total population from 4.2 per cent to 6 per cent.

These demographic trends, with some groups growing faster than others, should be considered in order to insure an equitable diffusion of health services.

Projections of human resources and facilities for health services are based on a combination of time trends in recent years and benchmarks taken for from neighbouring countries or from international recommendations from WHO, World Bank and other agencies.

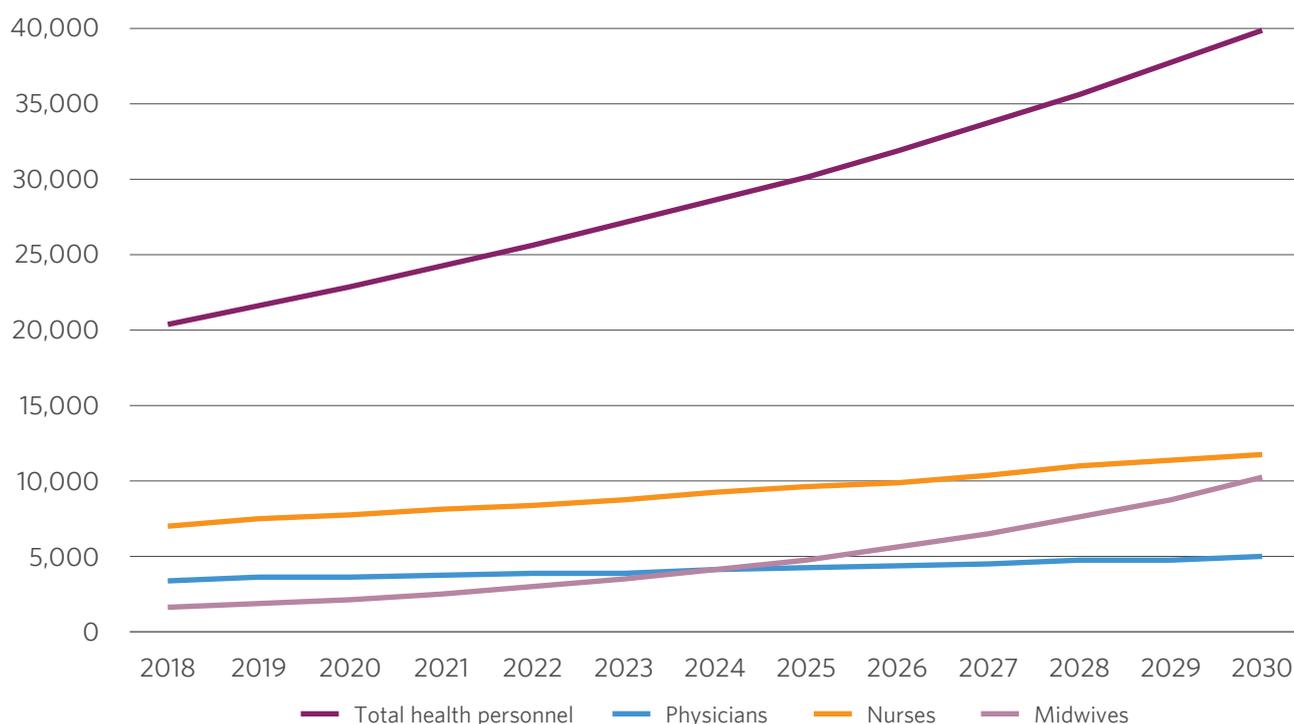
**Figure 3.27** Trends in medical personnel, 2009-2018

Source: Department of Personnel and Organization, MOH, Vientiane, 2013 and Laos Statistics Bureau, LAOSIS, Laos Statistical Information Service, <https://laosis.lsb.gov.la/tblinfo/TblInfoList.do>, (retrieved December 5, 2019)

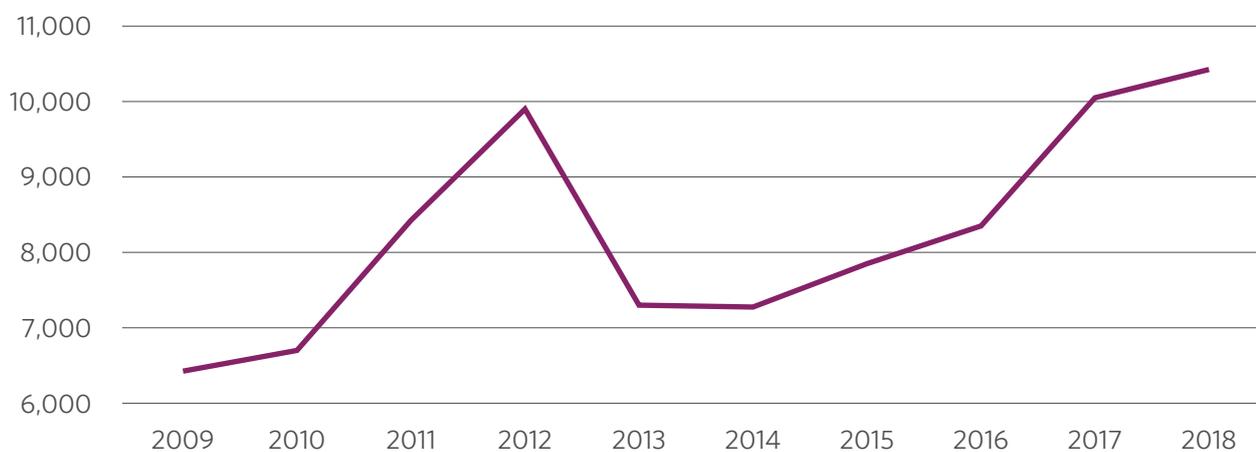
Figure 3.27 presents the trends of medical personnel from 2009 to 2018. This figure shows the complexity of these trends and the difficulty in using them for health projections. Among the issues is strong decline in the number of physicians in 2010, the stagnation until 2012, and another the decline from 2016. The present stagnation in the number of nurses also seems problematic. Conversely, the trend seems reasonable for midwives.

Figure 3.28 provides the expected numbers of total health personnel, physicians, nurses and midwives between 2018 and 2030. These numbers are derived from the observed rates of growth during the recent past, varying among the categories of personnel.

If the total health personnel is expected to double from 2018-2030, going from 20,000 to 40,000, the number of physicians would increase from 3,400 to 4,900. Therefore, to meet the needs of adequate health for all citizens, there should be greater efforts devoted to the training of physicians, an expensive endeavour, especially for specialists. Yet, this is a necessary condition to reach the recommended medical density recommended by WHO and is similar to the benchmarks of some of the neighbouring countries.

**Figure 3.28** Health personnel projections, 2018-2030

Source: Author's calculation based on annual rates of growth derived from Laos Statistics Bureau, LAOSIS, Laos Statistical Information Service, <https://laosis.lsb.gov.la/tblinfo/TblInfoList.do>, (retrieved December 5, 2019)

**Figure 3.29** Number of hospital beds, 2009-2018

Source: Laos Statistics Bureau, LAOSIS, Laos Statistical Information Service.

Due to the growth of the whole population, it is necessary to nearly double the number of health personnel in a relatively short time span, at a high annual rate of growth. This is the key for general and equitable distribution of health care services and facilities. In terms of cost, the expenditure will need expand to cover human resources and infrastructure.



The required number of physicians needs to include general practitioners and specialists such as obstetricians, gynaecologists, neonatologists, oncologists, cardiologists, psychiatrists, orthopaedists, etc. Some of the training for these specialties is expensive, while for others less so. This shows the complexity of health cost projections when going into details. The same is true for infrastructure, facilities and equipment. The number of beds (Figure 3.29) is one of a network of support facilities that is needed for the health care system.

# 4

## Demographic dividend in Lao PDR

### 4.1 Introduction

In most developing countries, the exploration of the interaction between demography, economics and the social context has not been the subject of many investigations. Interactions approached only by population size and growth are not sufficient. More recently, since the 1990s, by using the age structure of the population, the positive effects of changes of the demographic variable on income, consumption, employment, education and health have emerged more clearly.

The decrease in the death rate and increase in life expectancy, followed by a drop in the fertility rate, termed the demographic transition, gives rise to a 'demographic dividend'. This demographic dividend leads to an increase in the labour supply, a quantitative and qualitative improvement in the labour market, due to higher savings and investments, and incorporates the essential components for wealth creation and the improved well-being of individuals and families.

The economic benefits of the demographic dividend are generating increasing interest in developing countries with this potential, which includes Lao PDR. As these countries are in the process of completing their demographic transition, it is important to assess the effects on wealth creation and to address future development challenges. This research also may help to anticipate the appropriate reforms needed in economic and social policies, in particular to address for the shortcomings in the education, employment and health sectors.

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In this context, the demographic transition raises fundamental questions that include:

- Does the decline in fertility and the slowing of population growth effectively lead to an increase in the standard of living?
- Could aging and rising dependency ratios neutralize human capital gains?
- With the aging of the population, what is the way forward to the second demographic dividend?

These are questions to explore through a quantitative and qualitative assessment of the effects of the demographic dividend. This study may pave the way to innovative orientations for public policies and for the private sector to foster change, taking into account the perspectives of different age groups of the population. Such an approach would also be an opportunity to propose adjustments and possibly new policies that would be different from those previously pursued.

This chapter examines how the demographic transition has been able to generate a demographic dividend in Lao PDR since 1985, which is the date of the country's first census. It will also inform how the Lao experience compares with that of its neighbouring countries.

The analysis examines public policies and their potential contributions to the population in general and to young people in particular that are likely to favour the demographic dividend in the fields of education, health and employment.

This chapter will also explore, through assumptions for the future relating to demography, the labour market participation of women, young people and seniors in economic activity, and the different paths of progression of the demographic dividend from today to 2030.

## 4.2 A rapid demographic transition

This decline in mortality and increase in life expectancy are a reflection of the efforts made in the health infrastructure, access and quality of preventive and curative care, sanitation, hygiene and nutrition.

The second chapter analysed the rapidity of Lao PDR's demographic transition. A rapid increase in life expectancy for both women and men since 1985 is projected to continue until 2030. The improvement in life expectancy at birth is the outcome of decreasing mortality risks at all ages, particularly for infants and children, although these mortality are still high as compared to those of more developed countries and of most neighbouring countries. This decline in mortality and increase in life expectancy are a reflection of the efforts made in the health infrastructure, access and quality of preventive and curative care, sanitation, hygiene and nutrition.

The sharp decline in mortality has accompanied, if not favoured, an accelerated decline in fertility – the major driver of population growth – which fell from around 7 children per woman in 1985 to 2.7 in 2017, and is likely to decline to the replacement level in 2030. This fertility decline is indeed a major achievement in the demography of Lao PDR.

With the decline in the fertility rate, the annual births that feed the flows of entrants into pre-primary and primary schools will stabilize and then diminish. Therefore, sustained efforts to achieve universal schooling, a priority of public authorities, are stimulated by the fertility transition that has allowed for more optimistic prospects.

The balance between the decrease in the quantity of students and the increase in the quality of education will improve the productivity of labour, which will be the main beneficiary.

After the decline in the demographic pressure on primary education, attention will then be needed for secondary and university education to reap the benefits. The additional costs generated by education will no longer arise from the demographic pressure, but from the quality imperatives to eliminate illiteracy, lengthen the duration in the years of study, improve the quality of education and shift from general education to more sophisticated, technical and better teaching, which will increase costs. The balance between the decrease in the quantity of students and the increase in the quality of education will improve the productivity of labour, which will be the main beneficiary.

The decline in fertility, which is leading to a restructuring of the age pyramid, should lead to a rise in the national savings rate, and hence, in investments. Moreover, according to Alfred Sauvy's theory on population demographic investments, those that simply cope with population growth will diminish in proportion in comparison with economic investments that contribute to the expansion of production capacities and to the increase of the GDP, along with the increase in the GDP *per capita* and of the standard of living.<sup>38</sup>

<sup>38</sup> Alfred Sauvy, *General Theory of Population*, London, Little Hampton Book, 1969, pp. 564 (translated from French).

The fertility transition will have an impact in the future on the distribution of national income. In the past, demography, when differentiated by social categories, has negatively influenced the distribution of national income. The poorest segments not only received a lower share of the national income, but also supported a higher number of consumers because of the large size of their households, with many children who were an outcome of higher fertility rates. Thus, the differences in fertility behaviour have been, in the recent past, one of the reasons for inequalities in the distribution of national income. The reduction of fertility differentials between the 'rich', 'middle' and 'poor' populations have been a feature in the decline in wealth disparities. The reduction of fertility differentials also might have contributed to economic improvements.

The reduction of fertility differentials between the 'rich', 'middle' and 'poor' populations have been a feature in the decline in wealth disparities.

### 4.3 Definition of the demographic dividend

Among the definitions of the demographic dividend, the one that characterizes it as the surplus of economic growth that could result from changes in the age structure<sup>39</sup> of the population is preferred. With these changes in age distribution, relatively less investment is required to meet the needs of the shrinking youngest age groups and resources can be invested elsewhere. This is the 'demographic gift'. This also means that the labour force will grow faster than the population that depends on it, opening a 'window of opportunity' for faster economic growth and improved family welfare. Theoretically, this transition can mean, at the micro-level, a better standard of living for families and a higher income per person. While at the macro-level, the transition brings invaluable gains for sound economic development.

The labour force will grow faster than the population that depends on it, opening a 'window of opportunity' for faster economic growth and improved family welfare.

This preferred definition of demographic dividend emphasizes both micro and macro analyses. It expresses the reservation that the dividend is a potentiality, and not demographic determinism. The demographic dividend is not automatic and requires several preconditions. It is not only contingent on demographics, but also requires investment in key areas of the economy and social policies.

It is the successful experience of neighbours of Lao PDR and countries such as the Republic of Korea and Singapore, and more recently China and Viet Nam that helped propel the demographic dividend paradigm. Thus, econometric analysis concluded that about one third of these countries *per capita* GDP growth in the 1970s was driven by the impact of the demographic dividend. These countries show that a decline in the dependency ratio, especially by reducing the proportion of young people (under 15 year old), created economic opportunities and helped to accelerate growth. Nevertheless, it is essential to make clear that sound economic policies of the State were a condition for reaping the benefits of the demographic dividend.

It is essential to make clear that sound economic policies of the State were a condition for reaping the benefits of the demographic dividend.

The age structure can account for a significant part of economic growth, but good economic performance remains dependent on socio-economic policies. The Asian experience proves this in many ways. Successful export-oriented production strategies have created more than enough jobs to absorb the jobseekers. The macro-economic environment, until the crises in the 1990s, was attractive to investment, encouraged by Western interests, especially American ones.

<sup>39</sup> This change of structure is, in simple terms, the transition from a state where the population did not live long and had many offspring to a state where the population lives longer and has a more limited family size.

It is essential to combine the benefits of a growing working-age population with developing a better-educated population, which can improve the financial and human capital contributions through sound state policy to reap the demographic dividend.

Every country in the world<sup>40</sup> will, at some point, experience an increase in the share of its working-age population. From the outset, this transformation has a direct effect, favourable to *per capita* income. With other factors being equal, an increase in the ratio of workers to consumers will result in an increase in income per consumer.<sup>41</sup>

In 2014, the paradigm of the demographic dividend was muted. A substantial part of the demographic dividend was attributed to an educational dividend. This may perhaps help explain why in some countries, which were empowered to reap the benefits of this dividend, economic growth has not been strongly stimulated due to the shortcomings of their education systems.

The demographic dividend is transient. The aging of the population may neutralize it, or even change its direction from positive to negative. Hence, there is a split of the demographic dividend into 'first' and 'second' dividends. It is true that the first dividend is transitory, although it can last for decades. With ageing on the horizon, the share of the working-age population will inevitably decline. The first dividend can, therefore, become negative and the share of the working-age population can return to what it was at the start of the demographic transition, or become even lower.

The consumption of the elderly without the contribution of the income they had when they were active must necessarily come from other sources, such as annuities, the sale of assets, public transfers (retirement funds), or intergenerational transfers from their children.

The end of the first dividend bodes well for a second demographic dividend. Indeed, every society must provide for the needs of the elderly, who are largely deprived of income from work. The consumption of the elderly without the contribution of the income they had when they were active must necessarily come from other sources, such as annuities, the sale of assets, public transfers (retirement funds), or intergenerational transfers from their children. Increasingly, first in developed economies but now more and more in emerging ones, people, in order to meet their future needs, anticipate the aging process and, given this state of affairs, try to save and invest.

If this future-planning component materializes, there will be a second demographic dividend, which is likely to contribute to an increase in national capital and thus to the overall and *per capita* income. Here too, demographics cannot work alone. Public policies, and economic good governance, in particular, but not exclusively, must be part of it. Public authorities, along with private-sector decision makers, can raise awareness among people of the ageing process so that they have forward-looking approaches and anticipate future demographic changes. With the rise of the elderly population, future consumption requires accumulation, in one form or another, of wealth. Individuals will have to accumulate capital, either directly or through the state or private companies, and invest in the domestic economy. The result will be an increase in capital intensity: more capital per worker and an increase in labour productivity.

<sup>40</sup> Yet, many countries are left behind despite their demographic transition and the potentialities of the demographic dividend for many and complex reasons.

<sup>41</sup> Among the studies on the subject see: Andrew Mason, "Demographic Transition and Demographic Dividends in Developed and Developing countries", University of Hawaii, East West Center, 2009, and David Bloom, David Canning and Jaypee Sevilla, "Economic Growth and the Demographic Transition", National Bureau of Economic Research, Cambridge, Massachusetts, 2001 and "Realizing the Demographic Dividend: The Science in the Service of the Sahel", Bill and Melinda Gates Institute for Population and Reproductive Health, John Hopkins, 2013.

In Lao PDR. The positive variation in the support ratio partly helps to achieve the first demographic dividend. The United Nations<sup>42</sup> defines the first demographic dividend as “the rate of growth of the support ratio”, measuring the direct contribution of changes in this ratio to economic growth. If the ratio growth rate is negative, the direct effect of changes in this ratio is to dampen economic growth. In other words, the first demographic dividend materializes when the support ratio increases.

The United Nations defines the first demographic dividend as “the rate of growth of the support ratio”, measuring the direct contribution of changes in this ratio to economic growth.

## 4.4 Measuring the first demographic dividend in Lao PDR

There are some constraints in measuring the first demographic dividend in Lao PDR. The first is scarcity of data. The second is the short period of projection, to 2030, as determining the demographic dividend requires a longer time span. However, we have accepted the challenge to quantify this dividend despite these two limitations.

Lao PDR became independent from France in 1953; however, the first population census was only undertaken in 1985 and provides some of the data necessary for the measurement of the demographic dividend.

Among the foremost elements impacting the projection of the demographic dividend is the fertility rate. The values of the fertility rate for the various age groups were first recorded in 1985 (Table 4.1).

Table 4.1 is drawn from the 1985 census and from a multipurpose survey in 1988. Data shows that fertility was very high in the 1980s, at nearly 7 children per woman, which was at an unsustainable level. The prediction that it would diminish in the future effectively occurred.

However, the censuses prior to 2000 provide other signs that were not beneficial to a demographic dividend, and which, with the inertia effect, prevented its early occurrence.

**Table 4.1** Age-specific fertility rates and total fertility rate (children per woman), 1985-1988

| Age-group  | 1985        | 1986        | 1987        | 1988        |
|------------|-------------|-------------|-------------|-------------|
| 15-19      | 50          | 85          | 52          | 67          |
| 20-24      | 248         | 268         | 272         | 284         |
| 25-29      | 335         | 326         | 320         | 316         |
| 30-34      | 280         | 282         | 280         | 275         |
| 35-39      | 256         | 234         | 248         | 245         |
| 40-44      | 127         | 131         | 134         | 128         |
| 45-49      | 52          | 72          | 55          | 44          |
| <b>TFR</b> | <b>6.74</b> | <b>6.99</b> | <b>6.81</b> | <b>6.80</b> |

Source: Ministry of Economy, Planning and Finance, State Statistical Centre, *Population of Lao PDR*.

<sup>42</sup> It is helpful to avoid the numerous vague definitions of the demographic dividend, therefore, we use the United Nations definition from the United Nations Department of Economic and Social Affairs, Population Division, *Support Ratios and Demographic Dividends: Estimates for the World*, Technical Paper N02017/1, New York, 2017.

In 1985, the number of active-age persons,<sup>43</sup> was 1,674,000, with the number of employed males and females very high at 1,501,000 thousand. This is an activity rate of 90 per cent, hardly be found elsewhere in the world at that time.

9 out of 10 workers actively involved, should have had a negative impact on demographic dividend, since the proportion of the active population could not but diminish in the years to come, along with the share of women labourers.

The overwhelming dominance of the primary sector, agriculture, was the reason for this exceptionally high rate of activity. Forty years ago, productive work and family care – especially for females – were inseparable, thus an atypical aspect of employment in 1985, with female's activity exceeding male activity one (Table 4.2). The predominance of the primary sector, especially agriculture, with 9 out of 10 workers actively involved, should have had a negative impact on demographic dividend, since the proportion of the active population could not but diminish in the years to come, along with the share of women labourers.

**Table 4.2** Working age population (in thousands) engaged in economic sectors, 1985

| Sector                         | Total        | Males      | Females    | Structure of total (%) | % females   |
|--------------------------------|--------------|------------|------------|------------------------|-------------|
| Primary sector                 | 1,341        | 625        | 716        | 89.3                   | 53.4        |
| Agriculture                    | 1,338        | 623        | 715        | 89.2                   | 53.5        |
| Forestry                       | 3            | 2          | 1          | 0.2                    | 18.5        |
| Secondary sector               | 32           | 21         | 11         | 2.1                    | 34.4        |
| Industry                       | 16           | 11         | 5          | 1.1                    | 31.3        |
| Other productive activities    | 16           | 10         | 6          | 1.1                    | 37.5        |
| Tertiary sector                | 128          | 81         | 47         | 8.5                    | 36.8        |
| Education                      | 30           | 19         | 11         | 2.0                    | 36.5        |
| Trade                          | 24           | 9          | 15         | 1.6                    | 62.5        |
| State management               | 16           | 12         | 4          | 1.1                    | 25.0        |
| Communication, transport       | 11           | 10         | 1          | 0.7                    | 9.1         |
| Other non- productive          | 11           | 8          | 4          | 0.7                    | 31.8        |
| Capital investment             | 11           | 9          | 2          | 0.7                    | 14.5        |
| Public health, social welfare  | 10           | 4          | 6          | 0.7                    | 57.0        |
| Finance, credit, insurance     | 5            | 3          | 2          | 0.3                    | 36.0        |
| Culture                        | 4            | 3          | 1          | 0.3                    | 32.5        |
| Service, public office tourism | 3            | 2          | 2          | 0.2                    | 45.5        |
| Post, telecommunications       | 2            | 2          | 1          | 0.2                    | 25.0        |
| <b>Total</b>                   | <b>1,501</b> | <b>727</b> | <b>774</b> | <b>100.0</b>           | <b>51.6</b> |

Source: Ministry of Economy, Planning and Finance, State Statistical Centre, *Population of Lao PDR*, Vientiane, 1992.

<sup>43</sup> Ages 16-60 years for males and ages 16-55 years for females.



**Table 4.3** Population (in thousands) by age group and sex, 1995

| Age          | Males          | Females        | Both sexes     |
|--------------|----------------|----------------|----------------|
| 0-4          | 363.2          | 357.0          | 720.2          |
| 5-9          | 355.1          | 342.1          | 697.3          |
| 10-14        | 311.1          | 294.8          | 605.9          |
| 15-19        | 223.2          | 231.7          | 454.9          |
| 20-24        | 170.0          | 194.9          | 364.9          |
| 25-29        | 161.3          | 179.9          | 341.1          |
| 30-34        | 137.3          | 144.2          | 281.6          |
| 35-39        | 133.9          | 132.1          | 266.0          |
| 40-44        | 90.7           | 91.2           | 181.9          |
| 45-49        | 76.4           | 80.5           | 156.9          |
| 50-54        | 60.5           | 72.6           | 133.1          |
| 55-59        | 53.1           | 56.6           | 109.6          |
| 60-64        | 43.2           | 46.8           | 90.0           |
| 65-69        | 34.1           | 33.9           | 68.0           |
| 70-74        | 21.9           | 24.2           | 46.0           |
| 75+          | 25.8           | 31.2           | 57.0           |
| <b>Total</b> | <b>2,260.9</b> | <b>2,313.7</b> | <b>4,574.5</b> |

Source: State Planning Committee, National Statistical Centre, *Results from the population census 1995*, Vientiane, 1997.

Unfortunately, the 1985 census published tables do not display all the elements required to compute the support ratio. However, some of its elements are predictive of a decrease of the support ratio: the high participation rate, and, a very high fertility rate, also likely to decrease, and consequently, a high youthfulness of the age-structure heading toward becoming mature adults.

Data from the 1995 census are shown in Table 4.3.

In 1995, the population was still very young with 44.2 per cent of the population below 15 years of age and 3.8 per cent above 65 years of age.<sup>44</sup> Hence, almost equal numbers between dependents and active-age persons between 15 and 64 years old. In addition, the relative retraction of the age group of ages 0-4 years compared to the age group of 5-9 years is an omen that demographic transition and fertility decline had started, inaugurating the progress toward the demographic dividend.

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<sup>44</sup> In 1985, according to the United Nations estimates, these proportions were slightly different with a bit higher for youngsters at 44.6 per cent, a bit less from the elderly at 3.6 per cent, with working age at 52 per cent. Thus, there are no significant changes between 1985 and 1995.

**Table 4.4** Active population (in thousands) by age group and effectively employed population, by sex, 1995

| Age          | Population (in thousands) |                | Effectively Employed (in thousands) |                |                                  | Both sexes (in thousands) | Equivalent consumers (in thousands) |
|--------------|---------------------------|----------------|-------------------------------------|----------------|----------------------------------|---------------------------|-------------------------------------|
|              | Males                     | Females        | Males                               | Females        | Coefficient equivalent-consumers |                           |                                     |
| 0-4          | 363.2                     | 357.0          |                                     |                | 0.4                              | 720.2                     | 288.1                               |
| 5-9          | 355.1                     | 342.1          |                                     |                | 0.7                              | 697.2                     | 488.0                               |
| 10-14        | 311.1                     | 294.8          | 64.4                                | 78.7           | 0.9                              | 605.9                     | 545.3                               |
| 15-19        | 223.2                     | 231.7          | 103.1                               | 159.7          | 1.0                              | 454.9                     | 454.9                               |
| 20-24        | 170.0                     | 194.9          | 141.4                               | 173.1          | 1.0                              | 364.9                     | 364.9                               |
| 25-29        | 161.3                     | 179.9          | 152.9                               | 164.2          | 1.0                              | 341.2                     | 341.2                               |
| 30-34        | 137.3                     | 144.2          | 133.5                               | 132.6          | 1.0                              | 281.5                     | 281.5                               |
| 35-39        | 133.9                     | 132.1          | 131.0                               | 122.5          | 1.0                              | 266.0                     | 266.0                               |
| 40-44        | 90.7                      | 91.2           | 88.7                                | 83.8           | 1.0                              | 181.9                     | 181.9                               |
| 45-49        | 76.4                      | 80.5           | 74.4                                | 73.1           | 1.0                              | 156.9                     | 156.9                               |
| 50-54        | 60.5                      | 72.6           | 56.4                                | 55.8           | 1.0                              | 133.1                     | 133.1                               |
| 55-59        | 53.1                      | 56.6           | 46.4                                | 36.8           | 1.0                              | 109.7                     | 109.7                               |
| 60-64        | 43.2                      | 46.8           | 31.8                                | 20.4           | 1.0                              | 90.0                      | 90.0                                |
| 65-69        | 34.1                      | 33.9           | 21.3                                | 10.8           | 1.0                              | 68.0                      | 68.0                                |
| 70-74        | 21.9                      | 24.2           | 16.6                                | 3.1            | 1.0                              | 46.1                      | 46.1                                |
| 75+          | 25.8                      | 31.2           |                                     |                | 1.0                              | 57.0                      | 57.0                                |
| <b>Total</b> | <b>2,260.9</b>            | <b>2,313.7</b> | <b>997.4</b>                        | <b>1,035.8</b> |                                  | <b>4,574.5</b>            | <b>3,872.6</b>                      |

Source: Computed from: State Planning Committee, National 31 Statistical Centre, *Results from the population census 1995*.

Table 4.4, derived from the census in 1995, provides the active population by age group and sex.<sup>45</sup> The employed active population for both sexes was 2,192,000, and characterized by more females: 1,130,000 and 1,062,000 males. This is a 6.4 per cent difference between the sexes. This is a characteristic of a still agriculturally dominated economy, with very low unemployment: 32,000 males and 33,000 females, a 2.8 per cent unemployment rate.

The support ratio, as mentioned, is the number of effectively employed persons to the number of equivalent consumers. The number of equivalent consumers could be considered as the total population at the time of the census. Yet, it is better to take into account the ages, since consumption varies significantly depending on age.

Given the lack of data relating to consumption by age and in terms of adult equivalent, it was calculated with standard weights in Table 4.5, with the consumption of children and youth lower than for adults. An assumption that remains unproven, given what is known about the exploding costs of children worldwide and most probably in Lao PDR as well.

An assumption that remains to unproven, given what is known about the exploding costs of children, worldwide and most probably in Lao PDR as well.

<sup>45</sup> With the proportion provided by the census in the first columns of the table, the active population (employed and unemployed) is computed, and the effectively employed.

**Table 4.5** Adult-equivalent consumer coefficient by age group

| Age         | Coefficient |
|-------------|-------------|
| 0-4         | 0.4         |
| 5-9         | 0.7         |
| 10-14       | 0.9         |
| 15 and over | 1.0         |

Source: Angus. Deaton, "The analysis of households surveys a micro-economic approach to development policy", The World Bank Reissue Edition, 2015.

**Table 4.6** Number of adult-equivalent consumers (in thousands) by age group, 1995

| Age-group    | Population     | Coefficient | Adult- equivalent consumers |
|--------------|----------------|-------------|-----------------------------|
| 0-4          | 720.2          | 0.4         | 288.1                       |
| 5-9          | 697.3          | 0.7         | 488.1                       |
| 10-14        | 605.9          | 0.9         | 545.3                       |
| 15-19        | 454.9          | 1           | 454.9                       |
| 20-24        | 364.9          | 1           | 364.9                       |
| 25-29        | 341.1          | 1           | 341.1                       |
| 30-34        | 281.6          | 1           | 281.6                       |
| 35-39        | 266.0          | 1           | 266.0                       |
| 40-44        | 181.9          | 1           | 181.9                       |
| 45-49        | 156.9          | 1           | 156.9                       |
| 50-54        | 133.1          | 1           | 133.1                       |
| 55-59        | 109.6          | 1           | 109.6                       |
| 60-64        | 90.0           | 1           | 90.0                        |
| 65-69        | 68.0           | 1           | 68.0                        |
| 70-74        | 46.0           | 1           | 46.0                        |
| 75+          | 57.0           | 1           | 57.0                        |
| <b>Total</b> | <b>4,574.5</b> |             | <b>3,872.7</b>              |

Source: Computed from: State Planning Committee, National Statistical Centre, *Results from the population census 1995*.

In the future, it will be required to rely more on sound data for the consumption by age, especially regarding youth and the elderly, rather than to refer to models that reflect past conditions.

In addition, coefficients for the elderly, with their increasing health expenditures, are probably under-estimated. In the future, it will be required to rely more on sound data for the consumption by age, especially regarding youth and the elderly, rather than to refer to models that reflect past conditions.

Table 4.6 provides the number of adult-equivalent consumers by age group, derived from the total population at census of 1995 and the estimated coefficients of equivalent-consumer per adult. In 1995, there were 3,873,000 equivalent consumers (for a total population of 4,575,000).

The support ratio (economic support ratio) was 56.6 per cent, which means that effectively working active persons had to support, on average, about two people of any age (including themselves).

The level of this support ratio in 1995 reflects the dominance of agriculture and the primary sector, with entry into activity rather young and exit occurring at advanced ages. Everybody was supposed to work creating a very high rate of activity. Unemployment was extremely low. However, those aspects, which favour a 'fair' support ratio – according to world standards<sup>46</sup> – does not take into account labour productivity, which was particularly low in these times.

The population census of 2005 can be used to compute the same components needed for the determination of the support ratio (Table 4.7): the structure (in per cent), the sex ratio and the size of the population by age group. Then using the proportion of employed and employed by age group starting at 10 years and sex provided by the census, the active population, either employed or unemployed is determined, giving the number of effectively employed persons. Finally, the number of adult-equivalent consumers is determined.

**Table 4.7** Active population (in thousands) by age group, 10 years and over, and sex, (effectively employed and unemployed), equivalent adults consumers, 2005

| Age          | Population     |                | Effectively Employed |                |             | Both sexes     | Equivalent consumers |
|--------------|----------------|----------------|----------------------|----------------|-------------|----------------|----------------------|
|              | Males          | Females        | Males                | Females        | Coefficient |                |                      |
| 0-4          | 351.6          | 349.4          |                      |                | 0.4         | 701.0          | 280.4                |
| 5-9          | 379.1          | 370.0          |                      |                | 0.7         | 749.1          | 524.4                |
| 10-14        | 391.8          | 375.4          | 52.5                 | 79.6           | 0.9         | 767.2          | 690.5                |
| 15-19        | 323.8          | 323.5          | 149.3                | 202.8          | 1.0         | 647.3          | 647.3                |
| 20-24        | 253.9          | 261.4          | 201.3                | 223.5          | 1.0         | 515.3          | 515.3                |
| 25-29        | 211.3          | 218.3          | 197.1                | 197.3          | 1.0         | 429.6          | 429.6                |
| 30-34        | 176.5          | 183.5          | 169.4                | 165.9          | 1.0         | 360.0          | 360.0                |
| 35-39        | 164.4          | 165.4          | 158.6                | 150.2          | 1.0         | 329.8          | 329.8                |
| 40-44        | 132.3          | 133.5          | 127.5                | 119.6          | 1.0         | 265.8          | 265.8                |
| 45-49        | 113.9          | 113.3          | 109.3                | 99.3           | 1.0         | 227.2          | 227.2                |
| 50-54        | 86.8           | 91.2           | 79.6                 | 65.6           | 1.0         | 178.0          | 178.0                |
| 55-59        | 62.7           | 65.6           | 59.1                 | 37.8           | 1.0         | 128.3          | 128.3                |
| 60-64        | 50.0           | 55.0           | 31.8                 | 18.6           | 1.0         | 105.0          | 105.0                |
| 65-69        | 38.3           | 41.3           | 19.1                 | 9.2            | 1.0         | 79.6           | 79.6                 |
| 70-74        | 27.7           | 31.9           | 8.3                  | 3.4            | 1.0         | 59.6           | 59.6                 |
| 75+          | 36.4           | 42.2           | 6.4                  | 2.6            | 1.0         | 78.6           | 78.6                 |
| <b>Total</b> | <b>2,800.5</b> | <b>2,820.9</b> | <b>1,369.5</b>       | <b>1,375.3</b> |             | <b>5,621.4</b> | <b>4,899.4</b>       |

Source: Computed from: State Planning Committee, National Statistical Centre, *Results from the population census 2005*.

<sup>46</sup> For countries analysed before this study, including Morocco and Palestine, the support ratio was much lower, at around 20-25 per cent.

**Table 4.8** Changes in the support ratio and of the demographic dividend, 1995-2015

|                             | Annual increase (in thousands) |              |              | Annual increase (%) |             |
|-----------------------------|--------------------------------|--------------|--------------|---------------------|-------------|
|                             | 1995                           | 2005         | 2015         | 1995-2005           | 2005-2015   |
| <b>Total population</b>     | <b>4,575</b>                   | <b>5,621</b> | <b>6,492</b> | <b>2.06</b>         | <b>1.44</b> |
| Population 15 years+        | 2,551                          | 3,404        | 4,415        | 2.88                | 2.60        |
| Employed 15 years+          | 2,033                          | 2,613        | 3,400        | 2.51                | 2.63        |
| Adults equivalent consumers | 3,873                          | 4,899        | 5,750        | 2.35                | 1.60        |
| Support ratio (%)           | 52.49                          | 53.34        | 59.13        | 0.16                | 1.03        |
| Demographic dividend        |                                | 1.61         | 10.86        |                     |             |

Source: Computed from tables 4.4 and 4.9

In 2005 with 2,613,000 effective workers for 4,899,000 equivalent adults consumers, the support ratio was still low at 56 per cent.

The almost negligible increase of the support ratio between 1995 and 2005 is mainly due to the limited change in the age composition, which, however, had the share of the working-age population (older than age 10 years) increase more than the total population, with 2.79 per cent per annum compared to 2.08 per cent for the total population. During the 1995 to 2005 timeframe, the overall rate of activity, the unemployment rate and the distribution by gender did not change significantly, and, therefore did impact the support ratio.

**The impact of the rapidly changing age composition and the relative decrease in youngsters is that the number of adult equivalent consumers increased from 2005 to 2015 at an annual rate of 0.46 per cent, which led to an impressive increase of the support ratio from 55.3 per cent to 61.4 per cent.**

Looking at the most recent census in 2015, a very different demographic and economic scene is set. With the fertility transition fully operating and entering in its intermediate phase, the rate of growth of the total population has fallen to 1.44 per cent from 2005 to 2015 compared to 2.06 per cent ten years earlier. The active-age population increased at a lower rate than previously, at 2.07 per cent compared to the earlier 2.66 per cent and the active population (employed and unemployed) grew substantially by 2.66 per cent (2.60 per cent excluding the unemployed population who represent a small share of the active population). The impact of the rapidly changing age composition and the relative decrease in youngsters is that the number of adult equivalent consumers increased from 2005 to 2015 at an annual rate of 0.46 per cent, which led to an impressive increase of the support ratio from 55.3 per cent to 61.4 per cent.<sup>47</sup>

According to Yves Bourdet, growth has been unevenly distributed between provinces. The New Economic Mechanism has boosted growth in the industrial sector but has marginally affected growth in the agricultural sector, thereby increasing the hiatus between the capital, urban areas and some of the rural areas at the periphery of large cities.

The 2015 census provides the same components to compute the support ratio (Table 4.9), with some slight differences to consider.<sup>48</sup>

<sup>47</sup> This figure for the 2015 support ratio is 63.8 per cent if the non-stated are included with the actively employed population.

<sup>48</sup> For the active population past, present and projected, the children younger than 15 years of age have been excluded from calculations.

**Table 4.9** Active population by age group, (age 10 years and older) for effectively employed and unemployed), equivalent adults consumers by sex (in thousands), 2015

| Age          | Population     |                | Effectively Employed |                |             | Both sexes     | Equivalent consumers |
|--------------|----------------|----------------|----------------------|----------------|-------------|----------------|----------------------|
|              | Males          | Females        | Males                | Females        | Coefficient |                |                      |
| 0-4          | 346.5          | 335.5          |                      |                | 0.4         | 682.0          | 272.8                |
| 5-9          | 345.4          | 333.8          |                      |                | 0.7         | 679.2          | 475.4                |
| 10-14        | 363.0          | 355.6          | 33.8                 | 41.2           | 0.9         | 718.6          | 646.7                |
| 15-19        | 354.4          | 344.6          | 141.9                | 165.0          | 1.0         | 699.0          | 699.0                |
| 20-24        | 325.6          | 328.4          | 247.4                | 262.2          | 1.0         | 654.0          | 654.0                |
| 25-29        | 309.0          | 307.0          | 283.6                | 278.8          | 1.0         | 616.0          | 616.0                |
| 30-34        | 250.4          | 245.9          | 236.8                | 224.0          | 1.0         | 496.3          | 496.3                |
| 35-39        | 212.5          | 207.6          | 203.7                | 187.9          | 1.0         | 420.1          | 420.1                |
| 40-44        | 170.8          | 173.1          | 164.2                | 154.1          | 1.0         | 343.9          | 343.9                |
| 45-49        | 149.7          | 146.3          | 143.3                | 127.8          | 1.0         | 296.0          | 296.0                |
| 50-54        | 127.3          | 140.1          | 119.0                | 112.6          | 1.0         | 267.4          | 267.4                |
| 55-59        | 98.6           | 99.0           | 87.9                 | 68.8           | 1.0         | 197.6          | 197.6                |
| 60-64        | 74.1           | 73.1           | 55.4                 | 38.4           | 1.0         | 147.2          | 147.2                |
| 65-69        | 47.6           | 51.3           | 29.9                 | 20.4           | 1.0         | 98.9           | 98.9                 |
| 70-74        | 32.9           | 38.5           | 14.8                 | 9.4            | 1.0         | 71.4           | 71.4                 |
| 75-74        | 21.9           | 25.2           | 13.7                 | 8.7            | 1.0         | 47.1           | 47.1                 |
| 80+          | 25.1           | 32.5           |                      |                |             | 57.6           | 0.0                  |
| <b>Total</b> | <b>3,254.8</b> | <b>3,237.5</b> | <b>1,775.4</b>       | <b>1,699.3</b> |             | <b>6,492.3</b> | <b>5,749.9</b>       |

Source: Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

As mentioned, transformations of the economy in Lao PDR played a role in the increase of the support ratio. There was a very low unemployment rate under the effects of the New Economic Mechanisms, and the booming industrial sector<sup>49</sup> moved from 11.4 per cent of the GDP in 1988 to 21.4 per cent in 1997. Tourism and hospitality became vivid symbols of the new economy and the opening of the country to the outside world. The private sector grew more than the State to lead to job creations in larger quantities.

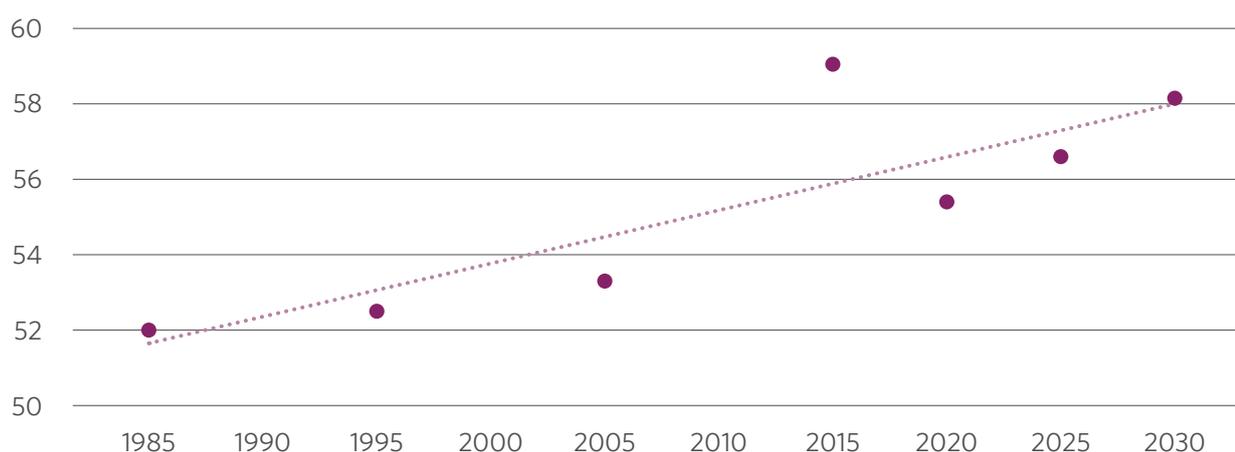
**Tourism and hospitality became vivid symbols of the new economy and the opening of the country to the outside world.**

## 4.5 Projection of the first demographic dividend in Lao PDR, 2020-2030

The changes in employment concepts in the Labour Force Survey of 2017 make it difficult to use this to determine the support ratio and, therefore, the demographic dividend generated between the 2015 census and the 2017 survey. It would be necessary to wait until the next population census planned in 2025 for sound and coherent estimates of the trends.

<sup>49</sup>The manufacturing sector, which included food, garments, cigarettes, wood products etc., was multiplied by 3.5, from Yves Bourdet, *The Economics of Transition in Laos – From Socialism to ASEAN Integration*, Cambridge University Press, 2000.



**Figure 4.1** Support ratio, observed from 1985-2015 and projected to 2020-2030

Source: Authors calculation based on projection of the active population and Lao Statistics Bureau, *Results of Population and Housing Census 2015*.

**Table 4.10** The absolute number (in thousands) and relative differences (%) by age group and sex, 2015 census results and projections

| Age          | Absolute difference |             |              | Relative difference (%) |            |            |
|--------------|---------------------|-------------|--------------|-------------------------|------------|------------|
|              | Male                | Female      | Total        | Male                    | Female     | Total      |
| 0-4          | 56.8                | 59.8        | 116.6        | 1.7                     | 1.8        | 1.7        |
| 5-9          | 27.6                | 30.4        | 58.0         | 0.8                     | 0.9        | 0.9        |
| 10-14        | -5.7                | -7.8        | -13.5        | -0.2                    | -0.2       | -0.2       |
| 15-19        | -5.0                | -0.2        | -5.2         | -0.1                    | 0.0        | -0.1       |
| 20-24        | 5.7                 | -0.2        | 5.5          | 0.2                     | 0.0        | 0.1        |
| 25-29        | -12.5               | -11.9       | -24.4        | -0.4                    | -0.4       | -0.4       |
| 30-34        | 8.2                 | 8.7         | 16.9         | 0.2                     | 0.3        | 0.3        |
| 35-39        | -0.2                | 2.2         | 2.0          | 0.0                     | 0.1        | 0.0        |
| 40-44        | 7.7                 | 3.3         | 11.0         | 0.2                     | 0.1        | 0.2        |
| 45-49        | 0.2                 | 7.6         | 7.8          | 0.0                     | 0.2        | 0.1        |
| 50-54        | -1.5                | -11.1       | -12.6        | 0.0                     | -0.3       | -0.2       |
| 55-59        | 1.9                 | 5.5         | 7.4          | 0.1                     | 0.2        | 0.1        |
| 60-64        | -0.2                | 1.7         | 1.5          | 0.0                     | 0.1        | 0.0        |
| 65-69        | 4.2                 | 3.3         | 7.5          | 0.1                     | 0.1        | 0.1        |
| 70-74        | 1.4                 | 0.0         | 1.4          | 0.0                     | 0.0        | 0.0        |
| 75-79        | 4.9                 | 7.0         | 11.9         | 0.1                     | 0.2        | 0.2        |
| 80+          | -5.8                | -6.6        | -12.4        | -0.2                    | -0.2       | -0.2       |
| <b>Total</b> | <b>87.7</b>         | <b>91.7</b> | <b>179.4</b> | <b>2.6</b>              | <b>2.8</b> | <b>2.7</b> |

Source: Authors calculation from Lao Statistics Bureau, *Results of Population and Housing Census 2015*, op. cit, p. 110 and *Lao Population Projection 2015-2045*, p. 32.

However, it is possible to refer to the population projections of this study, which cover the period to 2030.

**The number of effective workers of both sexes will increase from 3.6 million in 2020 to 4.3 million in 2030, increasing more quickly than the total population or the equivalent-consumers.**

The number of effective workers of both sexes will increase from 3.6 million in 2020 to 4.3 million in 2030, increasing more quickly than the total population or the equivalent-consumers. Therefore, the support ratio will rise from 55.4 per cent in 2020 to 56.6 per cent in 2025 and to 58.2 per cent in 2030 (Figure 4.1), putting the demographic dividend at 2.23 per cent from 2020-2025 and 2.73 per cent from 2025-2030.

Figure 4.1 shows the rise of the support ratio, observed from 1985 to 2015, and projected from 2020 to 2030. Despite the long-term rise, there is a hiatus between 2015 and 2020. This is due to the fact that the data used for the official population projections, which were used to project the support ratio, were based to slightly adjusted population figures by age group and sex (Table 4.10).

Although the overall differences, an absolute increase of 170,000 and relative increase of 2.7 per cent are not large, they do slightly impact the support ratio, though in opposite directions. Thus, there is a slight difference in the support ratio observed in 2015 and its adjusted level consecutive to the projection.

# 5

## Conclusion: Recommendations of policy measures to boost demographic dividend

### 5.1 Introduction

Taking advantage of demographic dividend requires Lao PDR to design and implement a long-term strategy for young people and women, particularly in their reproductive ages, and for the more vulnerable groups.

The difficulty will be the implementation of the long-term strategy, which is common to most countries in this phase of their demographic transition. The approaches to date have been short-term, and sectoral, with no integrated vision common to public, private and civil society stakeholders. These non-aligned approaches risk becoming barriers to the optimization of the demographic variable in the development process.

Adequate coordinated policies draw on the available, though limited, data, literature and best practices adopted to benefit from the demographic dividend for some sectors.

The difficulty will be the implementation of the long-term strategy, which is common to most countries in this phase of their demographic transition.

### 5.2 Employment

The literature on the impact of the demographic dividend shows that countries, especially in Asia, have initiated a transformation of the productive structures that has prompted multitudes of young people to join the production process. In Lao PDR, as shown by the 2017 Labour Force Survey,<sup>50</sup> job creation has remained insufficient to absorb labour market arrivals, particularly those of young graduates.

The demographic component is a key factor in employment. A downward trend in the participation rate could lead to a decrease of the support ratio, with adverse implications on savings and investment and therefore, a shortfall in terms of wealth creation. In a country where capital stock remains relatively low, promoting medium-term growth needs the optimization of the demographic dimension.

In a country where capital stock remains relatively low, promoting medium-term growth needs the optimization of the demographic dimension.

A challenging task for Lao PDR in the future will be coping with poverty and the lack of opportunities for young people, who will feel trapped without prospects of social mobility. This risk could be aggravated by maladjustment and deficits in schooling, particularly in tertiary education.

<sup>50</sup>In slight contradiction with what was found in the previous Labour Force Survey, as mentioned before.



**Integrating this marginal youth population into the labour market must be a key priority, with a view to designing a vigorous dynamic of job market that will go hand in hand with wealth creation.**

Therefore, in the coming years, it is critical to ensure the inclusion of youngsters of active age, who are neither in the labour market nor in school nor in training (NEET). The difficulty of finding their place in society may push youngsters to emigrate abroad – a loss for the human resources of the country – or worse into illegal activities such as dealing drugs, prostitution, etc. Integrating this marginal youth population into the labour market must be a key priority, with a view to designing a vigorous dynamic of job market that will go hand in hand with wealth creation.

For this, government efforts are needed to overcome the constraints and obstacles linked to job creation. These constraints mainly concern the weakness in the creation of productive and decent jobs, the shortcomings – both quantitative and qualitative – of human resources (because of the general problems and lack of professional training), and the inadequacy of the current perceptions of labour market governance with these challenges.

Jobs creation should be one of the national priorities. While this is mainly the responsibility of the Government, it also requires cooperation and coordination with all public, private and civil society stakeholders at national and local levels, along with a new approach to policies and innovative initiatives to improve the employment situation in general and that of youth in particular.

This requires prioritizing macro-economic policies to enhance investment for creating jobs. There needs to be an overhaul of public support programmes for youth employment to make them more responsive to expectations, to put in place mechanisms to improve schemes for encouraging young people to start small enterprises and to support self-employment and business creation initiatives. Also needed are mechanisms for integrating the informal sector into the formal sector by providing appropriate training and incentives for the human potential in the informal sector, along with supporting start-up projects.

The development of short qualification modules, including language and technical modules for people with experience in the informal sector, will provide the opportunity to integrate human resources into the formal sector. The increase in the region's role in promoting employment, based on regional and provincial potential and specificities, will also be helpful.

The development of entrepreneurship and the role of the social economy in creating jobs, as well as the involvement of the private sector in the supervision of young people by guaranteeing integration internships are all desirable initiatives.

Improving the incentive framework for sectors of economic activity in terms of job creation will help improve employment. Transfers and tax exemptions need to be assessed in terms of their impact on job creation, with a view on their potential to increase productivity and economic growth. This requires a coherent and accessible information system to meet the challenge of the mismatch between the supply and demand for jobs. Strengthening prospecting and anticipating the need for jobs and skills is a priority.

Finally, due consideration should be given to encouraging Lao emigrants who have accumulated capital and knowledge abroad to return to their motherland, either permanently or temporarily, to enable others in their country to benefit from their accumulated experiences. A system of tax exemptions could be envisaged. For Laotians living in neighbouring countries, commutes between their country of residence and Lao PDR should not be a difficult endeavour.

### 5.3 Women's participation

With fertility transition mainly the result improved educational attainment for women, their participation in economic activity should also increase, particularly in non-agricultural sectors, with their economic status also increasing. However, in the last labour force survey in 2017, this progress was not clear.

Important challenges remain for women's economic empowerment. Addressing these challenges requires a crosscutting approach and must be part of a global framework that takes into account the progress of institutional reforms and the legal options available. The approach must also take into account other determinants such as those related to changes in economic structure, and social values and practices, particularly the sharing of roles and responsibilities, and improved educational attainment of women. Addressing these challenges also requires valuing human capital through the promotion of women's work, the development of lifelong learning and the widening of opportunities for women's economic rise. It is necessary to promote women's economic empowerment through coordination of the actions of stakeholders and in programmes, and through economic decisions and policies in order to improve women's employment opportunities.

There needs to be an overhaul of public support programmes for youth employment to make them more responsive to expectations, to put in place mechanisms to improve schemes for encouraging young people to start small enterprises and to support self-employment and business creation initiatives.

Addressing these challenges also requires valuing human capital through the promotion of women's work, the development of lifelong learning and the widening of opportunities for women's economic rise.

The fair participation of women and men in decision-making processes ensures greater equity in access to the resources and benefits of development programmes. There needs to be the equitable participation of women in governance mechanisms, since this ensures better consideration of their needs and promotes the potential of women as managers and decision-makers.

Some women face difficulties in setting up their businesses due to the lack of an appropriate promotion framework and inadequate access to information and investment opportunities. In addition, access to and control of resources is essential for women's integration. This includes training, technology, credit, organizational networks and information.

Women's access to existing funding arrangement needs to be promoted. Promotion of the implementation of measures, with provisions relating to maternity leave, childcare, retirement and taxation, is also required.

Strengthening the role of civil society is another effective support for women's empowerment. This can include financial support for the creation of income-generating activities aimed at reducing inequality and poverty, strengthening of associations to implement reforms and promote equity in access to fair employment, and reduction of wage-distribution inequalities. Women's access to existing funding arrangement needs to be promoted. Promotion of the implementation of measures, with provisions relating to maternity leave, childcare, retirement and taxation, is also required. The role of media is essential in raising awareness of the value of equality in general, and in the administration of policies and actions in both the formal and informal sectors.

For women's empowerment, it is necessary to overcome the socio-cultural obstacles that hinder women's employment and income-generating opportunities. If these barriers are overcome, women's contribution to the creation of wealth can help in reaping the benefits of the demographic dividend.

The perceptions of gender roles and restrictive social norms in Lao PDR are largely unstudied. Multidisciplinary research should be developed to address these issues. There is a need for an information system that will take into account gender implications throughout the process of gathering and analysing statistics, the development databases and the improvement of tools to evaluate the policies intended to promote women's economic integration.

## 5.4 Education

In Lao PDR, the contribution of human capital to economic growth is still limited. This is partially due to shortcomings of the education sector, including the low average length of schooling and a continued high rate of illiteracy. With the exception of the primary school level, school enrolment rates are still low. Thus, there is a discrepancy between the supply of available skills and the expectations for a growing GDP and evolving job market.

Despite efforts, the low quality of education in Lao PDR is still a major concern. The approaches to date are sectoral, with no comprehensive vision uniting public, private and civil society stakeholders.

The education system would benefit from moving toward greater decentralization, with the role of local authorities strengthened to give more flexibility in the management of the education system.

As shown in several recent studies, pre-school education plays a strategic role in enhancing the efficiency of the education system. Quality pre-school education should be a joint commitment by the State, the family and the local community to promote equity and facilitate education and training.

In a globalized world, the acquisition of foreign languages – not only English but also other international languages including main languages in the Asian context such as Chinese, Japanese and Korean could be helpful. Language acquisition is best started at an early age, preferably at primary school level, with the aim of promoting increased linguistic integration at all levels of studies, along with promoting quality teaching of scientific and technical subjects.

Language acquisition is best started at an early age, preferably at primary school level, with the aim of promoting increased linguistic integration at all levels of studies.

Priority, at this point in time, has to go to those studies that allow young graduates to find jobs. Ideally, these jobs should also contribute to increasing the competitiveness of Lao in regional, or even global, markets. An effective system of early orientation, guiding youngsters according to their aptitudes to make the proper choice, either at universities or in professional training, should be considered.

To reduce repetition and dropout rates, a school support strategy for pupils having difficulty should be established. This support strengthening needs to include infrastructure and services, such as scholarships and affordable school transport, which would help children keep up with studies and to stay in school. These changes would call for effective partnerships between the State, local communities and civil society.



The State should set up training and qualification centres, which will be able to meet current requirements, taking into account the specificities and needs of the country and of its regions and provinces.

To improve efficiency of the system, the establishment of an evaluation system based on performance indicators not only for students but also for teachers is required. A thorough review of vocational training is also needed, so that it meets the needs of the public and private sectors, and is in line with the transformations that the industrial, agricultural and service sectors are experiencing. Therefore, the State should set up training and qualification centres, which will be able to meet current requirements, taking into account the specificities and needs of the country and of its regions and provinces.

All these measures require improved coordination and integration between the various components of the education and training systems, along with the government and private sectors concerned.

## 5.5 Health

Reducing inequalities in access to health care requires easing of both financial constraints on both the demand and supply side. There are many gaps in coverage due to geography and administrative distribution, as well as imbalances and lack of material and human resources for primary health care institutions. Overhauling the health care system could contribute to reducing the financial burden of households, especially the poorest among them.

In Lao PDR, as an outcome of investment in health care in recent years, the rates of maternal and childhood mortality have declined significantly, although they still remain high in comparison to most neighbouring countries.

Considering reproductive health, there is a strong relationship between declining fertility and economic growth. Increased participation of women in the labour market and accumulation of savings are connected to the fertility transition. In Lao PDR, as an outcome of investment in health care in recent years, the rates of maternal and childhood mortality have declined significantly, although they still remain high in comparison to most neighbouring countries. More investment is required to strengthen equity in access to health care by improving health regulations, providing community care, and identifying and targeting vulnerable populations. With life expectancy increasing, the elderly population will also increase, and health care improvements need to take this expanding age group into consideration.

Access to training, and developing and implementing an evaluation system that rewards performance are needed to strengthen health monitoring. Programmes for young people, in particularly those in schools and universities, are a priority. The health of young people should be a central, and current programmes should be adjusted to take into account the health risks facing youth.

The institutional overhaul of the health care system should include decentralization of staff management to increase performance. Other priority areas include the fight against chronic diseases, improved prevention methods and extension of mobile medical coverage.

Funding and good governance are challenges that need to be overcome to trigger the improvement of the health system.

If current trends continue, by 2050, with one out of ten person in Lao PDR will be older than 65 years of age. Limiting the negative effects of ageing, and harnessing this population to be economically active, rather than dependent, will become important. In addition, solidarity between generations will help create a more positive social environment for coping with this growing population.



Changes in life expectancy will be accompanied by a change in the needs of individuals. For example, the health system will need to address communicable diseases, characteristic of developing countries, and, long-term and more expensive treatments for non-communicable diseases. However, aging can become a resource for judicious utilization during the second demographic dividend. Therefore, the government and the private sector are called upon to design and implement public policies to prepare the proper conditions such that Lao PDR can benefit from a second demographic dividend.<sup>51</sup>

However, aging can become a resource for judicious utilization during the second demographic dividend.

In this context, evaluation practices, including multidisciplinary studies and research, should be strengthened. Systematizing public policy assessments would allow for the adjustment of on-going reforms, and the development of future reforms and their synergy. Improved evaluation requires overcoming failures in practice and methodology and closing gaps in statistical information, along with learning from successes and promoting examples good practices.

<sup>51</sup> In the later stages of the transition to low fertility, an increasing proportion of the population is made up of people who are in the process of completing or have completed their working lives. They must have accumulated capital to finance a consumption that would be higher in their old age. Individuals accumulate capital during their working lives that will be used to support them in old age. This accumulated capital also influences economic growth. The accumulation of this capital is the source of the second demographic dividend.

# Annex

**Table A2.1** Household population by age group and sex (%), and sex ratio, 2017

| Age              | Males       | Females     | Sex ratio   |
|------------------|-------------|-------------|-------------|
| 0-4 years        | 5.5         | 5.2         | 105.6       |
| 5-9 years        | 5.8         | 5.6         | 103.4       |
| 10-14 years      | 5.6         | 5.7         | 98.8        |
| 15-19 years      | 4.9         | 4.5         | 108.5       |
| 20-24 years      | 3.6         | 4.0         | 91.8        |
| 25-29 years      | 3.8         | 4.0         | 95.8        |
| 30-34 years      | 3.6         | 3.7         | 97.6        |
| 35-39 years      | 3.2         | 3.4         | 96.1        |
| 40-44 years      | 2.9         | 3.0         | 97.2        |
| 45-49 years      | 2.4         | 2.3         | 106.6       |
| 50-54 years      | 2.4         | 3.0         | 80.1        |
| 55-59 years      | 1.9         | 2.0         | 98.0        |
| 60-64 years      | 1.4         | 1.4         | 98.7        |
| 65-69 years      | 1.0         | 1.0         | 96.9        |
| 70-74 years      | 0.5         | 0.7         | 77.5        |
| 75-79 years      | 0.4         | 0.5         | 80.3        |
| 80-84 years      | 0.2         | 0.3         | 68.1        |
| 85 years or more | 0.2         | 0.3         | 69.0        |
| <b>Total</b>     | <b>49.5</b> | <b>50.5</b> | <b>98.1</b> |

Source: Lao Statistics Bureau, 2018. *Lao Social Indicator Survey II 2017, Survey Findings Report*. Vientiane, Lao PDR: Lao Statistics Bureau and UNICEF, 2018.

**Table A3.1** Total fertility rate assumptions, 2015-2030

| Variant | 2015 | 2020 | 2025 | 2030 |
|---------|------|------|------|------|
| Low     | 3.0  | 2.5  | 2.1  | 1.8  |
| Medium  | 3.0  | 2.6  | 2.3  | 2.1  |
| High    | 3.0  | 2.8  | 2.6  | 2.4  |

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

**Table A3.2** Comparison of the total projected population of Lao PDR, by Lao Statistics Bureau, the United Nations Population Division and the US Census Bureau, 2015-2030

| Year | LSB low | UN    | US Census |
|------|---------|-------|-----------|
| 2015 | 6,672   | 6,741 | 6,912     |
| 2016 | 6,786   | 6,846 | 7,019     |
| 2017 | 6,898   | 6,953 | 7,127     |
| 2018 | 7,006   | 7,061 | 7,234     |
| 2019 | 7,112   | 7,169 | 7,341     |
| 2020 | 7,214   | 7,276 | 7,447     |
| 2021 | 7,314   | 7,379 | 7,553     |
| 2022 | 7,411   | 7,481 | 7,659     |
| 2023 | 7,504   | 7,581 | 7,764     |
| 2024 | 7,594   | 7,678 | 7,868     |
| 2025 | 7,680   | 7,775 | 7,972     |
| 2026 | 7,764   | 7,869 | 8,074     |
| 2027 | 7,844   | 7,961 | 8,176     |
| 2028 | 7,922   | 8,052 | 8,276     |
| 2029 | 7,996   | 8,140 | 8,375     |
| 2030 | 8,067   | 8,226 | 8,472     |

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*, op. cit., United Nations, and US Census Bureau.

**Table A3.3** Crude birth rate, crude death rate, rate of growth, infant and childhood mortality rates

|                          | 2015-20 | 2020-25 | 2025-30 |
|--------------------------|---------|---------|---------|
| Crude birth-rate         | 21.2    | 17.8    | 15.2    |
| Crude death-rate         | 7.0     | 6.5     | 6.4     |
| Rate of natural increase | 14.2    | 11.3    | 8.8     |
| Net rate of migration    | 0.0     | 0.0     | 0.0     |
| Annual rate of growth    | 14.2    | 11.3    | 8.8     |
| Infant mortality rate    | 49.3    | 43.5    | 38.4    |
| Under 5 mortality rate   | 65.1    | 56.4    | 49.1    |

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

**Table A3.4** Population projections by age group and sex, Lao PDR, low variant, 2015-2030

| Age          | 2015           |                |                | 2020           |                |                | 2025           |                |                | 2030           |                |                |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|              | Male           | Female         | Total          |
| 0-4          | 403.3          | 395.3          | 798.6          | 384.2          | 368.0          | 752.2          | 347.4          | 332.8          | 680.2          | 313.1          | 299.7          | 612.8          |
| 5-9          | 373.0          | 364.2          | 737.2          | 397.4          | 389.6          | 787.0          | 379.7          | 363.9          | 743.6          | 344.0          | 329.8          | 673.8          |
| 10-14        | 357.3          | 347.8          | 705.1          | 371.3          | 362.7          | 734.0          | 395.8          | 388.3          | 784.1          | 378.4          | 363.0          | 741.4          |
| 15-19        | 349.4          | 344.4          | 693.8          | 355.5          | 346.4          | 701.9          | 369.7          | 361.6          | 731.3          | 394.3          | 387.4          | 781.7          |
| 20-24        | 331.3          | 328.2          | 659.5          | 346.5          | 342.5          | 689.0          | 353.1          | 344.9          | 698.0          | 367.5          | 360.3          | 727.8          |
| 25-29        | 296.5          | 295.1          | 591.6          | 328.0          | 325.7          | 653.7          | 343.6          | 340.5          | 684.1          | 350.5          | 343.2          | 693.7          |
| 30-34        | 258.6          | 254.6          | 513.2          | 293.0          | 292.4          | 585.4          | 324.7          | 323.3          | 648.0          | 340.7          | 338.4          | 679.1          |
| 35-39        | 212.3          | 209.8          | 422.1          | 254.8          | 251.6          | 506.4          | 289.3          | 289.6          | 578.9          | 321.1          | 320.7          | 641.8          |
| 40-44        | 178.5          | 176.4          | 354.9          | 208.0          | 206.5          | 414.5          | 250.3          | 248.4          | 498.7          | 284.8          | 286.4          | 571.2          |
| 45-49        | 149.9          | 153.9          | 303.8          | 173.4          | 172.7          | 346.1          | 202.7          | 202.7          | 405.4          | 244.6          | 244.4          | 489.0          |
| 50-54        | 125.8          | 129.0          | 254.8          | 143.5          | 149.1          | 292.6          | 166.6          | 168.0          | 334.6          | 195.6          | 198.0          | 393.6          |
| 55-59        | 100.5          | 104.5          | 205.0          | 117.5          | 123.2          | 240.7          | 134.9          | 143.1          | 278.0          | 157.5          | 162.0          | 319.5          |
| 60-64        | 73.9           | 74.8           | 148.7          | 90.7           | 97.3           | 188.0          | 106.9          | 115.5          | 222.4          | 123.5          | 135.2          | 258.7          |
| 65-69        | 51.8           | 54.6           | 106.4          | 63.0           | 66.8           | 129.8          | 78.1           | 87.8           | 165.9          | 93.0           | 105.3          | 198.3          |
| 70-74        | 34.3           | 38.5           | 72.8           | 40.7           | 45.5           | 86.2           | 50.2           | 56.6           | 106.8          | 63.1           | 75.5           | 138.6          |
| 75-79        | 26.8           | 32.2           | 59.0           | 23.9           | 29.0           | 52.9           | 28.9           | 35.1           | 64.0           | 36.2           | 44.6           | 80.8           |
| 80+          | 19.3           | 25.9           | 45.2           | 22.9           | 30.9           | 53.8           | 23.6           | 32.4           | 56.0           | 27.3           | 38.0           | 65.3           |
| <b>Total</b> | <b>3,342.5</b> | <b>3,329.2</b> | <b>6,671.7</b> | <b>3,614.3</b> | <b>3,599.9</b> | <b>7,214.2</b> | <b>3,845.5</b> | <b>3,834.5</b> | <b>7,680.0</b> | <b>4,035.2</b> | <b>4,031.9</b> | <b>8,067.1</b> |

| Age   | Sex ratio |       |       |       | Age          | Sex ratio    |              |              |              |
|-------|-----------|-------|-------|-------|--------------|--------------|--------------|--------------|--------------|
|       | 2015      | 2020  | 2025  | 2030  |              | 2015         | 2020         | 2025         | 2030         |
| 0-4   | 102.0     | 104.4 | 104.4 | 104.5 | 45-49        | 97.4         | 100.4        | 100.0        | 100.1        |
| 5-9   | 102.4     | 102.0 | 104.3 | 104.3 | 50-54        | 97.5         | 96.2         | 99.2         | 98.8         |
| 10-14 | 102.7     | 102.4 | 101.9 | 104.2 | 55-59        | 96.2         | 95.4         | 94.3         | 97.2         |
| 15-19 | 101.5     | 102.6 | 102.2 | 101.8 | 60-64        | 98.8         | 93.2         | 92.6         | 91.3         |
| 20-24 | 100.9     | 101.2 | 102.4 | 102.0 | 65-69        | 94.9         | 94.3         | 89.0         | 88.3         |
| 25-29 | 100.5     | 100.7 | 100.9 | 102.1 | 70-74        | 89.1         | 89.5         | 88.7         | 83.6         |
| 30-34 | 101.6     | 100.2 | 100.4 | 100.7 | 75-79        | 83.2         | 82.4         | 82.3         | 81.2         |
| 35-39 | 101.2     | 101.3 | 99.9  | 100.1 | 80+          | 74.5         | 74.1         | 72.8         | 71.8         |
| 40-44 | 101.2     | 100.7 | 100.8 | 99.4  | <b>Total</b> | <b>100.4</b> | <b>100.4</b> | <b>100.3</b> | <b>100.1</b> |

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

**Table A3.5** Age structure by large age groups, Lao PDR, 2015-2030

| Age-group    | 2015           |              | 2020           |              | 2025           |              | 2030           |              |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
|              | Number         | %            | Number         | %            | Number         | %            | Number         | %            |
| 0-14         | 2,240.9        | 33.6         | 2,273.2        | 31.5         | 2,207.9        | 28.7         | 2,028.0        | 25.1         |
| 15-64        | 4,147.4        | 62.2         | 4,618.3        | 64.0         | 5,079.4        | 66.1         | 5,556.1        | 68.9         |
| 65+          | 283.4          | 4.2          | 322.7          | 4.5          | 392.7          | 5.1          | 483.0          | 6.0          |
| <b>Total</b> | <b>6,671.7</b> | <b>100.0</b> | <b>7,214.2</b> | <b>100.0</b> | <b>7,680.0</b> | <b>100.0</b> | <b>8,067.1</b> | <b>100.0</b> |

Source: Computed from Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

**Table A3.6** Annual entries, exits and balance in the labour force, 2015-2030

|         | 2015-20 | 2020-25 | 2025-30 |
|---------|---------|---------|---------|
| Entries | 135.3   | 139.1   | 142.9   |
| Exits   | 35.4    | 42.9    | 50.0    |
| Balance | 100.0   | 96.2    | 92.9    |

Source: Lao Statistics Bureau, *Lao Population Projections 2015-2045*.

**Table A3.7** Projection of the active population by age group, sex and calendar years, 2015-2030

| Age          | 2015           | 2016           | 2017           | 2018           | 2019           | 2020           | 2021           | 2022           |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Males        |                |                |                |                |                |                |                |                |
| 15-19        | 144.5          | 143.6          | 142.7          | 141.7          | 140.8          | 139.9          | 139.5          | 139.2          |
| 20-24        | 265.6          | 266.7          | 267.7          | 268.8          | 269.8          | 270.9          | 270.6          | 270.2          |
| 25-29        | 283.2          | 289.2          | 295.2          | 301.2          | 307.2          | 313.2          | 316.2          | 319.2          |
| 30-34        | 252.7          | 259.4          | 266.1          | 272.8          | 279.5          | 286.3          | 292.5          | 298.6          |
| 35-39        | 209.1          | 217.5          | 225.9          | 234.2          | 242.6          | 251.0          | 257.8          | 264.6          |
| 40-44        | 174.8          | 180.5          | 186.3          | 192.1          | 197.9          | 203.6          | 211.9          | 220.2          |
| 45-49        | 146.3          | 150.9          | 155.5          | 160.1          | 164.7          | 169.2          | 175.0          | 180.7          |
| 50-54        | 119.6          | 123.0          | 126.4          | 129.7          | 133.1          | 136.5          | 140.9          | 145.3          |
| 55-59        | 92.7           | 95.8           | 98.9           | 102.1          | 105.2          | 108.3          | 111.5          | 114.8          |
| 60-64        | 58.0           | 60.6           | 63.3           | 65.9           | 68.6           | 71.2           | 73.7           | 76.3           |
| 65+          | 20.9           | 29.5           | 38.1           | 46.7           | 55.3           | 63.8           | 67.2           | 70.5           |
| <b>Total</b> | <b>1,767.3</b> | <b>1,816.6</b> | <b>1,866.0</b> | <b>1,915.3</b> | <b>1,964.6</b> | <b>2,013.9</b> | <b>2,056.8</b> | <b>2,099.6</b> |
| Age          | 2023           | 2024           | 2025           | 2026           | 2027           | 2028           | 2029           | 2030           |
| Males        |                |                |                |                |                |                |                |                |
| 15-19        | 138.9          | 138.6          | 138.3          | 138.7          | 139.1          | 139.5          | 139.9          | 140.3          |
| 20-24        | 269.9          | 269.6          | 269.2          | 270.0          | 270.8          | 271.7          | 272.5          | 273.3          |
| 25-29        | 322.2          | 325.2          | 328.1          | 329.5          | 330.8          | 332.1          | 333.4          | 334.7          |
| 30-34        | 304.8          | 311.0          | 317.2          | 320.4          | 323.5          | 326.6          | 329.7          | 332.9          |
| 35-39        | 271.4          | 278.2          | 285.0          | 291.2          | 297.5          | 303.8          | 310.0          | 316.3          |
| 40-44        | 228.5          | 236.8          | 245.0          | 251.8          | 258.6          | 265.3          | 272.1          | 278.8          |
| 45-49        | 186.4          | 192.1          | 197.8          | 206.0          | 214.2          | 222.4          | 230.6          | 238.7          |
| 50-54        | 149.6          | 154.0          | 158.4          | 164.0          | 169.5          | 175.0          | 180.5          | 186.0          |
| 55-59        | 118.0          | 121.2          | 124.4          | 128.5          | 132.7          | 136.9          | 141.0          | 145.2          |
| 60-64        | 78.8           | 81.4           | 83.9           | 86.5           | 89.1           | 91.7           | 94.3           | 96.9           |
| 65+          | 73.9           | 77.2           | 80.6           | 85.1           | 89.5           | 94.0           | 98.4           | 102.9          |
| <b>Total</b> | <b>2,142.4</b> | <b>2,185.3</b> | <b>2,228.1</b> | <b>2,271.7</b> | <b>2,315.3</b> | <b>2,358.9</b> | <b>2,402.5</b> | <b>2,446.1</b> |

Source: Interpolated from Lao Statistics Bureau, *Lao Population Projections 2015-2045* and Author's computation according to the assumptions presented in the text.

**Table A3.7** Projection of the active population by age group, sex and calendar years, 2015-2030 (*continued*)

| Age          | 2015           | 2016           | 2017           | 2018           | 2019           | 2020           | 2021           | 2022           |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Females      |                |                |                |                |                |                |                |                |
| 15-19        | 168.2          | 165.0          | 161.8          | 158.5          | 155.3          | 152.1          | 150.3          | 148.4          |
| 20-24        | 270.3          | 270.9          | 271.4          | 272.0          | 272.5          | 273.1          | 271.7          | 270.3          |
| 25-29        | 273.9          | 279.5          | 285.2          | 290.9          | 296.6          | 302.2          | 305.0          | 307.7          |
| 30-34        | 238.1          | 245.1          | 252.2          | 259.3          | 266.3          | 273.4          | 279.2          | 285.0          |
| 35-39        | 197.2          | 205.1          | 212.9          | 220.8          | 228.6          | 236.5          | 243.6          | 250.8          |
| 40-44        | 165.6          | 171.3          | 176.9          | 182.6          | 188.3          | 193.9          | 201.8          | 209.6          |
| 45-49        | 141.3          | 144.7          | 148.2          | 151.6          | 155.1          | 158.5          | 164.0          | 169.6          |
| 50-54        | 110.9          | 114.4          | 117.9          | 121.3          | 124.8          | 128.2          | 131.5          | 134.7          |
| 55-59        | 81.2           | 84.1           | 87.0           | 89.9           | 92.8           | 95.7           | 98.8           | 101.9          |
| 60-64        | 43.6           | 46.2           | 48.9           | 51.5           | 54.1           | 56.7           | 58.8           | 61.0           |
| 65+          | 37.0           | 38.5           | 39.9           | 41.4           | 42.9           | 44.3           | 46.9           | 49.5           |
| <b>Total</b> | <b>1,727.3</b> | <b>1,764.8</b> | <b>1,802.3</b> | <b>1,839.8</b> | <b>1,877.3</b> | <b>1,914.8</b> | <b>1,951.6</b> | <b>1,988.5</b> |
| Age          | 2023           | 2024           | 2025           | 2026           | 2027           | 2028           | 2029           | 2030           |
| Females      |                |                |                |                |                |                |                |                |
| 15-19        | 146.5          | 144.7          | 142.8          | 141.8          | 140.7          | 139.7          | 138.6          | 137.6          |
| 20-24        | 268.9          | 267.5          | 266.2          | 266.8          | 267.3          | 267.9          | 268.5          | 269.1          |
| 25-29        | 310.5          | 313.2          | 316.0          | 316.5          | 317.0          | 317.5          | 318.0          | 318.5          |
| 30-34        | 290.7          | 296.5          | 302.3          | 305.1          | 307.9          | 310.8          | 313.6          | 316.4          |
| 35-39        | 257.9          | 265.1          | 272.2          | 278.1          | 283.9          | 289.8          | 295.6          | 301.5          |
| 40-44        | 217.5          | 225.4          | 233.2          | 240.4          | 247.5          | 254.7          | 261.8          | 268.9          |
| 45-49        | 175.1          | 180.6          | 186.1          | 193.7          | 201.4          | 209.0          | 216.7          | 224.4          |
| 50-54        | 138.0          | 141.2          | 144.5          | 149.6          | 154.8          | 160.0          | 165.1          | 170.3          |
| 55-59        | 105.0          | 108.1          | 111.2          | 114.1          | 117.1          | 120.0          | 122.9          | 125.9          |
| 60-64        | 63.1           | 65.2           | 67.3           | *69.6          | 71.9           | 74.2           | 76.5           | 78.8           |
| 65+          | 52.1           | 54.7           | 57.3           | 60.8           | 64.3           | 67.9           | 71.4           | 74.9           |
| <b>Total</b> | <b>2,025.4</b> | <b>2,062.3</b> | <b>2,099.1</b> | <b>2,136.5</b> | <b>2,174.0</b> | <b>2,211.4</b> | <b>2,248.8</b> | <b>2,286.2</b> |

Source: Interpolated from Lao Statistics Bureau, *Lao Population Projections 2015-2045* and Author's computation according to the assumptions presented in the text.

**Table A3.7** Projection of the active population by age group, sex and calendar years, 2015-2030 (*continued*)

| Age          | 2015           | 2016           | 2017           | 2018           | 2019           | 2020           | 2021           | 2022           |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Both sexes   |                |                |                |                |                |                |                |                |
| 15-19        | 312.7          | 308.6          | 304.4          | 300.3          | 296.1          | 292.0          | 289.8          | 287.6          |
| 20-24        | 535.9          | 537.5          | 539.1          | 540.7          | 542.4          | 544.0          | 542.2          | 540.5          |
| 25-29        | 557.0          | 568.7          | 580.4          | 592.1          | 603.8          | 615.5          | 621.2          | 626.9          |
| 30-34        | 490.7          | 504.5          | 518.3          | 532.1          | 545.9          | 559.7          | 571.6          | 583.6          |
| 35-39        | 406.3          | 422.6          | 438.8          | 455.0          | 471.3          | 487.5          | 501.4          | 515.4          |
| 40-44        | 340.4          | 351.8          | 363.2          | 374.7          | 386.1          | 397.5          | 413.7          | 429.8          |
| 45-49        | 287.6          | 295.6          | 303.7          | 311.7          | 319.7          | 327.8          | 339.0          | 350.2          |
| 50-54        | 230.6          | 237.4          | 244.2          | 251.0          | 257.9          | 264.7          | 272.3          | 280.0          |
| 55-59        | 173.9          | 179.9          | 185.9          | 192.0          | 198.0          | 204.1          | 210.4          | 216.7          |
| 60-64        | 101.6          | 106.9          | 112.1          | 117.4          | 122.7          | 127.9          | 132.6          | 137.3          |
| 65+          | 57.9           | 68.0           | 78.0           | 88.1           | 98.1           | 108.2          | 114.1          | 120.1          |
| <b>Total</b> | <b>3,494.6</b> | <b>3,581.5</b> | <b>3,668.3</b> | <b>3,755.1</b> | <b>3,841.9</b> | <b>3,928.7</b> | <b>4,008.4</b> | <b>4,088.1</b> |
| Age          | 2023           | 2024           | 2025           | 2026           | 2027           | 2028           | 2029           | 2030           |
| Both sexes   |                |                |                |                |                |                |                |                |
| 15-19        | 285.5          | 283.3          | 281.1          | 280.5          | 279.8          | 279.2          | 278.5          | 277.9          |
| 20-24        | 538.8          | 537.1          | 535.4          | 536.8          | 538.2          | 539.6          | 541.0          | 542.4          |
| 25-29        | 632.7          | 638.4          | 644.1          | 645.9          | 647.8          | 649.6          | 651.4          | 653.2          |
| 30-34        | 595.6          | 607.5          | 619.5          | 625.5          | 631.4          | 637.4          | 643.3          | 649.3          |
| 35-39        | 529.3          | 543.2          | 557.2          | 569.3          | 581.4          | 593.5          | 605.6          | 617.7          |
| 40-44        | 446.0          | 462.1          | 478.3          | 492.2          | 506.1          | 520.0          | 533.9          | 547.7          |
| 45-49        | 361.5          | 372.7          | 383.9          | 399.7          | 415.6          | 431.4          | 447.3          | 463.1          |
| 50-54        | 287.6          | 295.3          | 302.9          | 313.6          | 324.3          | 334.9          | 345.6          | 356.3          |
| 55-59        | 223.0          | 229.3          | 235.6          | 242.7          | 249.8          | 256.9          | 264.0          | 271.1          |
| 60-64        | 141.9          | 146.6          | 151.3          | 156.2          | 161.1          | 166.0          | 170.9          | 175.8          |
| 65+          | 126.0          | 132.0          | 137.9          | 145.9          | 153.9          | 161.8          | 169.8          | 177.8          |
| <b>Total</b> | <b>4,167.8</b> | <b>4,247.5</b> | <b>4,327.2</b> | <b>4,408.2</b> | <b>4,489.2</b> | <b>4,570.2</b> | <b>4,651.3</b> | <b>4,732.3</b> |

Source: Interpolated from Lao Statistics Bureau, *Lao Population Projections 2015-2045* and Author's computation according to the assumptions presented in the text.

**Table A3.8** Projection of unemployment, assuming constant unemployment rate, by age group and sex, 2015-2030

| Age          | 2015       | 2016       | 2017       | 2018       | 2019       | 2020       | 2021       | 2022       |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Males        |            |            |            |            |            |            |            |            |
| 15-19        | 23         | 22         | 22         | 22         | 22         | 22         | 22         | 22         |
| 20-24        | 42         | 43         | 43         | 43         | 43         | 43         | 43         | 43         |
| 25-29        | 23         | 23         | 24         | 24         | 25         | 25         | 25         | 26         |
| 30-34        | 12         | 12         | 13         | 13         | 13         | 13         | 14         | 14         |
| 35-39        | 13         | 14         | 14         | 15         | 15         | 16         | 16         | 16         |
| 40-44        | 10         | 10         | 10         | 11         | 11         | 11         | 12         | 12         |
| 45-49        | 8          | 8          | 8          | 9          | 9          | 9          | 9          | 10         |
| 50-54        | 5          | 5          | 5          | 5          | 5          | 5          | 5          | 5          |
| 55-59        | 8          | 8          | 8          | 9          | 9          | 9          | 10         | 10         |
| 60-64        | 10         | 10         | 10         | 11         | 11         | 12         | 12         | 13         |
| 65+          | 3          | 5          | 6          | 8          | 9          | 11         | 11         | 12         |
| <b>Total</b> | <b>156</b> | <b>160</b> | <b>164</b> | <b>168</b> | <b>172</b> | <b>176</b> | <b>179</b> | <b>183</b> |
| Age          | 2023       | 2024       | 2025       | 2026       | 2027       | 2028       | 2029       | 2030       |
| Males        |            |            |            |            |            |            |            |            |
| 15-19        | 22         | 22         | 22         | 22         | 22         | 22         | 22         | 22         |
| 20-24        | 43         | 43         | 43         | 43         | 43         | 43         | 44         | 44         |
| 25-29        | 26         | 26         | 26         | 26         | 26         | 27         | 27         | 27         |
| 30-34        | 14         | 15         | 15         | 15         | 15         | 15         | 16         | 16         |
| 35-39        | 17         | 17         | 18         | 18         | 19         | 19         | 19         | 20         |
| 40-44        | 13         | 13         | 13         | 14         | 14         | 15         | 15         | 15         |
| 45-49        | 10         | 10         | 11         | 11         | 12         | 12         | 12         | 13         |
| 50-54        | 6          | 6          | 6          | 6          | 6          | 7          | 7          | 7          |
| 55-59        | 10         | 10         | 11         | 11         | 11         | 12         | 12         | 12         |
| 60-64        | 13         | 13         | 14         | 14         | 15         | 15         | 16         | 16         |
| 65+          | 12         | 13         | 13         | 14         | 15         | 16         | 16         | 17         |
| <b>Total</b> | <b>186</b> | <b>189</b> | <b>192</b> | <b>195</b> | <b>198</b> | <b>202</b> | <b>205</b> | <b>209</b> |

Source: Interpolated from table 3.15, rates of unemployment by age-group and sex constant

**Table A3.8** Projection of unemployment, assuming constant unemployment rate, by age group and sex, 2015-2030 (*continued*)

| Age          | 2015       | 2016       | 2017       | 2018       | 2019       | 2020       | 2021       | 2022       |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Females      |            |            |            |            |            |            |            |            |
| 15-19        | 27         | 26         | 26         | 25         | 25         | 24         | 24         | 23         |
| 20-24        | 44         | 44         | 44         | 44         | 44         | 45         | 44         | 44         |
| 25-29        | 18         | 18         | 19         | 19         | 20         | 20         | 20         | 20         |
| 30-34        | 17         | 17         | 18         | 18         | 19         | 19         | 20         | 20         |
| 35-39        | 13         | 14         | 14         | 15         | 15         | 16         | 16         | 17         |
| 40-44        | 10         | 10         | 10         | 11         | 11         | 11         | 12         | 12         |
| 45-49        | 10         | 10         | 10         | 10         | 11         | 11         | 11         | 12         |
| 50-54        | 8          | 9          | 9          | 9          | 10         | 10         | 10         | 10         |
| 55-59        | 11         | 11         | 12         | 12         | 12         | 13         | 13         | 13         |
| 60-64        | 5          | 5          | 5          | 5          | 6          | 6          | 6          | 6          |
| 65+          | 4          | 4          | 4          | 4          | 4          | 5          | 5          | 5          |
| <b>Total</b> | <b>166</b> | <b>168</b> | <b>171</b> | <b>173</b> | <b>176</b> | <b>179</b> | <b>181</b> | <b>184</b> |
| Age          | 2023       | 2024       | 2025       | 2026       | 2027       | 2028       | 2029       | 2030       |
| Females      |            |            |            |            |            |            |            |            |
| 15-19        | 23         | 23         | 23         | 22         | 22         | 22         | 22         | 22         |
| 20-24        | 44         | 44         | 43         | 44         | 44         | 44         | 44         | 44         |
| 25-29        | 21         | 21         | 21         | 21         | 21         | 21         | 21         | 21         |
| 30-34        | 21         | 21         | 22         | 22         | 22         | 22         | 22         | 23         |
| 35-39        | 17         | 17         | 18         | 18         | 19         | 19         | 19         | 20         |
| 40-44        | 13         | 13         | 14         | 14         | 14         | 15         | 15         | 16         |
| 45-49        | 12         | 12         | 13         | 13         | 14         | 14         | 15         | 15         |
| 50-54        | 11         | 11         | 11         | 11         | 12         | 12         | 13         | 13         |
| 55-59        | 14         | 14         | 15         | 15         | 15         | 16         | 16         | 17         |
| 60-64        | 7          | 7          | 7          | 7          | 7          | 8          | 8          | 8          |
| 65+          | 5          | 6          | 6          | 6          | 7          | 7          | 7          | 8          |
| <b>Total</b> | <b>186</b> | <b>189</b> | <b>191</b> | <b>194</b> | <b>197</b> | <b>200</b> | <b>203</b> | <b>206</b> |

Source: Interpolated from table 3.15, rates of unemployment by age-group and sex constant

**Table A3.8** Projection of unemployment, assuming constant unemployment rate, by age group and sex, 2015-2030 (*continued*)

| Age              | 2015       | 2016       | 2017       | 2018       | 2019       | 2020       | 2021       | 2022       |
|------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Both sexes       |            |            |            |            |            |            |            |            |
| 15-19            | 49         | 49         | 48         | 47         | 47         | 46         | 46         | 45         |
| 20-24            | 87         | 87         | 87         | 87         | 88         | 88         | 88         | 87         |
| 25-29            | 41         | 42         | 42         | 43         | 44         | 45         | 45         | 46         |
| 30-34            | 29         | 30         | 30         | 31         | 32         | 33         | 34         | 34         |
| 35-39            | 26         | 27         | 28         | 29         | 30         | 31         | 32         | 33         |
| 40-44            | 19         | 20         | 21         | 21         | 22         | 22         | 23         | 24         |
| 45-49            | 18         | 18         | 18         | 19         | 19         | 20         | 21         | 21         |
| 50-54            | 13         | 13         | 14         | 14         | 15         | 15         | 15         | 16         |
| 55-59            | 19         | 19         | 20         | 21         | 21         | 22         | 23         | 23         |
| 60-64            | 14         | 15         | 16         | 16         | 17         | 18         | 18         | 19         |
| 65+              | 7          | 9          | 10         | 12         | 14         | 15         | 16         | 17         |
| <b>Total</b>     | <b>321</b> | <b>328</b> | <b>335</b> | <b>342</b> | <b>348</b> | <b>355</b> | <b>361</b> | <b>366</b> |
| Unempl. Rate (%) | 9.2        | 9.2        | 9.1        | 9.1        | 9.1        | 9.0        | 9.0        | 9.0        |
| Age              | 2023       | 2024       | 2025       | 2026       | 2027       | 2028       | 2029       | 2030       |
| Both sexes       |            |            |            |            |            |            |            |            |
| 15-19            | 45         | 45         | 44         | 44         | 44         | 44         | 44         | 44         |
| 20-24            | 87         | 87         | 86         | 87         | 87         | 87         | 87         | 88         |
| 25-29            | 46         | 47         | 47         | 47         | 47         | 48         | 48         | 48         |
| 30-34            | 35         | 36         | 36         | 37         | 37         | 38         | 38         | 38         |
| 35-39            | 34         | 35         | 36         | 36         | 37         | 38         | 39         | 40         |
| 40-44            | 25         | 26         | 27         | 28         | 29         | 29         | 30         | 31         |
| 45-49            | 22         | 23         | 23         | 24         | 25         | 26         | 27         | 28         |
| 50-54            | 16         | 17         | 17         | 18         | 18         | 19         | 19         | 20         |
| 55-59            | 24         | 25         | 25         | 26         | 27         | 28         | 28         | 29         |
| 60-64            | 20         | 20         | 21         | 22         | 22         | 23         | 24         | 24         |
| 65+              | 18         | 19         | 19         | 20         | 22         | 23         | 24         | 25         |
| <b>Total</b>     | <b>372</b> | <b>377</b> | <b>383</b> | <b>389</b> | <b>395</b> | <b>402</b> | <b>408</b> | <b>414</b> |
| Unempl. Rate (%) | 8.9        | 8.9        | 8.8        | 8.8        | 8.8        | 8.8        | 8.8        | 8.8        |

Source: Interpolated from table 3.15, rates of unemployment by age-group and sex constant

**Table A3.9** Projection of school age population by age group of level of education, sex and calendar year, low variant, 2015-2030

| Level          | 2015           | 2016           | 2017           | 2018           | 2019           | 2020           | 2021           | 2022           |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Total</b>   |                |                |                |                |                |                |                |                |
| Pre primary    | 467.4          | 473.9          | 474.1          | 474.5          | 470.9          | 465.0          | 456.2          | 448.4          |
| Primary        | 728.8          | 736.3          | 749.1          | 760.5          | 770.6          | 779.1          | 786.2          | 782.9          |
| Secondary      | 981.0          | 983.7          | 987.3          | 992.3          | 998.8          | 1,006.9        | 1,016.3        | 1,031.5        |
| Tertiary       | 677.4          | 683.2          | 687.7          | 691.1          | 693.3          | 694.7          | 695.7          | 697.2          |
| <b>Total</b>   | <b>2,854.6</b> | <b>2,877.1</b> | <b>2,898.2</b> | <b>2,918.4</b> | <b>2,933.6</b> | <b>2,945.6</b> | <b>2,954.4</b> | <b>2,960.0</b> |
| <b>Males</b>   |                |                |                |                |                |                |                |                |
| Pre primary    |                |                |                |                |                |                |                |                |
| Primary        | 369.0          | 369.0          | 378.8          | 384.4          | 389.3          | 393.5          | 397.0          | 396.2          |
| Secondary      | 495.9          | 495.9          | 499.9          | 502.6          | 505.9          | 509.8          | 514.3          | 521.7          |
| Tertiary       | 340.5          | 343.5          | 345.9          | 347.8          | 349.3          | 350.4          | 351.5          | 352.6          |
| <b>Total</b>   | <b>1,441.6</b> | <b>1,447.7</b> | <b>1,464.0</b> | <b>1,474.4</b> | <b>1,483.1</b> | <b>1,490.3</b> | <b>1,495.7</b> | <b>1,499.4</b> |
| <b>Females</b> |                |                |                |                |                |                |                |                |
| Pre primary    | 231.2          | 234.6          | 234.7          | 234.8          | 232.2          | 228.4          | 223.2          | 219.4          |
| Primary        | 359.9          | 367.4          | 370.3          | 376.2          | 381.3          | 385.6          | 389.2          | 386.7          |
| Secondary      | 485.1          | 487.7          | 487.4          | 489.7          | 493.0          | 497.1          | 502.0          | 509.9          |
| Tertiary       | 336.9          | 339.7          | 341.8          | 343.3          | 344.0          | 344.2          | 344.3          | 344.6          |
| <b>Total</b>   | <b>1,413.0</b> | <b>1,429.4</b> | <b>1,434.2</b> | <b>1,444.0</b> | <b>1,450.4</b> | <b>1,455.3</b> | <b>1,458.7</b> | <b>1,460.5</b> |

Source: Calculation from Lao Statistical Bureau, *Lao Population Projections*, op. cit.

**Table A3.9** Projection of school age population by age group of level of education, sex and calendar year, low variant, 2015-2030 (*continued*)

| Level          | 2023           | 2024           | 2025           | 2026           | 2027           | 2028           | 2029           | 2030           |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Total</b>   |                |                |                |                |                |                |                |                |
| Pre primary    | 439.6          | 430.9          | 422.5          | 414.6          | 405.9          | 396.6          | 388.0          | 380.2          |
| Primary        | 777.3          | 769.0          | 757.8          | 743.0          | 729.6          | 715.9          | 701.8          | 687.6          |
| Secondary      | 1,045.8        | 1,058.8        | 1,070.6        | 1,081.1        | 1,086.2        | 1,087.4        | 1,079.4        | 1,068.5        |
| Tertiary       | 699.6          | 703.3          | 708.4          | 714.5          | 721.5          | 729.2          | 742.2          | 753.8          |
| <b>Total</b>   | <b>2,962.2</b> | <b>2,962.1</b> | <b>2,959.2</b> | <b>2,953.2</b> | <b>2,943.3</b> | <b>2,929.1</b> | <b>2,911.4</b> | <b>2,890.1</b> |
| <b>Males</b>   |                |                |                |                |                |                |                |                |
| Pre primary    | 224.5          | 220.0          | 215.7          | 211.7          | 207.3          | 202.5          | 198.1          | 194.2          |
| Primary        | 394.2          | 390.9          | 386.0          | 379.3          | 372.5          | 365.5          | 358.3          | 351.0          |
| Secondary      | 528.6          | 534.9          | 540.6          | 545.8          | 549.1          | 550.5          | 547.3          | 542.6          |
| Tertiary       | 354.1          | 356.0          | 358.5          | 361.4          | 364.7          | 368.4          | 374.7          | 380.4          |
| <b>Total</b>   | <b>1,501.3</b> | <b>1,501.9</b> | <b>1,500.9</b> | <b>1,498.3</b> | <b>1,493.7</b> | <b>1,486.9</b> | <b>1,478.5</b> | <b>1,468.2</b> |
| <b>Females</b> |                |                |                |                |                |                |                |                |
| Pre primary    | 215.1          | 210.9          | 206.8          | 202.9          | 198.6          | 194.1          | 189.8          | 186.0          |
| Primary        | 383.1          | 378.2          | 371.8          | 363.6          | 357.1          | 350.4          | 343.6          | 336.6          |
| Secondary      | 517.2          | 523.9          | 529.9          | 535.3          | 537.1          | 536.9          | 532.1          | 525.9          |
| Tertiary       | 345.5          | 347.3          | 349.9          | 353.1          | 356.8          | 360.8          | 367.5          | 373.4          |
| <b>Total</b>   | <b>1,460.9</b> | <b>1,460.2</b> | <b>1,458.3</b> | <b>1,455.0</b> | <b>1,449.6</b> | <b>1,442.2</b> | <b>1,433.0</b> | <b>1,421.9</b> |

Source: Calculation from Lao Statistical Bureau, *Lao Population Projections*, op. cit.

**Table A3.10** Net enrolment ratios by level of education and sex, 2009-2018

| Level          | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Total</b>   |       |       |       |       |       |       |       |       |       |       |
| Pre primary    | 17.90 | 19.94 | 21.49 | 24.44 | 27.93 | 31.53 | 34.67 | 39.50 | 42.98 | 46.46 |
| Primary        | 89.98 | 94.54 | 94.33 | 94.32 | 96.24 | 96.54 | 94.89 | 94.00 | 92.49 | 91.47 |
| Secondary      | 38.11 | 39.97 | 40.66 | 43.58 | 47.07 | 52.32 | 55.82 | 58.73 | 60.13 | 60.01 |
| Tertiary       | 16.39 | 16.65 | 17.81 | 17.67 | 19.02 | 18.37 | 18.17 | 17.26 | 15.74 | 14.97 |
| <b>Males</b>   |       |       |       |       |       |       |       |       |       |       |
| Pre primary    | 17.57 | 19.66 | 20.98 | 24.01 | 27.53 | 31.00 | 34.01 | 38.92 | 43.58 | 45.88 |
| Primary        | 91.97 | 96.52 | 95.78 | 95.78 | 97.54 | 97.65 | 95.74 | 95.04 | 93.22 | 92.26 |
| Secondary      | 40.54 | 42.19 | 42.86 | 45.57 | 48.63 | 53.54 | 56.81 | 59.61 | 60.94 | 60.65 |
| Tertiary       | 18.31 | 18.89 | 20.58 | 19.43 | 20.31 | 19.08 | 18.66 | 17.35 | 15.44 | 14.43 |
| <b>Females</b> |       |       |       |       |       |       |       |       |       |       |
| Pre primary    | 18.25 | 20.23 | 22.03 | 24.89 | 28.35 | 32.08 | 35.37 | 40.09 | 42.40 | 47.07 |
| Primary        | 91.97 | 96.52 | 95.78 | 95.78 | 97.54 | 97.65 | 95.74 | 95.04 | 93.22 | 92.26 |
| Secondary      | 35.65 | 37.71 | 38.42 | 41.56 | 45.48 | 51.07 | 54.81 | 57.83 | 59.30 | 59.36 |
| Tertiary       | 14.45 | 14.38 | 14.99 | 15.88 | 17.71 | 17.65 | 17.67 | 17.17 | 16.05 | 15.52 |

Source: UNESCO UIS, *Lao People's Democratic Republic*, <http://uis.unesco.org/country/LA>, consulted on 6 November, 2019, taken from official sources.

**Table A3.11** Projection of school enrolments by level of education and sex, and annual rates of growth, 2019-2030

| Level                            | 2019      | 2020  | 2021  | 2022  | 2023  | 2024  | 2025  | 2026  | 2027   | 2028   | 2029      | 2030   |
|----------------------------------|-----------|-------|-------|-------|-------|-------|-------|-------|--------|--------|-----------|--------|
| <b>Both sexes</b>                |           |       |       |       |       |       |       |       |        |        |           |        |
| Pre primary                      | 242.0     | 264.2 | 286.7 | 311.7 | 337.9 | 366.4 | 397.3 | 393.8 | 389.7  | 384.7  | 380.2     | 380.2  |
| Primary                          | 708.5     | 720.1 | 730.4 | 731.1 | 729.7 | 725.7 | 718.8 | 708.4 | 699.3  | 701.6  | 694.8     | 687.6  |
| Secondary                        | 629.6     | 666.7 | 706.9 | 753.7 | 802.7 | 853.7 | 906.7 | 961.8 | 1015.1 | 1067.5 | 1079.4    | 1068.5 |
| Tertiary                         | 107.6     | 111.8 | 116.1 | 120.7 | 125.6 | 130.9 | 136.7 | 143.0 | 149.8  | 157.0  | 165.7     | 174.5  |
| <b>Males</b>                     |           |       |       |       |       |       |       |       |        |        |           |        |
| Pre primary                      | 119.6     | 131.1 | 142.8 | 155.2 | 168.3 | 182.4 | 197.8 | 196.1 | 194.0  | 198.5  | 196.2     | 194.2  |
| Primary                          | 364.4     | 370.2 | 375.4 | 376.6 | 376.7 | 375.5 | 372.7 | 368.2 | 363.4  | 364.6  | 358.3     | 351.0  |
| Secondary                        | 327.5     | 346.7 | 367.4 | 391.5 | 416.6 | 442.9 | 470.3 | 498.7 | 527.1  | 550.5  | 547.3     | 542.6  |
| Tertiary                         | 54.8      | 57.0  | 59.3  | 61.7  | 64.3  | 67.0  | 70.0  | 73.1  | 76.6   | 80.2   | 84.6      | 89.0   |
| <b>Females</b>                   |           |       |       |       |       |       |       |       |        |        |           |        |
| Pre primary                      | 122.4     | 133.2 | 144.0 | 156.5 | 169.7 | 184.0 | 199.5 | 197.8 | 195.7  | 186.2  | 184.1     | 186.0  |
| Primary                          | 344.1     | 349.9 | 355.0 | 354.5 | 353.0 | 350.2 | 346.0 | 340.2 | 335.9  | 337.0  | 336.5     | 336.6  |
| Secondary                        | 302.1     | 320.0 | 339.5 | 362.3 | 386.0 | 410.8 | 436.5 | 463.1 | 488.1  | 517.0  | 532.1     | 525.9  |
| Tertiary                         | 52.8      | 54.8  | 56.8  | 59.0  | 61.3  | 63.9  | 66.8  | 69.9  | 73.2   | 76.8   | 81.1      | 85.5   |
| <b>Annual rate of growth (%)</b> |           |       |       |       |       |       |       |       |        |        |           |        |
| Level                            | 2019-2020 | 2020  | 2021  | 2022  | 2023  | 2024  | 2025  | 2026  | 2027   | 2028   | 2029-2030 | 2030   |
| <b>Both sexes</b>                |           |       |       |       |       |       |       |       |        |        |           |        |
| Pre primary                      | 9.21      | 8.52  | 8.70  | 8.42  | 8.42  | 8.45  | -0.88 | -1.06 | -1.28  | -1.16  | 0.00      | 3.01   |
| Primary                          | 1.64      | 1.43  | 0.10  | -0.20 | -0.55 | -0.95 | -1.44 | -1.29 | 0.32   | -0.96  | -1.04     | -0.20  |
| Secondary                        | 5.89      | 6.03  | 6.62  | 6.50  | 6.36  | 6.21  | 6.08  | 5.54  | 5.16   | 1.12   | -1.01     | 3.53   |
| Tertiary                         | 3.90      | 3.85  | 3.92  | 4.06  | 4.25  | 4.44  | 4.60  | 4.72  | 4.81   | 5.54   | 5.32      | 3.22   |
| <b>Males</b>                     |           |       |       |       |       |       |       |       |        |        |           |        |
| Pre primary                      | 9.61      | 8.93  | 8.70  | 8.41  | 8.40  | 8.44  | -0.88 | -1.05 | 2.31   | -1.16  | -1.00     | 3.23   |
| Primary                          | 1.60      | 1.40  | 0.32  | 0.02  | -0.32 | -0.73 | -1.22 | -1.29 | 0.32   | -1.73  | -2.03     | -0.25  |
| Secondary                        | 5.86      | 5.98  | 6.55  | 6.43  | 6.31  | 6.17  | 6.05  | 5.69  | 4.44   | -0.57  | -0.85     | 3.37   |
| Tertiary                         | 4.04      | 4.00  | 4.04  | 4.14  | 4.27  | 4.41  | 4.54  | 4.65  | 4.75   | 5.47   | 5.27      | 3.23   |
| <b>Females</b>                   |           |       |       |       |       |       |       |       |        |        |           |        |
| Pre primary                      | 8.81      | 8.11  | 8.70  | 8.42  | 8.43  | 8.46  | -0.88 | -1.07 | -4.83  | -1.16  | 1.07      | 2.79   |
| Primary                          | 1.67      | 1.46  | -0.14 | -0.43 | -0.78 | -1.19 | -1.68 | -1.28 | 0.33   | -0.12  | 0.02      | -0.15  |
| Secondary                        | 5.93      | 6.08  | 6.70  | 6.56  | 6.41  | 6.25  | 6.11  | 5.39  | 5.93   | 2.93   | -1.17     | 3.69   |
| Tertiary                         | 3.76      | 3.70  | 3.79  | 3.98  | 4.23  | 4.47  | 4.66  | 4.79  | 4.86   | 5.61   | 5.37      | 3.21   |

Source: Authors calculation from Lao Statistics Bureau, *Lao Population projections...*, op. cit.

**Table A3.12** Out-of-school children and adolescents, by sex, 2009-2018

| Sex                | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016 | 2017  | 2018  |
|--------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| <b>Children</b>    |       |       |       |       |       |       |       |      |       |       |
| Both sexes         | 75.0  | 40.0  | 41.6  | 41.4  | 27.5  | 25.4  | 38.1  | 45.2 | 57.3  | 65.4  |
| Males              | 30.4  | 12.8  | 15.7  | 15.6  | 9.1   | 8.7   | 16.1  | 19.0 | 26.3  | 30.2  |
| Females            | 44.6  | 27.2  | 25.9  | 25.8  | 18.4  | 16.7  | 22.0  | 26.2 | 31.0  | 35.2  |
| <b>Adolescents</b> |       |       |       |       |       |       |       |      |       |       |
| Both sexes         | 111.2 | 175.8 | 170.5 | 150.6 | 135.8 | 112.7 | 107.1 | 132  | 128.2 | 145.5 |
| Males              | 45.4  | 75.0  | 74.7  | 66.6  | 60.9  | 51.2  | 50.4  | 64.5 | 62.8  | 72.5  |
| Females            | 65.8  | 100.8 | 95.8  | 84.0  | 74.9  | 61.5  | 56.7  | 67.5 | 65.4  | 73.0  |

Source: UNESCO UIS, *Lao People's Democratic Republic*, <http://uis.unesco.org/country/LA>, op. cit.

**Table A3.13** Recent trends of pupil/students to teacher ratios, 2004-2018

| Year | Pre primary | Primary | Secondary | Tertiary |
|------|-------------|---------|-----------|----------|
| 2004 |             | 31.4    |           |          |
| 2005 |             | 31.5    |           |          |
| 2006 |             | 31.0    |           |          |
| 2007 |             | 30.1    |           |          |
| 2008 |             | 30.5    |           |          |
| 2009 |             | 29.2    |           |          |
| 2010 |             | 28.8    |           |          |
| 2011 |             | 26.8    |           |          |
| 2012 |             | 27.4    |           |          |
| 2013 |             | 25.6    | 18.6      | 14.1     |
| 2014 | 19.2        | 25.2    | 19.0      | 11.9     |
| 2015 | 18.7        | 24.2    | 19.3      | 12.8     |
| 2016 | 18.3        | 23.0    | 19.4      | 11.9     |
| 2017 | 18.2        | 22.3    | 20.0      | 12.7     |
| 2018 | 18.2        | 22.3    | 20.2      | 11.1     |

Source: Unesco, [http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT\\_DS](http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS)

**Table A3.14** Projection of pupil/students to teacher ratios by level of education, 2019-2030

| Level       | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Pre primary | 18.0 | 17.8 | 17.7 | 17.5 | 17.3 | 17.0 | 17.0 | 16.8 | 16.6 | 16.5 | 16.3 | 16.1 |
| Primary     | 21.9 | 21.4 | 21.0 | 20.6 | 20.2 | 19.8 | 19.4 | 19.0 | 18.6 | 18.2 | 17.9 | 17.5 |
| Secondary   | 20.2 | 20.2 | 20.2 | 20.2 | 20.2 | 20.2 | 20.2 | 20.2 | 20.2 | 20.2 | 20.2 | 20.2 |
| Tertiary    | 11.0 | 10.9 | 10.8 | 10.7 | 10.6 | 10.5 | 10.3 | 10.2 | 10.1 | 10.0 | 9.9  | 9.8  |

Source: Author's calculation according to orientated trends

**Table A3.15** Projections of the numbers of teachers by level of education and rate of growth, 2019-2030

| Level                     | 2019        | 2020        | 2021        | 2022         | 2023         | 2024         | 2025         | 2026         | 2027         | 2028         | 2029         | 2030         |
|---------------------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Pre primary               | 13.4        | 14.8        | 16.2        | 17.8         | 19.5         | 21.6         | 23.4         | 23.4         | 23.5         | 23.3         | 23.3         | 23.6         |
| Primary                   | 32.4        | 33.6        | 34.8        | 35.5         | 36.1         | 36.7         | 37.0         | 37.3         | 37.6         | 38.5         | 38.8         | 39.3         |
| Secondary                 | 31.2        | 33.0        | 35.0        | 37.3         | 39.7         | 42.3         | 44.9         | 47.6         | 50.3         | 52.8         | 53.4         | 52.9         |
| Tertiary                  | 9.8         | 10.3        | 10.8        | 11.3         | 11.8         | 12.5         | 13.3         | 14.0         | 14.8         | 15.7         | 16.7         | 17.8         |
| <b>Total</b>              | <b>86.7</b> | <b>91.8</b> | <b>96.7</b> | <b>101.9</b> | <b>107.2</b> | <b>112.9</b> | <b>118.6</b> | <b>122.4</b> | <b>126.2</b> | <b>130.4</b> | <b>132.3</b> | <b>133.6</b> |
| Annual rate of growth (%) |             |             |             |              |              |              |              |              |              |              |              |              |
| Level                     | 2019-2020   | 2020        | 2021        | 2022         | 2023         | 2024         | 2025         | 2026         | 2027         | 2028         | 2029-2030    | 2030         |
| Pre primary               | 10.4        | 9.1         | 9.9         | 9.7          | 10.3         | 8.4          | 0.3          | 0.1          | -0.7         | 0.1          | 1.2          | 5.1          |
| Primary                   | 4.0         | 3.4         | 2.0         | 1.8          | 1.5          | 1.1          | 0.6          | 0.8          | 2.5          | 0.7          | 1.2          | 1.8          |
| Secondary                 | 5.9         | 6.0         | 6.6         | 6.5          | 6.4          | 6.2          | 6.1          | 5.5          | 5.2          | 1.1          | -1.0         | 4.8          |
| Tertiary                  | 4.9         | 4.8         | 4.9         | 5.0          | 5.2          | 6.5          | 5.6          | 5.8          | 5.9          | 6.6          | 6.4          | 5.4          |
| <b>Total</b>              | <b>5.8</b>  | <b>5.4</b>  | <b>5.3</b>  | <b>5.2</b>   | <b>5.3</b>   | <b>5.0</b>   | <b>3.2</b>   | <b>3.1</b>   | <b>3.4</b>   | <b>1.5</b>   | <b>1.0</b>   | <b>3.9</b>   |

Source: Author's calculation according to orientated trends

**Table A3.16** Human resources for health, 2006-2012 and 2017

| Indicator                                | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2017  |
|--|-------|-------|-------|-------|-------|-------|-------|-------|
| Medical doctors                          | 1,318 | 1,341 | 1,375 | 1,410 | 1,448 | 1,511 | 1,588 | 1,582 |
| New medical graduates                    | 82    | 65    | 100   | 171   | 202   | 160   | 236   |       |
| Nurses                                   | 4,845 | 4,942 | 4,797 | 4,873 | 4,962 | 5,017 | 5,435 | 6,171 |
| New nurses graduates                     | 627   | 541   | 535   | 629   | 622   | 518   | 881   |       |
| Doctors per 1000 inh., total             | 0.23  | 0.23  | 0.23  | 0.23  | 0.23  | 0.24  | 0.24  |       |
| Doctors per 1000 inh., Vientiane         | 0.75  |       | 0.74  | 0.74  | 0.75  | 0.84  | 0.77  |       |
| Doctors per 1000 inh., outside Vientiane | 0.07  |       | 0.07  | 0.07  | 0.07  | 0.06  | 0.07  |       |
| Nurses per 1000 inh., total              | 0.84  | 0.84  | 0.80  | 0.80  | 0.79  | 0.78  | 0.82  | 1,582 |
| Nurses per 1000 inh., Vientiane          | 1.22  |       | 1.22  | 1.13  | 1.13  | 1.37  | 1.50  |       |
| Nurses per 1000 inh., outside Vientiane  | 0.73  |       | 0.67  | 0.69  | 0.69  | 0.62  | 0.61  |       |
| Midwives per 1000 inh. Vientiane         | 0.07  |       | 0.09  | 0.16  | 0.16  | 0.22  | 0.11  |       |
| Midwives per 1000 inh. Outside Vientiane | 0.02  |       | 0.06  | 0.06  | 0.07  | 0.07  | 0.08  |       |

Source: Department of Personnel and Organization, MOH, Vientiane, 2013

**Table A3.17** Number of medical personnel, 2009-2018

| Indicator                             | 2009   | 2010  | 2011  | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   |
|---------------------------------------|--------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| Total health personnel                | 12,200 | 2,100 | 2,100 | 15,430 | 14,189 | 14,964 | 19,877 | 20,406 | 20,413 | 20,472 |
| Physicians                            | 4,300  | 750   | 780   | 860    | 2,939  | 3,286  | 4,132  | 4,333  | 3,767  | 3,419  |
| Nursing                               |        |       |       | 25.8   | 5,569  | 5,669  | 7,295  | 7,245  | 7,189  | 6,971  |
| Midwives                              |        |       |       | 66.6   | 458    | 747    | 1,343  | 1,520  | 1,410  | 1,644  |
| Dentists                              |        |       |       | 150.6  | 290    | 341    | 522    | 523    | 513    | 524    |
| Pharmacists                           |        |       |       | 15.6   | 1,140  | 1,276  | 1,718  | 1,758  | 1,700  | 1,711  |
| Public health workers                 |        |       |       | 25.8   | 934    | 985    | 1,207  | 1,380  | 1,726  | 2,176  |
| Health management and support workers |        |       |       | 66.6   | 341    | 342    | 349    | 356    | 231    | 549    |
| Laboratory health workers             |        |       |       | 150.6  | 592    | 636    | 915    | 847    | 856    | 802    |
| Physiotherapists                      |        |       |       | 84.0   | 284    | 252    | 417    | 394    | 369    | 364    |

Source: Laos Statistics Bureau, LAOSIS, Laos Statistical Information Service, <https://laosis.lsb.gov.la/tblinfo/TblInfoList.do>, (retrieved December 5, 2019)

**Table A3.18** Projections of health personnel, 2018-2030

| Indicator                     | 2018          | 2019          | 2020          | 2021          | 2022          | 2023          | 2024          |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Total health personnel</b> | <b>20,472</b> | <b>21,649</b> | <b>22,894</b> | <b>24,210</b> | <b>25,602</b> | <b>27,075</b> | <b>28,631</b> |
| Physicians                    | 3,419         | 3,525         | 3,634         | 3,747         | 3,863         | 3,983         | 4,106         |
| Nurses                        | 6,971         | 7,284         | 7,611         | 7,953         | 8,310         | 8,683         | 9,073         |
| Midwives                      | 1,644         | 1,917         | 2,235         | 2,606         | 3,039         | 3,543         | 4,131         |
| Indicator                     | 2025          | 2026          | 2027          | 2028          | 2029          | 2030          |               |
| <b>Total health personnel</b> | <b>30,278</b> | <b>32,019</b> | <b>33,860</b> | <b>35,807</b> | <b>37,866</b> | <b>40,043</b> |               |
| Physicians                    | 4,234         | 4,365         | 4,500         | 4,640         | 4,783         | 4,932         |               |
| Nurses                        | 9,480         | 9,906         | 10,351        | 10,815        | 11,301        | 11,808        |               |
| Midwives                      | 4,817         | 5,617         | 6,549         | 7,636         | 8,904         | 10,382        |               |

Source: Author's calculation based on annual rates of growth derived from Laos Statistics Bureau, LAOSIS, Laos Statistical Information Service, <https://laosis.lsb.gov.la/tblinfo/TblInfoList.do>, (retrieved December 5, 2019)

**Table A4.1** Projection of the active population effectively employed and adult equivalent consumers (in thousands), support ratio and demographic dividend, 2020, 2025 and 2030

| Age                         | 2020         | 2025         | 2030         |
|-----------------------------|--------------|--------------|--------------|
| 15-19                       | 246          | 237          | 234          |
| 20-24                       | 456          | 449          | 454          |
| 25-29                       | 570          | 597          | 605          |
| 30-34                       | 527          | 584          | 611          |
| 35-39                       | 456          | 521          | 578          |
| 40-44                       | 376          | 451          | 517          |
| 45-49                       | 308          | 361          | 435          |
| 50-54                       | 250          | 286          | 336          |
| 55-59                       | 182          | 211          | 242          |
| 60-64                       | 110          | 130          | 152          |
| 65+                         | 93           | 119          | 153          |
| <b>Total</b>                | <b>3,574</b> | <b>3,946</b> | <b>4,317</b> |
| Annual rate of increase (%) | 2.38         | 1.98         | 1.80         |
| Equivalent consumers        | 6,453        | 6,970        | 7,423        |
| Yearly increase (%)         | 1.79         | 1.54         | 1.26         |
| Support ratio               | 55.4         | 56.6         | 58.2         |
| Demographic dividend        |              | 2.23         | 2.73         |

Source: Authors calculation based on projection of the active population and Lao Statistics Bureau, *Results of Population and Housing Census 2015*.







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