

# INEQUALITY ASSESSMENT FOR CIVIL REGISTRATION AND VITAL STATISTICS LAO PDR





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## FOREWORD

Access for ‘every one’ to a responsive Civil Registration and Vital Statistics (CRVS) system is essential for realising individuals’ rights and for promoting good governance, healthcare, and human development. Unfortunately, in many countries in Asia and the Pacific region, including the Lao People’s Democratic Republic (Lao PDR), millions of births and deaths are not registered, particularly among those who are socially disadvantaged, marginalised, and hard-to-reach. This inequality not only denies these individuals their legal identity but also excludes them from population statistics, making it more challenging to address other inequalities they face.

The Lao PDR has made the development of a universal and effective CRVS system a top priority. With strong support and commitment from all relevant ministries and the international development community, the government has set the ambitious target of achieving 70% birth registration completeness and 60% death registration completeness by 2024. This inequality assessment report is an integral part of this effort. It was produced through a collaborative initiative between the Lao Statistics Bureau (LSB) and the Economic and Social Commission for Asia and the Pacific (ESCAP) with the significant support of Bloomberg Philanthropies and UNFPA Lao PDR.

The report seeks to provide a picture of the Lao PDR’s civil registration completeness and the associated inequalities, that lay out possible key drivers behind the low birth registration. This will allow the country to work towards solving these remaining challenges to really get ‘every one’ in the picture. The content of the report was derived from a review of available data, and the analysis of birth registration inequality relied on the two most recent household Lao Social Statistics Surveys conducted by the LSB. Discrepancies and challenges in the process of data compilation and analysis arose and highlighted the need for more investment of time and effort to address them. The LSB hopes the findings in this report will bring us closer to ensuring that the CRVS system in the Lao PDR is universal and operational and benefits the well-being of our people. We would like to thank ESCAP for their technical and financial support in conducting and completing this assessment report and hope for their continued collaboration in the future.



**Madame Phonesaly Souksavath**

Head of Lao Statistics Bureau  
Statistics Authority

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This report was authored by Ms. Wiraporn Pothisiri (Independent Consultant, Statistics Division, ESCAP) in collaboration with the Lao Statistics Bureau (LSB) and UNFPA Lao PDR Country Office. Ms. Orawan Prasitsiriphon (Lecturer, College of Population Studies, Chulalongkorn University) supported the data preparation and analysis. The report received valuable inputs from Ms. Thirakha Chanthalanouvong (Director General, Social Statistics Department, the Lao Statistics Bureau), Ms. Samta Sacktikoun (Technical Staff, the Lao Statistics Bureau), Mr. Phetsavanh Boutlasy (Director of Population and Registration Division, the Lao Statistics Bureau), Mr. Vilaysook Sisoulath (Deputy Director General, the Lao Statistics Bureau), Ms. Petra Nahmias (Chief of Population and Social Statistics, Statistics Division, ESCAP), Ms. Tanja Sejersen (Statistician, Statistics Division, ESCAP), Ms. Sharita Serrao (Statistician, Statistics Division, ESCAP) and Ms. Chloe Harvey (Associate Population Affairs Officer, Statistics Division, ESCAP).

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## LIST OF FREQUENTLY USED ABBREVIATIONS

<b>ConVERGE</b>	Connecting Vital Events Registration and Gender Equality
<b>CRVS</b>	Civil Registration and Vital Statistics
<b>DCM</b>	Department of Citizen Management
<b>DHIS2</b>	District Health Information Software 2
<b>DOHA</b>	District Office of Home Affairs
<b>FRL</b>	Family Registration Law
<b>LSB</b>	Lao Statistics Bureau (of Ministry of Planning and Investment)
<b>LSIS</b>	Lao Social Indicators Survey
<b>MAF</b>	Ministry of Agriculture and Forestry
<b>MICS</b>	Multiple Indicator Cluster Survey
<b>MOES</b>	Ministry of Education and Sport
<b>MOFA</b>	Ministry of Foreign Affairs
<b>MOHA</b>	Ministry of Home Affairs
<b>MOJ</b>	Ministry of Justice
<b>MOLSW</b>	Ministry of Labour and Social Welfare
<b>MOH</b>	Ministry of Public Health
<b>MPS</b>	Ministry of Public Security
<b>PHC</b>	Population and Housing Census
<b>POHA</b>	Provincial Office of Home Affairs
<b>UNFPA</b>	United Nations Population Fund
<b>ESCAP</b>	The United Nations Economic and Social Commission for Asia and the Pacific
<b>UNWPP</b>	The United Nations World Population Prospect
<b>WHO</b>	World Health Organization



# 1 ABOUT THE INITIATIVE AND REPORT

A universal and well-functioning civil registration and vital statistics (CRVS) system is a priority of countries worldwide. CRVS systems not only provide the documentation needed by citizens to establish their legal identity but also facilitate nationality claims, access to health and social benefits and public services, and the exercise of civil and political rights. CRVS systems are also essential data sources for producing vital statistics that underpin 67 of the 231 indicators of the 2030 Sustainable Development Goals (SDGs).

In many countries in Asia and the Pacific, including Lao PDR, civil registration completeness is still low overall and is believed to be even lower in certain geographical areas or among marginalized and hard-to-reach population groups. The CRVS-related inequality tends to worsen other inequalities and hardships that these people endure. This will likely remain a blind spot unless who might be excluded from the CRVS system is studied.

“Get Every One in The Picture” is an initiative launched by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and development partners as part of the commitments under the Ministerial Declaration ‘to get every one in the picture’ and the Regional Action Framework on CRVS in Asia and the Pacific.<sup>1</sup> The ESCAP aims to support member countries in a variety of areas, including by conducting inequality assessments. The initiative seeks to address various challenges these countries face in producing inequality assessment reports, including limited access to data sources, lack of capacities and skills, and the absence of clear guidance on how to perform these assessments.

In 2021, Lao PDR requested to participate as one of the countries in the region to receive financial and technical support to conduct an inequality assessment of the national CRVS system. The focus of this initiative is twofold. First, it seeks to assist the country in producing its first inequality assessment report through close collaboration with the Lao Statistics Bureau (LSB). Second, it aims to build and strengthen the necessary capacities and skills required by government officials involved in the CRVS and other related systems, such as health and identity management systems. This is done to empower the country to carry out the inequality assessment on its own in the future.

To achieve these objectives and ensure that the initiative is truly participatory, various activities and tasks have been designed and undertaken jointly by the LSB team, led by the Social Statistics Department, and the ESCAP-assigned national consultant team based in Bangkok. Figure 1 illustrates the overall framework of the project, which began with an assessment of the national priorities and needs for the inequality assessment, particularly in terms of the required technical capacities that were translated into specific topics for the subsequent capacity-building workshops organized. The assessment was based mainly on a desk review of reports and publications related to the development and the current functionality of the CRVS system in Lao PDR, as well as the constraints and obstacles that hindered the timely registration of vital events.

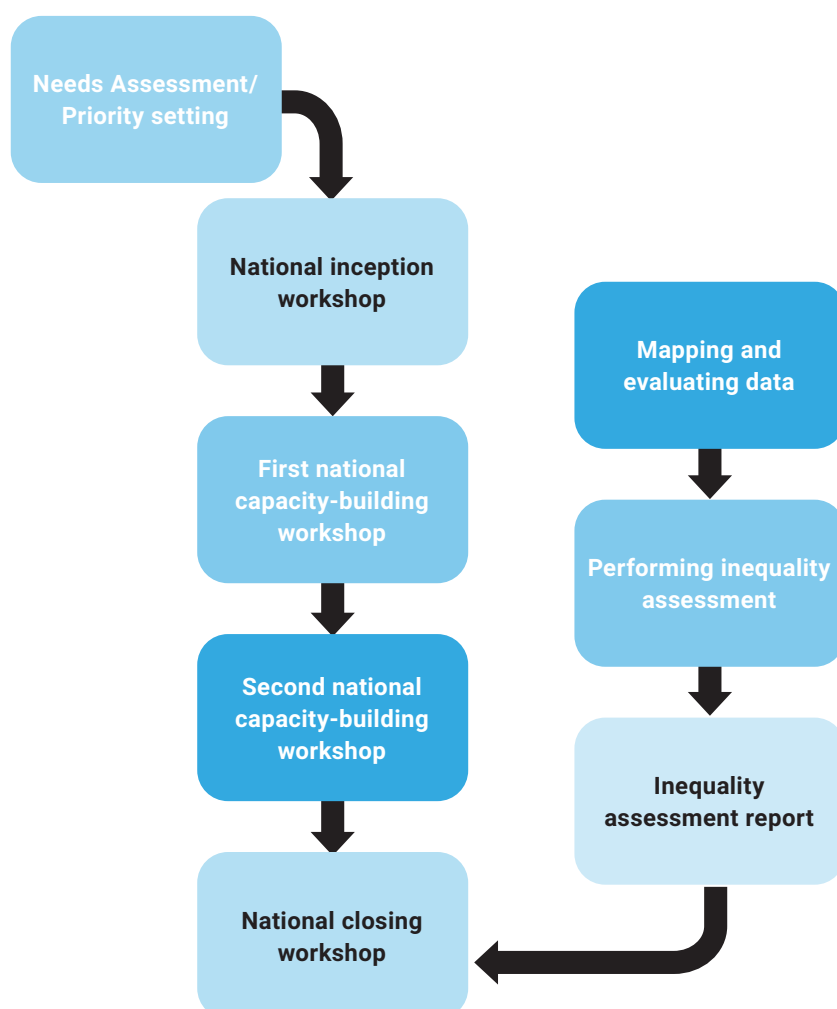
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1 [www.getinthepicture.org](http://www.getinthepicture.org)

The next steps were to organize a series of national workshops. The first of these was the inception workshop, to inform key national and international stakeholders in the CRVS system about the objectives and the expected results of this project and to create momentum for driving the inequality assessment. This was followed by two four-day capacity-building workshops that focused on producing demographic indicators and applying techniques for estimating the completeness of birth and death registration. As part of the final stage of the project, a two-day national closing workshop was held to communicate with the stakeholders about the outcomes of the project and to discuss the existing challenges and obstacles that should be overcome for the successful implementation of an inequality assessment. The proposed recommendations by the national consultant team appointed by ESCAP were also discussed in the final workshop.

Building on the national workshops, the national consultant team also undertook the production of an inequality assessment. An extensive review was conducted to identify available sources of secondary data that could potentially be used for the assessment. Unfortunately, the required national data were only partially obtained, which made them incomplete for the calculations of all key indicators required in the full assessment. As such, a preliminary inequality assessment was conducted on the completeness of birth and death registration, based on data that could be obtained from Lao Social Indicators Surveys (LSIS). Nonetheless, the final report offers recommendations for further actions that are expected to foster the implementation of the inequality assessment for the CRVS system in Lao PDR.

**Figure 1: Workflow of the CRVS Inequality Assessment Initiative**



This report has four sections and one annex. It begins with this introductory section (Section 1). Section 2 presents an overview of the CRVS system in Lao PDR and statistics on the completeness of birth and death registration obtained from multiple sources of secondary data. Section 3 presents key steps for estimating the completeness of birth and death registration in Lao PDR and describes the potential data sources and proposed approach for evaluating the quality of data. Section 3 also presents and discusses the results obtained from a preliminary inequality assessment based on LSIS data. Finally, Section 4 presents concluding remarks and proposes recommendations for further action. Annex A summarizes the activities and outcomes of the two capacity-building workshops that have been held online and in-person in Vang Vieng, Lao PDR.

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# 2

## CIVIL REGISTRATION AND VITAL STATISTICS SYSTEM IN LAO PDR

The information in this section is based on the following reports and publications related to CRVS in Lao PDR: (1) Appraisal of Vital Statistics Production, Dissemination and Usage in Lao PDR (2021) by UNFPA Lao PDR and LSB, (2) Report on the Snapshot of Civil Registration and Vital Statistics System of Laos (2021) by the Centre of Excellence for Civil Registration and Vital Statistics (CRVS) Systems, (3) Mid-term questionnaire on the implementation of the Regional Action Framework on CRVS submitted by Lao PDR, (4) Technical Report on ConVERGE: Connecting Vital Events Registration and Gender (2021) by UNFPA, (5) Policy Brief on ConVERGE Initiative in Lao PDR (2019) by UNFPA, (6) Fellowship Report: A Strategy to Improve Death Notification and Community Cause of Death Information in Lao PDR (2020), and (7) presentations at the workshops organized by the United Nations Statistics Division in 2014 and 2017.

### 2.1 Background of the CRVS system in Lao PDR

The CRVS system in Lao PDR was first established in 1992 after the promulgation of the Family Registration Law (FRL) to assist government agencies in the administration of Lao citizens and ensure national security and public order. The purpose of the 1992 FRL was to present regulations related to the registration of family books, births, disappearances, deaths, marriages, divorces, adoptions, acknowledgments of paternity, changes in first name or surname, changes in residence, and the building or dismantling of homes.<sup>2</sup> This was followed by a suite of developments in the CRVS system over the past three decades, as can be summarized in Table 1.

**Table 1: History of the civil registration and vital statistics system in Lao PDR**

Year	Key events <sup>a</sup>
<b>Before 1992</b>	<ul style="list-style-type: none"> <li>The 'family book' system was used to record births, deaths, marriages and migrations taking place in a household by the village chief.</li> </ul>
<b>1992</b>	<ul style="list-style-type: none"> <li>The Family Registration Law (FRL) was enacted by the National Assembly.</li> <li>The CRVS system was first established.</li> </ul>
<b>2009</b>	<ul style="list-style-type: none"> <li>The FRL was revised to enforce the registration of vital events.</li> </ul>

<sup>2</sup> Family Registration Law, 1992 (No. 03/PSA) (Promulgated by Decree No. No. 21/PO of 6 April 1992).

**Table 1: History of the civil registration and vital statistics system in Lao PDR**

Year	Key events <sup>a</sup>
<b>2011</b>	<ul style="list-style-type: none"> <li>Ministry of Home Affairs (MOHA) was established.</li> <li>The registration of vital events formerly under the responsibility of local administration was transferred to the Department of Citizen Management (DCM) under MOHA.</li> </ul>
<b>2014</b>	<ul style="list-style-type: none"> <li>Lao PDR adopted the Ministerial Declaration to 'Get Every One in the Picture' in Asia and the Pacific which proclaimed 2015–2024 as the Asia and Pacific CRVS Decade and endorsed the Regional Action Framework on CRVS.<sup>b</sup></li> </ul>
<b>2015-2016</b>	<ul style="list-style-type: none"> <li>The National CRVS Coordination Committee, chaired by the Vice President of Lao PDR, was established in 2015.<sup>c</sup></li> <li>The 2016-2025 Civil Registration and Vital Statistics (CRVS) Strategy was developed by DCM in close collaboration with seven other line ministries.</li> </ul>
<b>2017</b>	<ul style="list-style-type: none"> <li>The National Statistics Law was enacted, in which a routine production of annual vital statistics from Civil Registration was mentioned.</li> </ul>
<b>2018</b>	<ul style="list-style-type: none"> <li>The 2009 FRL was amended and approved.</li> </ul>
<b>2019-2020</b>	<ul style="list-style-type: none"> <li>The Lao Population and Development Policy (2019 -2030) was released in 2019 with a national goal to boost the number of birth and death registrations in the national CRVS system.</li> <li>An ongoing CRVS project, supported by World Bank, was launched by the government (2020-2025) to strengthen the existing system. In preparation for this project (during 2019-2020), relevant stakeholders developed various quality assurance tools for different aspects of CRVS, which include the publication of a draft operational manual for birth, death, and marriage registrations; the design of a comprehensive digital Citizen Management Information System; and the production of a Social, Behavioral and Communication Change strategy to improve citizen participation in the CRVS system.</li> </ul>
<b>2021</b>	<ul style="list-style-type: none"> <li>Lao PDR adopted the Ministerial Declaration on Building a More Resilient Future with Inclusive Civil Registration and Vital Statistics at the Second Ministerial Conference on Civil Registration and Vital Statistics.</li> </ul>

Sources: a Most of the information presented in this table is taken from Connecting Vital Events Registration and Gender Equality (ConVERGE), published by UNFPA Lao PDR in 2021. Otherwise, other specific sources are indicated.

b ESCAP Resolution 71 \_14 Asian and Pacific Civil Registration and Vital Statistics Decade, 2015-2024. The meeting Documents, UN Official Documents, 2016.

c The Mid-term questionnaire on the implementation of the Regional Action Framework on CRVS submitted by Lao PDR.

## 2.2 Management framework of the CRVS system in Lao PDR

In Lao PDR, birth or death notifications—for births or deaths taking place at health facilities—are issued by the Ministry of Health (MOH), while the Ministry of Home Affairs (MOHA) is responsible for family registration, and family books and citizen identification documents are issued by the Ministry of Public Security (MPS). These systems are paper-based without a computerized database.

According to the 2018 FRL, a household head, a father or mother, or a family representative is required to report, either verbally or in writing, a birth taking place at home to the village administrative authority within 15 days, to obtain a birth notification and to include the newborn in the family book. Note that, according to Choummanivong *et al.* (2020), births that are reported tend to include only live births as no established system has been established to account for stillbirths. Within 30 days of receiving the birth notification, the household head, must then report to the District office of Home Affairs (DOHA) to obtain an official registration of birth certificate. The issuance of birth certificates processed at the District Office of Home Affairs can take up to five business days.

For a child who is born in a hospital or another health facility, the facility issues the birth notification form within seven days of the child's birth. The father, mother or family representative then notifies the village administrative authority before registering the birth. The birth registration is free of charge within 0–18 years after birth. A late registration fee of 24,000 Kip (equivalent to 2.2 USD) is applied after that.

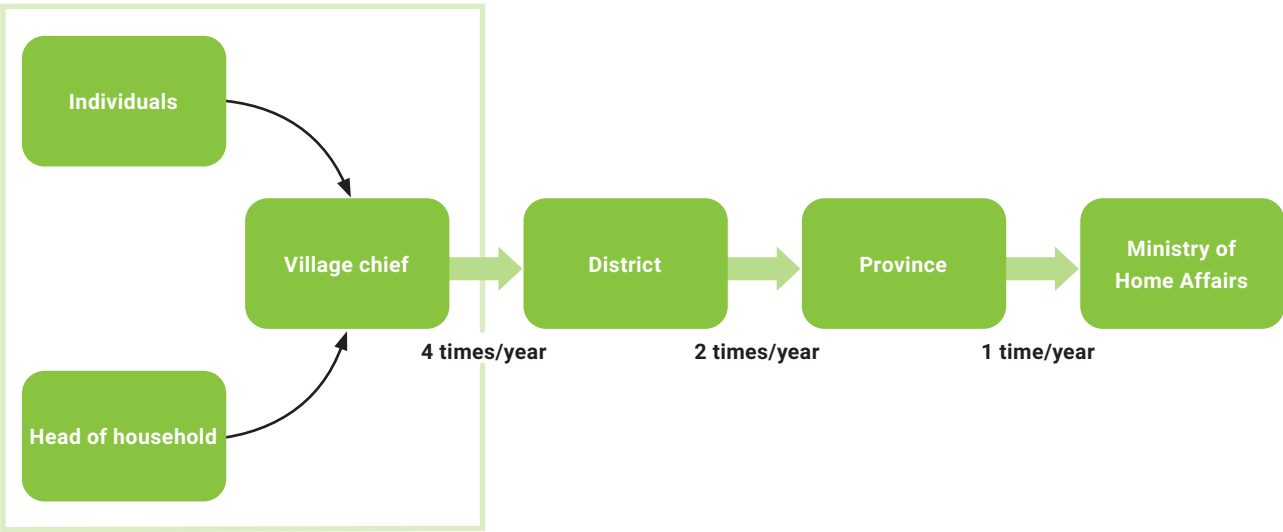
In the event of a death, if a person dies at home, the household head, a representative, or the person who discovered the body is required to report it to the village administrative authority within five days to obtain a death notification. After receiving the death notification, the family representative notifies DOHA to obtain an official registration of death certificate within fifteen days. For a deceased person who dies in a hospital or another health facility, the facility issues the death notification form within five days. The family representative then notifies the village administrative authority before registering the death at DOHA. A death certificate process can take up to five days for a total fee of 30,000 Kip (equivalent to 2.7 USD).

Recently, a report citing statistics from the MOH's District Health Information Software 2 (DHIS2) system revealed that 93% of deaths occur outside health facilities (Silver, 2022), and the notification process bypassed the MOH (Hensman, 2020). As a result, the cause of death is usually not determined. There is an exception when the cause of death is likely to be from dangerous communicable diseases, in which case the medical personnel will be contacted for their opinions before issuing a death certificate (Hensman, 2020).

Lao citizens are required to seek official permission to marry from the Family Registrar at the district office. A marriage request is approved within a month of the request being submitted. Once permission is granted, the couple is summoned for registration. The fee for issuance of a marriage certificate is approximately 100,000 kip (equivalent to 9 USD). However, this fee is not standard across the country (UNFPA, 2019).

Figure 2 illustrates the flow of birth and death reports from a village chief to relevant government agencies, according to our literature review. Births and deaths are currently only required to be reported—in terms of aggregated numbers—four times per year from villages to districts, twice a year from districts to provinces, and once a year from provinces to MOHA.

**Figure 2: Flow of birth and death reports from a village chief to relevant government agencies**



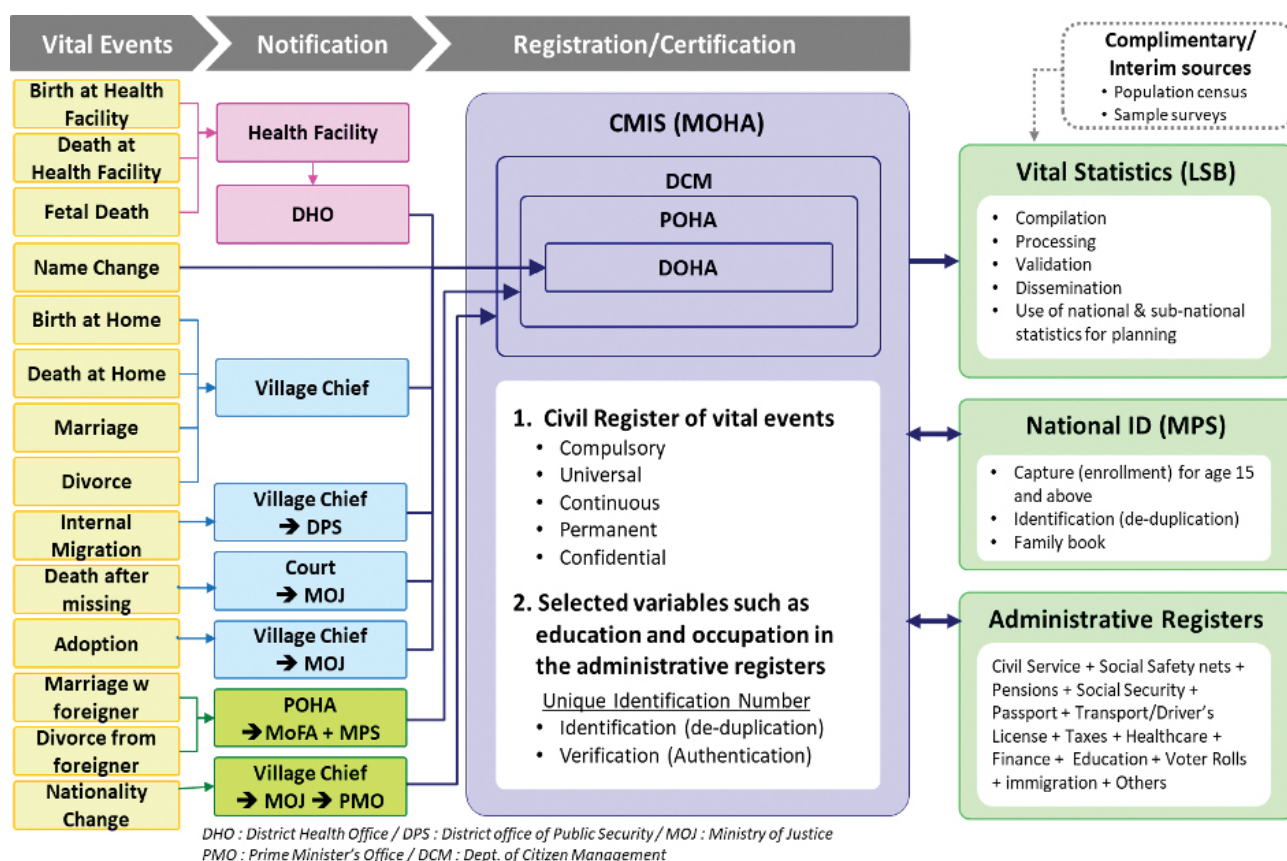
According to the government’s 10-year strategic plan to improve the CRVS system, MOHA is responsible for developing a civil management information system (CMIS), which aims to digitize key vital statistics and incorporate them into an ICT-enabled process. The strategic plan is also intended to enhance routine operations and coordination among registration administrators in various sectors (UNFPA 2021b).

Under this strategic plan, the CMIS has been initiated in 2017 in three pilot provinces, Vientiane Capital, Luang Prabang, and Champasak, covering 31 districts, with financing provided by a 30-year government loan. In these pilot areas, the district and provincial offices under the Ministry of Home Affairs are required to submit real-time data online. Health facilities with internet access are expected to provide electronic notice of each birth occurrence, upon which a unique identification number (UIN) is allocated and appears on the birth certificate. This same number is later used for issuing a national ID card upon reaching the age of 15. Figure 3 presents the CMIS process and relevant stakeholders under the 2017 pilot project.

According to the CMIS procedure, (as shown in Figure 3), the registration records of vital events must be shared with LSB for producing and publishing vital statistics and dispatched to MPS for household records and national ID management. However, it is not clear from the existing documents whether and how the civil registration records are shared by MOHA with other governmental agencies, including LSB.

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**Figure 3: The CMIS process and relevant stakeholders under the CRVS pilot project, 2017**

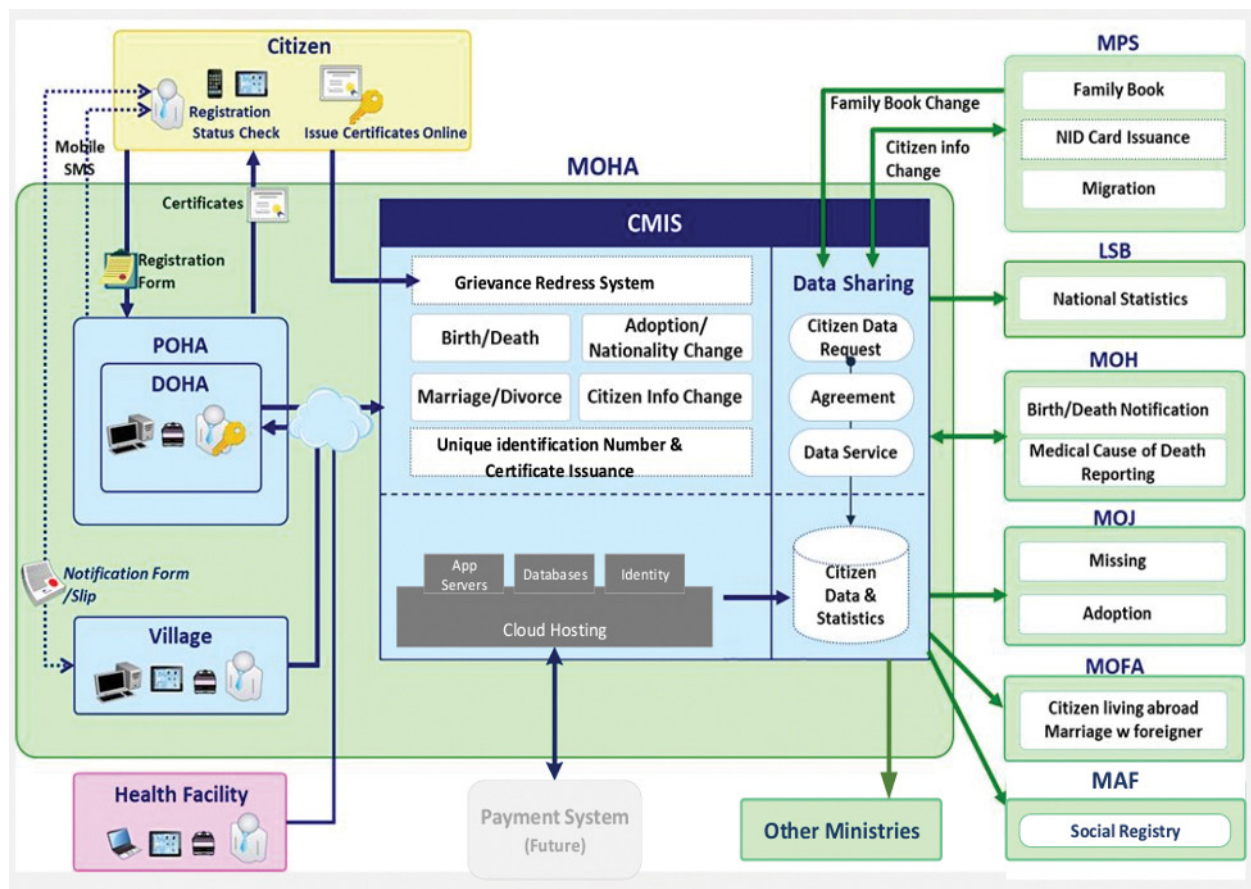


Source of figure: A presentation made by Lao PDR Country Team Representative at the Workshop on the Operation of Civil Registration, Vital Statistics and Identity Management Systems for East Asian Countries, 13-17 November 2017, Hanoi, Vietnam.

In January 2022, the Lao government through MOHA and the World Bank have collectively selected WCC to provide HERA as the solution for administering the e-Civil Registration and Vital Statistics System (e-CRVS). The proposed new e-CRVS system is displayed in Figure 4. Recently in October 2022, under the same tender from the World Bank, Global Digital Management Solutions (GDMS) has been selected as a service provider to host the cloud platform for e-CRVS. According to the presentations made by MOHA during the inception workshop, the development of the e-CRVS and its installation in all Provincial Office of Home Affairs (POHA) and District Office of Home Affairs (DOHA) is expected to be completed by 2023.



**Figure 4: The e-CRVS process and relevant stakeholders, 2022**



Source of figure: A presentation made by MOHA at the Inception Workshop for this initiative, 11 March 2022, Vientiane, Lao PDR.

Note: DOHA=District Office of Home Affairs; LSB=Lao Statistics Bureau MAF=Ministry of Agriculture and Forestry; MOFA=Ministry of Foreign Affairs; MOHA=Ministry of Home Affairs; MOJ=Ministry of Justice; MOLSW=Ministry of Labour and Social Welfare; MOPS=Ministry of Public Security; MOH=Ministry of Public Health; MPS=Ministry of Public Security; POHA=Provincial Office of Home Affairs.

## 2.3 Past and present initiatives to strengthen the CRVS system

### • The ConVERGE initiative (2019-2021)

The Connecting Vital Events Registration and Gender Equality (ConVERGE) initiative was designed to support the CRVS system sustainably and advance gender equality as a key enabler to achieving the SDGs and a more inclusive society. Lao PDR was the only priority country in the Asia and Pacific region selected to join the first phase of the initiative carried out between March 2019 and April 2021. Working in close collaboration with the Lao government, the IDRC Centre of Excellence for CRVS Systems and UNFPA Lao PDR provided technical support to MOHA's Department of Citizen Management to increase vital events registration completeness and align the CRVS system with the best international practices and standards. Through the ConVERGE initiative, a joint review of the CRVS strategic plan was conducted between key line ministries and the UN Country Team. This review highlighted opportunities and challenges in strengthening the country's vital statistics culture and priority focus areas in the next few years (UNFPA 2021b).

### • The UN Country Team (from 2021 onwards)<sup>3</sup>

The UN Country Team has taken a holistic approach to supporting the Lao government's CRVS system to achieve the targets of 70% coverage of birth registration and 46% coverage of death registration by 2024. The various aspects of assistance can be summarized as follows:

- The World Bank, via a \$25m International Development Association (IDA) loan, is supporting MOHA in digitizing the country's CRVS system.
- The World Health Organization (WHO) is supporting MOH in birth and death notification, and training of physicians to medically certify causes of death.
- UNICEF is building public awareness of birth registration via parent education programs and supporting mobile teams of MOHA to register children in remote districts.
- UNDP is supporting the establishment of one-door public service centers (ODSCs) across ministries.
- UNFPA is focusing on strengthening the marriage registration system and improving the quality of vital statistics production, dissemination, and use. The fund has also been tasked to lead the coordination of UN support of the CRVS system to the Lao government.

## 2.4 Legal frameworks related to the CRVS system

In addition to the Family Registration Law (FRL) as stated in Section 2.1, other legal frameworks that govern the CRVS system in Lao PDR are the Family Law and the Law on Statistics 2017. Other laws that refer to birth registration include the Constitution, Civil Law, Criminal Law and Education Law.<sup>4</sup>

The FRL—which acts as the main legislation regarding vital events registration—has been enacted since 1991 and amended twice, once in 2009 and again in 2018. The amendments have substantially improved the CRVS system in Lao PDR, especially in terms of operations and procedures, and served as the basis for the subsequent development of regulations to address specific elements necessary for smoother operations.

However, a comprehensive review report undertaken by UNFPA Lao PDR to appraise vital statistics production has noted that several important aspects are not included in the latest amended version of FRL (UNFPA 2021a). For instance, the roles and responsibilities of the Ministry of Health for direct notification of vital events or for submission, processing and compilation of vital statistics have not been explicitly stated, even though they are described elsewhere in the operational procedures for the CRVS system. In addition, there is no explicit mandate for reporting stillbirths and infant deaths, particularly when the death occurs within the first few days of life (UNFPA 2021a). Without this information, perinatal mortality—which is used to produce key vital statistics—cannot be calculated. More details regarding existing gaps in CRVS legal frameworks can be found in the UNFPA report on 'Appraisal of Vital Statistics Production, Dissemination and Usage in Lao PDR.'

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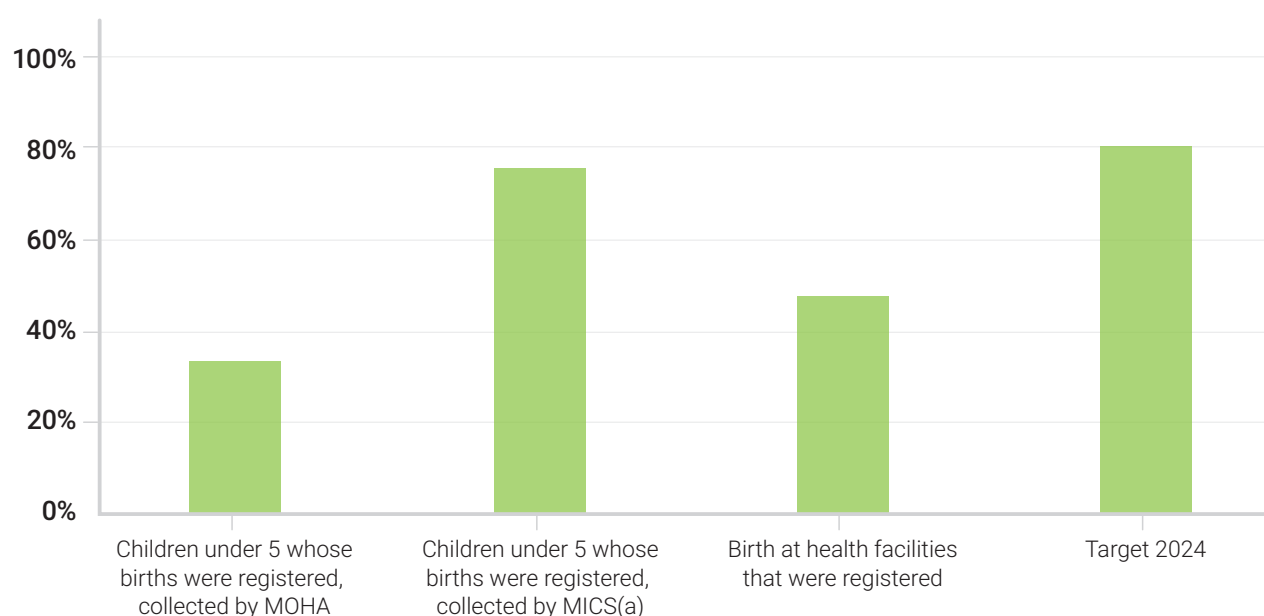
3 An opening remark by Remarks by Ms. Sara Sekkenes, Resident Coordinator, United Nations Lao PDR on 27th September 2021.

4 Civil Registration and Vital Statistics in Lao PDR. A presentation made by Lao participants at the Third Regional Workshop on Production and Use of Vital Statistics organized by UNSD, May 26-30, 2014, Republic of Korea. <https://unstats.un.org/unsd/demographic/meetings/wshops/Korea/2014/docs/m01s03-03-LAO.pptx>

## 2.5 Completeness of birth and death registration in Lao PDR

In this section, the completeness of birth and death registration obtained through a literature review is presented. Figure 5 shows the completeness of birth registration for children aged under five years in 2016, based on data from three different sources, namely, MOHA, LSB and MOH. Note that MOH data focus only on births occurring in health facilities. A large discrepancy is observed between the percentage of births registered based on the civil registration data collected by MOHA and that based on the Lao Social Indicators Survey (LSIS), jointly conducted by LSB and UNICEF. While only 33 per cent of children under five years were reported to have had their birth registered in 2016 (in data recorded by MOHA), more than twice (75 per cent) of children were reported to be registered based on LSIS data. Meanwhile, MOH data shows that only 47 per cent of children under the age of five were registered at health facilities in the same year. This large variation suggests that further investigations are required to validate the accuracy of the results.

**Figure 5: Completeness of birth registration among children under five years, 2016**



Sources: The percentage completeness figures are taken from a presentation on Birth & Death Notification System and the Health Sector Contribution to CRVS in Lao PDR by a representative from MOH, Hanoi, 2017. The national target set for 2024 is from the country's profile on the ESCAP website:

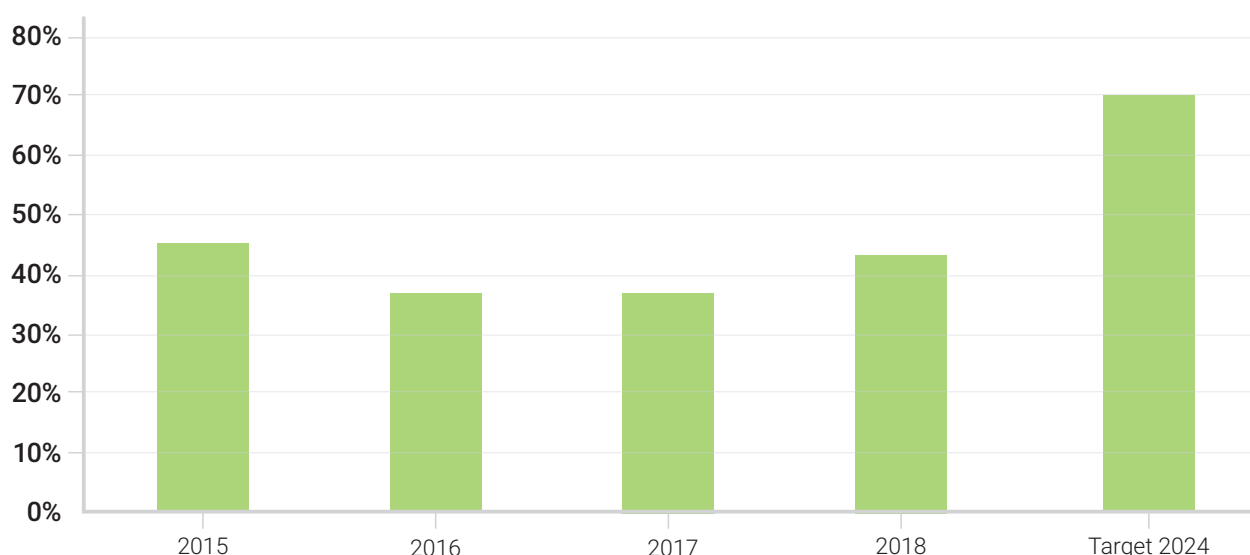
<https://getinthepicture.org/country/lao-pdr>.

Note: the reported percentage includes the family book registration.

Another indicator that has been commonly used to measure the completeness of birth registration is the percentage of births registered within one year. Figure 6 displays the percentage of children whose birth was registered within one year, between 2015 and 2018. The data presented in this figure were obtained from the Asia Pacific CRVS Decade midterm monitoring questionnaire, that was completed and submitted by the Government of Lao PDR. For each year, the percentage of births registered within one year of occurrence is computed as the number of births registered within one year (as reported by MOHA), divided by the estimated number of births within the same year, based on Lao PDR population projections for 2015-2045. The results show that, between 2015 and 2018, less than half of births are registered within one year. A significant increase of 6 per cent of births registered within one year is observed, from 37 per cent in 2017 to 43 per cent in 2018. Starting from 2018, the increase in the percentage of births registered

within one year needs to be maintained at around 5 per cent each year, in order to reach the national target set at 70 per cent by 2024. It is also important to recognize that since the estimated number of births within each year comes from population projections, it is therefore sensitive to different assumptions regarding mortality, fertility and migration that are used in the projection models.

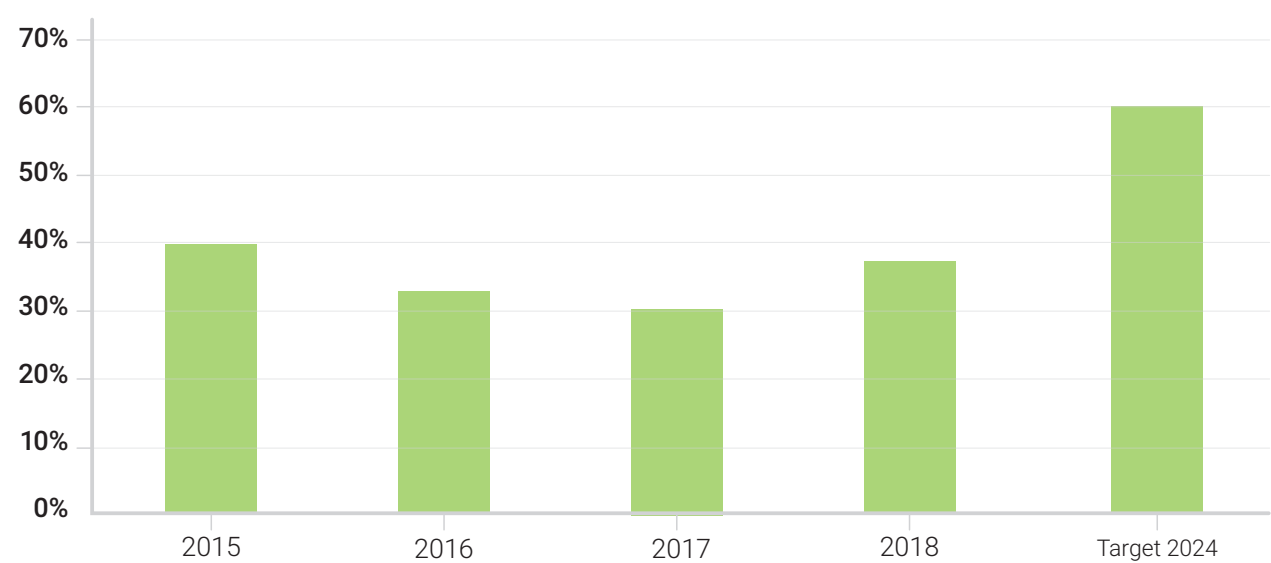
**Figure 6: Completeness of birth registration within one year of occurrence, 2015-2018**



Source: The 2019 midterm monitoring questionnaire on the implementation of the Regional Action Framework on CRVS submitted by Lao PDR.  
[https://getinthepicture.org/sites/default/files/resources/Lao%20PDR\\_Final.xlsx](https://getinthepicture.org/sites/default/files/resources/Lao%20PDR_Final.xlsx).

Secondary data on the completeness of death registration is even more limited, compared to birth information. An extensive search yielded only one available data source: the Asia Pacific CRVS Decade midterm monitoring questionnaire submitted by Lao PDR. Estimates of death registration completeness obtained from this source are illustrated in terms of the percentage of deaths registered within one year of occurrence in a specified year, which has been computed by dividing the number of deaths that are registered within one year with the estimated total deaths based on Lao population projections (2015-2045) in the given year. The percentages of deaths that are registered within one year between 2015 and 2018 are presented in Figure 7. There are slight variations between 2015 and 2018, with approximately 3 to 4 in 10 deaths that are registered within one year during the period observed, with an increase from 27 per cent in 2015 to 37 per cent in 2018. To reach the nationally set target of 60 per cent by 2024, the percentage of deaths registered within one year in 2018 needs to increase by at least 4 per cent each year. Note that similar limitations apply in death registration, as in birth registration, since the calculations rely on population projections.

Figure 7: Completeness of death registration within one year of occurrence, 2015-2018



Source: The 2019 midterm questionnaire on the implementation of the Regional Action Framework on CRVS submitted by Lao PDR.  
[https://getinthepicture.org/sites/default/files/resources/Lao%20PDR\\_Final.xlsx](https://getinthepicture.org/sites/default/files/resources/Lao%20PDR_Final.xlsx)

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# 3

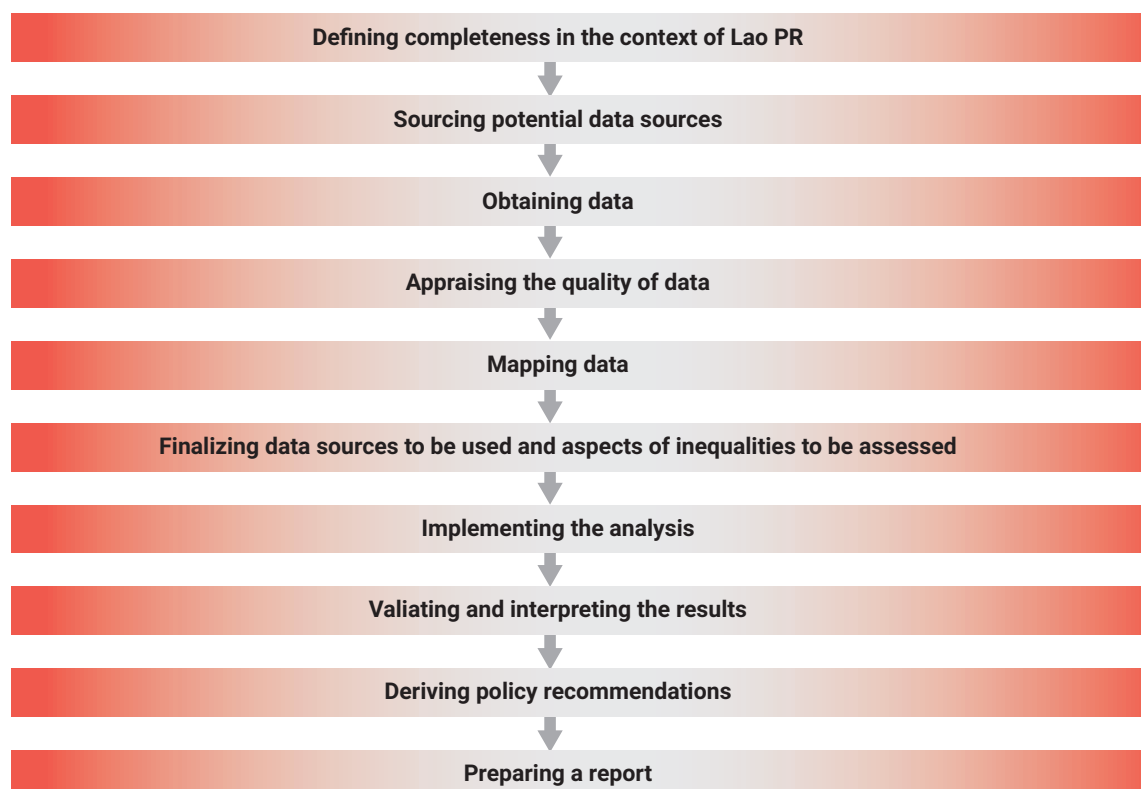
## ESTIMATING INEQUALITY IN CIVIL REGISTRATION COMPLETENESS

### 3.1 A step-by-step guide for estimating registration inequalities

The steps taken to assess inequalities in civil registration in Lao PDR are illustrated in Figure 8. The initial step is to define the “completeness” of civil registration in the context of Lao PDR. This step is conducted through identifying a set of equations for estimating the completeness of the registration of vital events for the population overall, as well as those disaggregated by certain socio-economic or geographic characteristics. The proposed equations can be modified subsequently, based on the availability and quality of data obtained (ESCAP, 2022).

The second step is to identify the sources of data to be used for the inequality assessment. An initial list of potential sources for birth and death data—along with their accessibility and detailed information—is created, based on a desk review of previous studies and reports. To ensure a complete coverage of all possible data sources, a draft list is shared with the Lao Statistics Bureau (LSB) team and validated through triangulation with the information obtained from the group discussions and presentation sessions during the first capacity-building workshop.

**Figure 8: Recommended steps in conducting the inequality assessment**



The third, and the most important step, is to obtain the required data for the inequality assessment, along with related documentation and metadata—such as survey methodology and questionnaires. The completion of this step largely depends on the information-sharing policies specified by different data owners. In the case where there is no access to raw data, tabulated data can also be requested as an alternative. The tabulations of civil registration data must at least show the number of vital events by the ‘year of occurrence’ and the ‘year of registration’ in order to account for the statutory period allowed for a timely registration in Lao PDR.

The next steps are data mapping and data quality appraisal, which can be completed jointly if a complete set of data is obtained. A data mapping matrix can be created by linking the obtained data to their corresponding terms in the completeness equation. This allows us to see clearer if, and to what extent, the datasets obtained from different sources overlap or complement one another, and more importantly if any gaps remain. The data quality appraisal can be conducted based on the framework developed by the United Nations Statistics Division (UNSD)’s *Principles and Recommendations for a Vital Statistics System*. The proposed framework assesses the quality of data on five different attributes: coverage or completeness, accuracy or correctness, availability, timeliness and data disaggregation. The definitions of these quality attributes are summarized in Table 2. After obtaining the data matrix and appraising the quality of data, aspects of inequalities to be assessed, along with the corresponding datasets need to be finalized. The next step is to implement the inequality assessment using the obtained data, after which the results are validated and interpreted to derive policy recommendations for further actions. It is important to note that data from different sources should be used to validate the analytical results to ensure the accuracy of the inequality assessment outcomes.

**Table 2:** The UNSD’s framework for data quality appraisal

Quality attribute	Definition
<b>Coverage or completeness</b>	Geographical area that the data cover/sample size
<b>Accuracy</b>	All data items are accurately and completely recorded with no missing items
<b>Availability</b>	Data that have been collected, filed, processed, and stored in each system (CRVS) are accessible to users in a user-friendly format upon request
<b>Timeliness</b>	Data for vital statistics are generated annually
<b>Data disaggregation</b>	Data are available according to different characteristics

Source: Mills and Amponsah (2019).

At the time of writing this report, only a portion of the civil registration data required for inequality assessment had been obtained, which is not sufficient to complete the process of data mapping and data quality appraisal, and to perform subsequent calculations of the completeness. Although the recent number of registered births and deaths disaggregated by sex and administrative boundary were provided by MOHA, covering the period of 2015-2021, crucial information on the year of occurrence of these vital events was missing. Moreover, without the registered number of deaths by the decedents' age, the completeness of death registration could not be computed, particularly for the target group of children under the age of five years. As an alternative, household survey data—i.e., LSIS I in 2011-12 and LSIS II in 2017—were used to provide preliminary estimates on the completeness of birth and death registration in this report.

Despite being unable to obtain a complete set of data for the inequality assessment, the authors identified a list of potential data sources, as well as possible characteristics/indicators that can be derived from various sources for the disaggregation of data on the coverage of birth and death registration. The results are presented in Sections 3.2 and 3.3, which constitute a framework for determining the final data sources and aspects of inequalities to be included in the analysis.

### 3.2 Potential data sources for estimating the completeness of birth and death registration

Tables 3 and 4 present the equations for estimating the completeness of birth and death registration in a given year, respectively, as well as the potential data sources corresponding to each term as obtained from our desk review.

Table 3: Potential sources of birth data		
Completeness of birth registration		
<p><i>Completeness of birth registration in a given year:</i></p> $\frac{\text{Number of registered births in a given calendar year}}{\text{Estimated 'true' number of births in the same year}} \times 100$		
Numerator	Source	Detail/Status
<b>Birth registration records in a given year</b>	MOHA	<ul style="list-style-type: none"> <li>• Data was received in October 2022.</li> <li>• The data covered birth registration taking place between 2015 and 2021</li> <li>• The data was disaggregated by sex, province and district.</li> <li>• Data on the date of birth and the date of registration were not provided.</li> </ul>



**Table 3: Potential sources of birth data**

Completeness of birth registration		
Denominator	Source	Detail/Status
Census and sample survey		
Population and Housing Census (PHC)	LSB	<ul style="list-style-type: none"><li>• Conducted every ten years since 1985</li><li>• The next PHC is scheduled to be carried out in 2025.</li><li>• Available upon request.</li></ul>
Multiple Indicator Cluster Survey (MICS)	UNICEF	<ul style="list-style-type: none"><li>• Jointly conducted by LSB, MOH &amp; UNICEF.</li><li>• MICS was combined with the Demographic and Health Survey (DHS) in 2011-12 and was referred to as LSIS I.</li><li>• LSIS III is scheduled to be conducted in 2022.</li><li>• Publicly available for download through the MICS website (<a href="https://mics.unicef.org/surveys">https://mics.unicef.org/surveys</a>).</li></ul>
Lao Social Indicators Survey (LSIS)	LSB	
Administrative records		
School enrolment data (from the Education and Sports Sector Performance Annual Report)	MOES	<ul style="list-style-type: none"><li>• Published annually, the latest report in 2019–2020.</li><li>• Data presented on a fiscal year basis.</li><li>• The latest English version is available for 2018–19.</li><li>• The availability and accessibility of this dataset have yet to be verified with MOES.</li></ul>
Childhood vaccination coverage (from WHO and UNICEF estimates of immunization coverage report)	WHO and UNICEF	<ul style="list-style-type: none"><li>• The report compiles vaccine coverage data from different sources: administrative data, official data, and survey data.</li><li>• The latest revision was released in 2019, covering the period between 2008 and 2019.</li><li>• The availability and accessibility of this dataset have yet to be verified with WHO and UNICEF.</li></ul>
Other secondary sources		
The 2018 Lao Population Projection Report	LSB	<ul style="list-style-type: none"><li>• Time horizon: 2015-2045</li><li>• The projection was based on the 2015 PHC</li></ul>
The 2021 UN World Population Prospects (UNWPP)	United Nations Population Division	<ul style="list-style-type: none"><li>• Details of data source for Lao PDR can be found at: <a href="https://population.un.org/wpp/DataSources/418">https://population.un.org/wpp/DataSources/418</a></li></ul>



**Table 4: Potential sources of death data**

### Completeness of death registration

Completeness of death registration in a given year:

$$\frac{\text{Number of registered deaths in a given calendar year}}{\text{Estimated 'true' number of deaths in the same year}} \times 100$$

Numerator	Source	Detail/Status
<b>Death registration records in a given year</b>	MOHA	<ul style="list-style-type: none"> <li>The first set of data was received in October 2022.</li> <li>The data covered death registration taking place between 2015 and 2021</li> <li>The data was disaggregated by sex, province and district.</li> <li>Data on the actual date of death and date of death registration with civil authorities were not provided.</li> </ul>
<b>DHIS2a</b>	MOH	<ul style="list-style-type: none"> <li>Data on deaths of under-five children and mothers are available.</li> <li>Data on the actual date of death and date of death registration with civil authorities are absent.</li> <li>Last updated in 2019.</li> </ul>
Denominator	Source	Status
<b>Census and sample survey</b>		
<b>Population and Housing Census (PHC)</b>	LSB	Conducted every ten years since 1985. The next PHC is scheduled to be carried out in 2025. Available upon request.
<b>Multiple Indicator Cluster Survey (MICS)</b>	LSB, MH & UNICEF	<ul style="list-style-type: none"> <li>Available for download through the survey's website (<a href="https://mics.unicef.org/surveys">https://mics.unicef.org/surveys</a>).</li> </ul>
<b>Lao Social Indicators Survey (LSIS)</b>	LSB	<ul style="list-style-type: none"> <li>Data only include children's deaths at ages of less than 5 years.</li> <li>Birth history of sampled women is available in the Women's Questionnaire, from which mortality of children under 5 can be derived.</li> </ul>

**Table 4: Potential sources of death data**

Completeness of death registration		
Administrative records		
<b>DHIS2</b>	MOH	<ul style="list-style-type: none"> <li>Collected data includes age and sex of all members in a household.</li> <li>Last updated in 2019.</li> </ul>
Other secondary sources		
<b>The 2018 Lao Population Projection Report</b>	LSB	<ul style="list-style-type: none"> <li>Time horizon: 2015-2045</li> <li>The projection was based on the 2015 PHC.</li> </ul>
<b>The 2021 UN World Population Prospects (UNWPP)</b>	United Nations Population Division	Details of data source for Lao PDR can be found at: <a href="https://population.un.org/wpp/DataSources/418">https://population.un.org/wpp/DataSources/418</a>

Note: Information was obtained from the group discussion on death data sources and quality during the first national capacity workshop in August 2022.

### 3.3 Disaggregation of data

In Table 5, we examine possible characteristics/indicators that can be derived from various data sources for the disaggregation of data to be used in estimating the completeness of birth registration. These include birth notifications and registration forms for the numerator, and PHC and LSIS II surveys for the denominator of the completeness equation, respectively.

It is important, however, to note that although several characteristics/indicators are contained in the birth notification and birth registration forms, it is likely that these data are kept in paper-based records and may not be readily available for more detailed analyses. Under these circumstances, according to the LSB-UNFPA report (2020), the only potentially viable data source to derive disaggregated data for birth registration may be the ongoing CRVS Project during the period of 2020–2025. As such, further investigations on the progress and outcomes of this project are needed.

For PHC and LSIS II surveys, almost all respective characteristics/indicators are available in the household rosters. While it may seem feasible to estimate the denominator of the equation on the completeness of birth registration for most subgroups, the derivation of the characteristics of parents may be limited by their presence in the household.

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**Table 5:** Characteristics/indicators available in birth notifications/certificates, PHC, and LSIS II for data disaggregation

Characteristic/ Indicator	Birth notification/ certificate	PHC	LSIS II
<b>Age</b>	Date of birth of newborn, mother, and father	Date of birth of all household members, including the household head	Date of birth of all household members
<b>Sex</b>	Newborn's sex (male/female)	Sex of all household members, including the household head (male/female)	Sex of all household members (male/female)
<b>Race</b>	Father's and mother's race (no response categories provided)		
<b>Ethnicity</b>	Father's and mother's ethnicities (no response categories provided)	Ethnicity of all household members (Lao/Tai/Phouthay/Lue/Nhoaun/Yang/Xaek/Thaineau/Khmou/Pray/Xingmoun/Phong/Thaen/Oedou/Bid/Lamed/Samtao/Katang/Makong/Tri/Yrou/Trieng/Ta-oy/Yae/Brao/Katu/Harak/Oy/Kriang/Cheng/Sadang/Xuay/Nhaheun/Lavy/Pacoh/Khmer/Toum/Ngouan/Moy/Kree/Hmong/Ewmien/Akha/Pounoy/Lahou/Syla/Hayi/Lolo/Hor/other)	Ethnic group of household head (Lao-Tai/Mon-Khmer/Hmong-Mien/Chinese-Tibetan/other)

**Table 5: Characteristics/indicators available in birth notifications/certificates, PHC, and LSIS II for data disaggregation**

Characteristic/ Indicator	Birth notification/ certificate	PHC	LSIS II
<b>Nationality</b>	Father's and mother's nationality (no response categories provided)	Nationality of all household members (Lao/Cambodia/ Myanmar/ Thailand/ Vietnam/Other countries in Asia/ European countries/ countries in Africa/ countries in the Americas/ Australia/ Countries in Oceania/others)	
<b>Geographic location of residence</b>	Village, district, province	Household's location (Village, district, province) and village's location in the municipality of district/province (Yes/no)	Household's location: Area of residence (Urban/ rural/rural with road/rural without road), Region (North, Central and South), province
<b>Marital status</b>	Father's and mother's marital status (Married/ never married/separated/ divorced/widowed)	Marital status of all household members (Never married/married/ divorced/separated/ widowed/stay together)	Marital status of eligible men and women aged 15–49 years (Currently married/ / widowed/divorced/ separated/never married)
<b>Educational attainment</b>	Father's and mother's highest education (no response categories provided)	School attendance of all household members aged 6 years and over (Never/yes)  If 'Yes,' specify the level of education (No education/primary year 1–6/secondary year 1–7/ vocational levels 1–3/ Bachelor's degree/ Master's degree/PhD/ do not know)	School attendance of all household members aged 3 years and over (Yes/No).  If 'Yes,' specify the level of education (Primary/ lower secondary/ upper secondary/post-secondary non tertiary/ tertiary/Do not know)  Grades of education (11–15 Primary/21–24 Low secondary/31–33 Upper secondary/41–43 Post-secondary/51–57 Tertiary/98 Do not know).



**Table 5: Characteristics/indicators available in birth notifications/certificates, PHC, and LSIS II for data disaggregation**

Characteristic/ Indicator	Birth notification/ certificate	PHC	LSIS II
<b>Religion</b>	Father's and mother's religion (no response categories provided)	Religious affiliation of all household members (Buddhist/Christian/Bahai/Islam/other/no religious affiliation)	Religious affiliation of household head (Buddhist/Christianity/Islam/Animist/other religion/no religion)
<b>Occupation</b>	Father's and mother's usual occupation (no response categories provided)	Employment status of all household members aged 10 years and older (Government employee/state enterprise employee/private sector employee/employer/own account worker/unpaid family worker/not employed)	
<b>Place of birth</b>	Name and address of health facility/hospital (village, district, province)	Place of birth of all household members (Same district/different district but same country/overseas)	Place of birth for births in the last two years (your home, other home)/public sector (government hospital, government health center, other public medical)/Private medical sector (private hospital, private clinic, private maternity home/other private medical)/other]

Compared with birth registration, the characteristics/indicators that can be derived for the disaggregation of death data based on the death certificates are relatively limited, as shown in Table 6. Even though the hospital records of deaths—i.e., death notifications—seem likely to contain more information on deceased persons than other forms, it is omitted from this review because only a small proportion of deaths in Lao PDR (approximately 7%), are currently reported to occur in health facilities.

**Table 6:** Characteristics/indicators available in death certificates, PHC, and LSIS II for data disaggregation

Characteristics/ Indicators	Death certificate	PHC	LSIS II
<b>Age</b>	Date of death of the deceased person	Age of all household members who died within 12 months prior to the PHC.	Age at which a child of a female respondent died.
<b>Sex</b>	Sex of the deceased person (Gender-title's option (e.g., Mr/Mrs) is provided)	Sex of all household members who died within 12 months prior to the PHC (Male/female).	Sex of a dead child (Male/female).
<b>Usual residence</b>	Village, district, province	Household's location (Village, district, province) and village's infrastructure information whether it is located in the municipality of district/province (Yes/no)	
<b>Place of death</b>	Village, district, province	Place of usual residence (for those who were reported to have passed away at home)	

### 3.4 Inequalities in civil registration based on LSIS data

In this section, we present results of the preliminary assessment of inequalities in birth and death registration that was conducted using LSIS data. For the completeness of birth registration, data from the two most recent rounds of LSIS—i.e., LSIS I in 2011-12 and LSIS II in 2017—were employed, which allowed us to see trends over a certain period of time. Only the 2017 LSIS data are utilized to estimate the completeness of death registration. In particular, we examined childhood mortality occurring within 59 months before the survey.

#### 3.4.1 Inequalities in birth registration

The calculation of birth registration completeness was based on self-reported data that were obtained from the Birth Registration module of the Questionnaire for Children under Five in LSIS. In this module, a mother or a caretaker of each child aged under 5 years old residing in the sampled household is asked

whether the child has a birth certificate (Item BR1). If the answer is 'Yes', the respondent is probed to present a proof of birth certificate. Possible response categories are 'Yes, seen', 'Yes, not seen', 'No' and 'Don't know'. In the analysis, children whose mothers or caretakers were reported to own a birth certificate, regardless of whether the documentation was physically presented, were considered as having birth registration. For both surveys, approximately half of children under the age of five years who reported to be registered, presented their birth certificate to the interviewer.

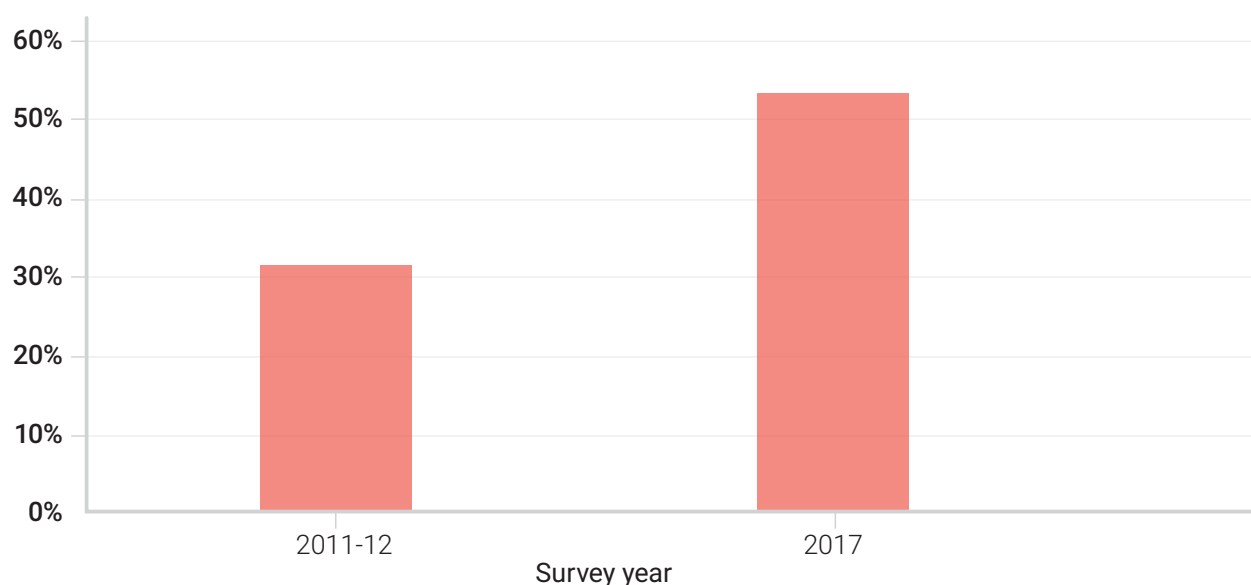
Results presented in the following sections were adjusted by the sample weights provided in the datasets to obtain nationally representative estimates. Also presented, are 95% confidence intervals to show uncertainties as well as the statistical significance of the estimation.

The completeness of birth registration among children under the age of five years was computed as:

$$\frac{\text{Number of children aged 0-59 months who have has their birth registered}}{\text{Total number of children aged 0-59 months in the survey}} \times 100$$

The results obtained using LSIS data in 2011-12 and in 2017 are shown in Figure 9. A significant improvement in the percentage of birth registration can be observed among children under the age of five years from 33 per cent in 2011-12 to 55 per cent in 2017.

**Figure 9: Completeness of birth registration among children under the age of five, Lao PDR**



Source: Authors' calculation based on LSIS data in 2011-12 and in 2017.  
Note: 95% confidence intervals are depicted.

Figure 10 examines the completeness of birth registration among children under the age of five by gender, geographic location and parents' wealth status. In 2011-12, a slight yet insignificant gender difference can be observed in the percentage of births registered under the age of five years, where 34 per cent of boys and 32 per cent of girls were registered. However, this difference has diminished over time, as observed in 2017 when the percentage of boys who are registered under the age of five (55 per cent) was identical to that of girls.



The results also demonstrate a large gap in birth registration among children under the age of five in terms of area of residence. Nearly 6 in 10 children aged under five in urban areas (58 per cent) are registered, compared to only 3 in 10 rural children (26 per cent) in 2011-12. Within a period of five years, the percentages of urban and rural children registered, increased to 79 per cent and 46 per cent, respectively, which shows that a significant urban-rural difference remains in 2017. In addition, the percentage of birth registration in 2011-12 is distinctively higher among children under the age of five who live in the Central region of Lao PDR (41 per cent), compared with Northern children (26 per cent) and Southern children (28 per cent). In 2017, the percentage of births registered significantly increased across all regions to 57, 60 and 41 per cent for children under the age of five who live in the Northern, Central and Southern parts of Lao PDR, respectively. However, there is still a large gap in the percentage of birth registration between Central and Southern regions where nearly 2 in 10 Southern children under the age of five years (19 per cent) are still left behind. Our diagnostic test based on LSIS data in 2017 further revealed that Central-urban children are most likely to be registered, while Southern-rural children are least likely to be registered (results not provided).

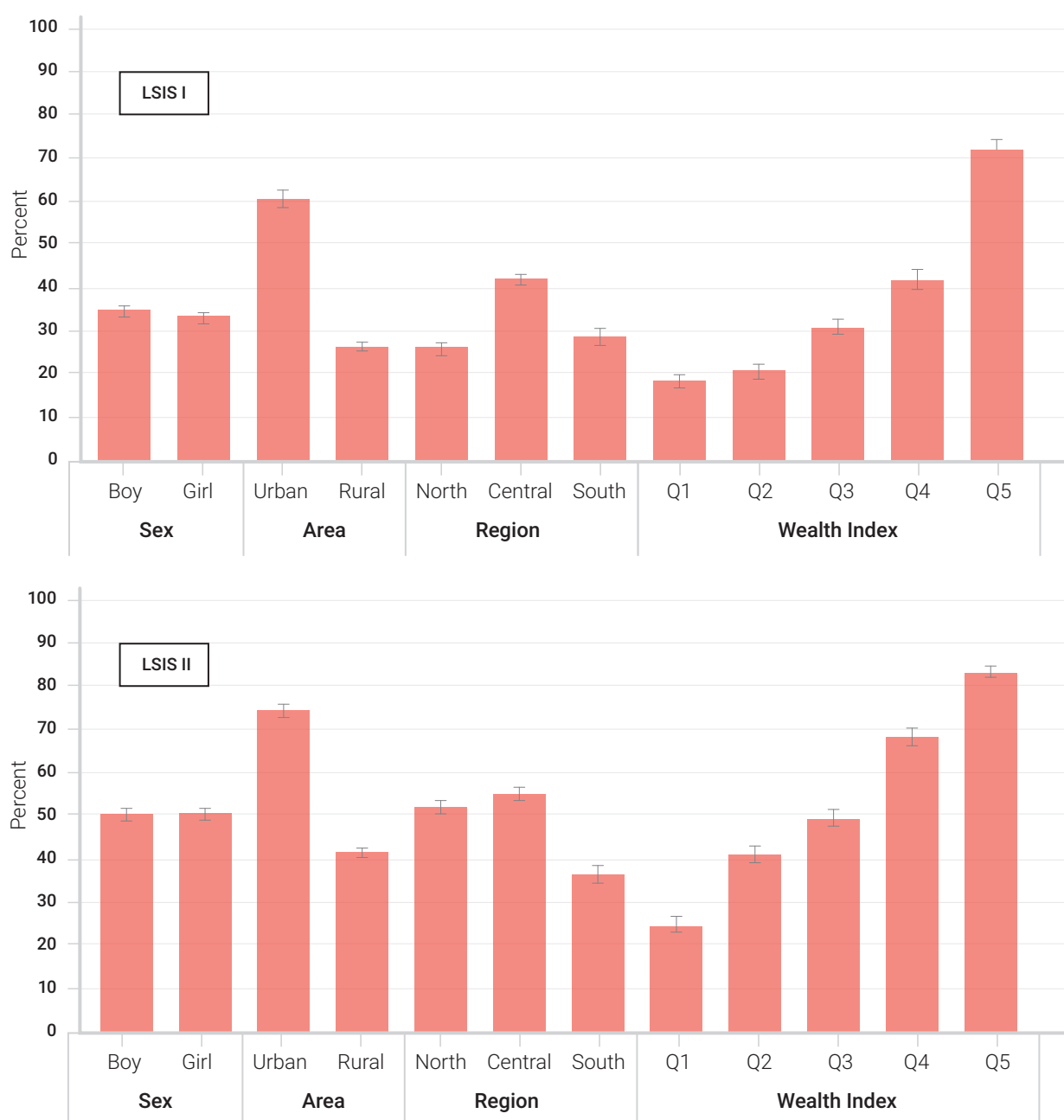
Also shown in Figure 10, are the percentage of children under the age of five years who were registered with respect to wealth index. The wealth index is constructed based on the ownership of consumer goods, water and sanitation, dwelling characteristics and other characteristics related to the economic status of a household. The 2011-12 results show that the percentage of birth registration increased significantly with wealth index. The percentage of children registered is highest among wealthiest households (69 per cent) and lowest among poorest households (18 per cent). Similar results are observed in 2017, where only 3 in 10 children under the age of five years in the lowest wealth quintile (29 per cent) are registered, and nearly 6 in 10 of them (59 per cent) are still left behind, compared to children in the wealthiest quintile (88 per cent).

The percentage of birth registration among children under the age of five years was also observed to vary substantially by province. The 2011-12 results in Figure 11 show that the percentage of children who are registered, is highest in Vientiane Capital at more than 70 per cent, and lowest in Huaphanh province, where only 2 per cent of children have had their birth registered. The very low level of completeness of birth registration in Huaphanh province may be partly due to its mountainous terrain and least favorable economic conditions compared to other provinces. These factors could hinder access to birth registration in many ways, such as travel time and cost, limited availability of registration facilities, and lack of knowledge about the importance of registration. In 2017, considerable improvement in the completeness of birth registration is observed in almost all provinces, except for Saravane province where the percentage of birth registration has declined slightly from 2011-12. Among other provinces, 9 of them have witnessed an increase in the percentage of birth registration between 2011-12 and 2017 by more than two times (results not shown).

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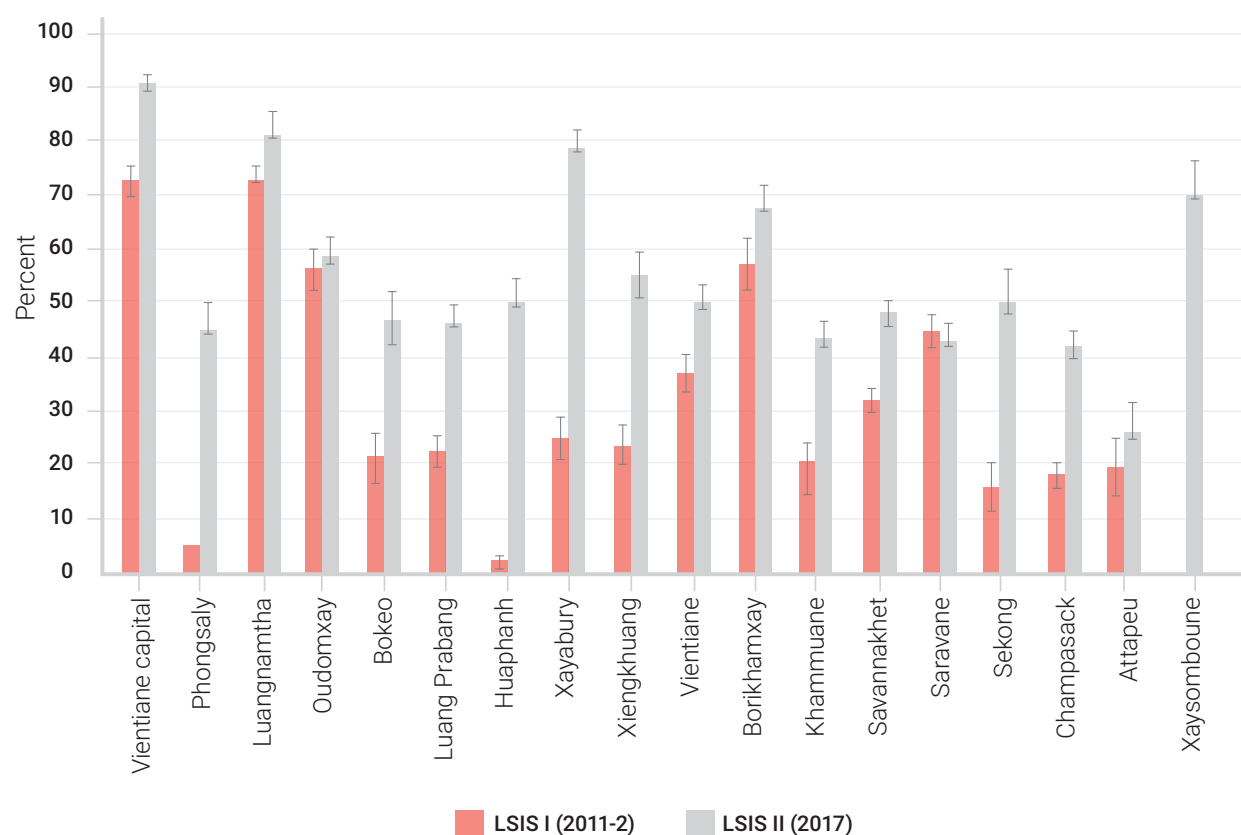
**Figure 10: Completeness of birth registration among children under the age of five years by selected characteristics, Lao PDR**



Source: Authors' calculation based on LSIS data in 2011-12 and in 2017.

Note: 95% confidence intervals are depicted.

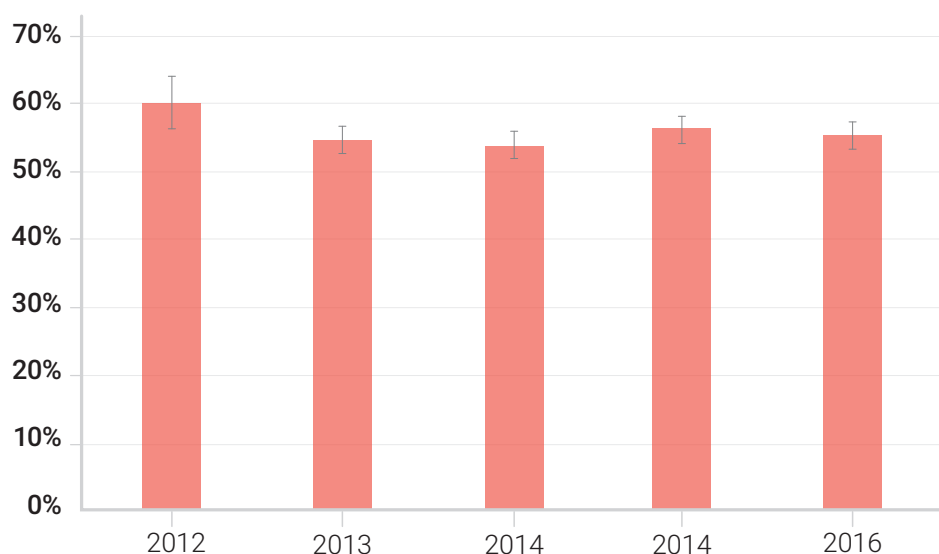
**Figure 11: Completeness of birth registration among children under the age of five years by province, Lao PDR**



Source: Authors' calculation based on LSIS data in 2011-12 and in 2017.  
Note: 95% confidence intervals are depicted.

Figure 12 shows the completeness of birth registration among children under the age of five years by birth cohort. In 2017, only 6 in 10 children who were born in 2012 (60 per cent) were registered. Meanwhile, slightly more than half of children in other birth cohorts were registered, with a small variation from 55 per cent for children who were born in 2013 to 56 per cent for those who were born in 2016. While these data likely suggest a minor improvement in the percentage of birth registration of children under the age of five years over time, this improvement is only marginal, considering that the increase in birth registration of children who are born in 2012 is likely to be less than 10 per cent over the course of five years. In addition, almost 6 in 10 children in the 2016 birth cohort (56 per cent) were registered in 2017, which shows a higher likelihood for children to be registered within their first year of birth.

**Figure 12: Completeness of birth registration among children under the age of five years in 2017 by birth cohort, Lao PDR**



Source: Authors' calculation based on LSIS I data in 2017.

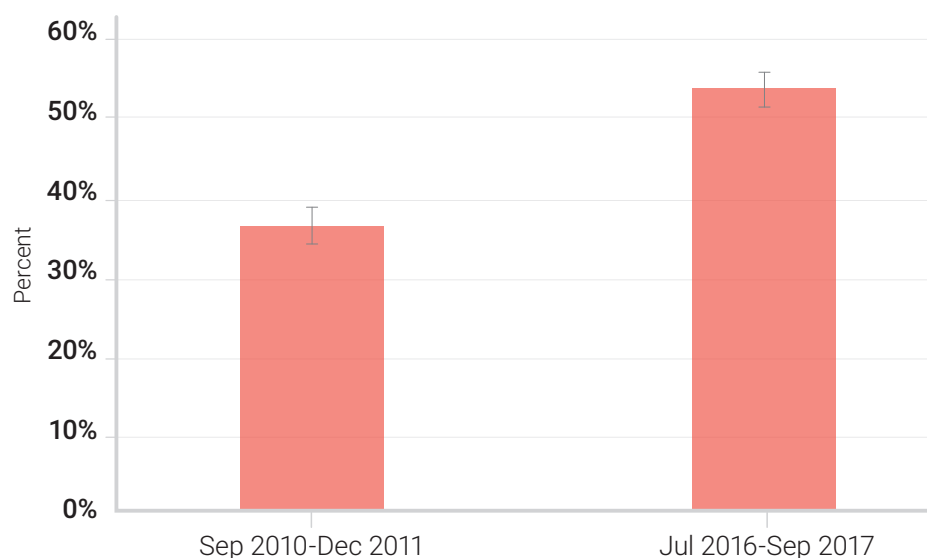
Note: The figure presents birth cohorts by calendar year. A baby born during Jan-Dec 2012 is labeled 2012 birth cohort. 95% confidence intervals are depicted.

In this section, we attempt to examine the completeness of birth registration within one year of occurrence. Due to the absence of information on the 'date of registration', the analysis has only been completed for births that took place within one year prior to the survey. To account for the registration process that can take up to 50 days after childbirth, the completeness of birth registration within one year from each survey is derived from:

- children born between September 2010 and December 2011 for the data collection period from October 2011 to February 2012 for LSIS in 2011-12.
- children born during July 2016-September 2017 for the data collected between July and November in 2017 for LSIS in 2017.

Figure 13 shows a significant improvement in the completeness of birth registration within one year. The percentage of births registered for children who were born between June 2016 and September 2017 (54 per cent) is consistent with that for children who were born in 2016, as obtained from the cohort-based analysis (56 per cent), shown in the previous figure. In 2011-12, only 3 in 10 children (37 per cent) were registered, whereas the percentage has increased to slightly more than half (54 per cent) in 2017.

**Figure 13: Completeness of birth registration among children born within one year prior to the survey, Lao PDR**

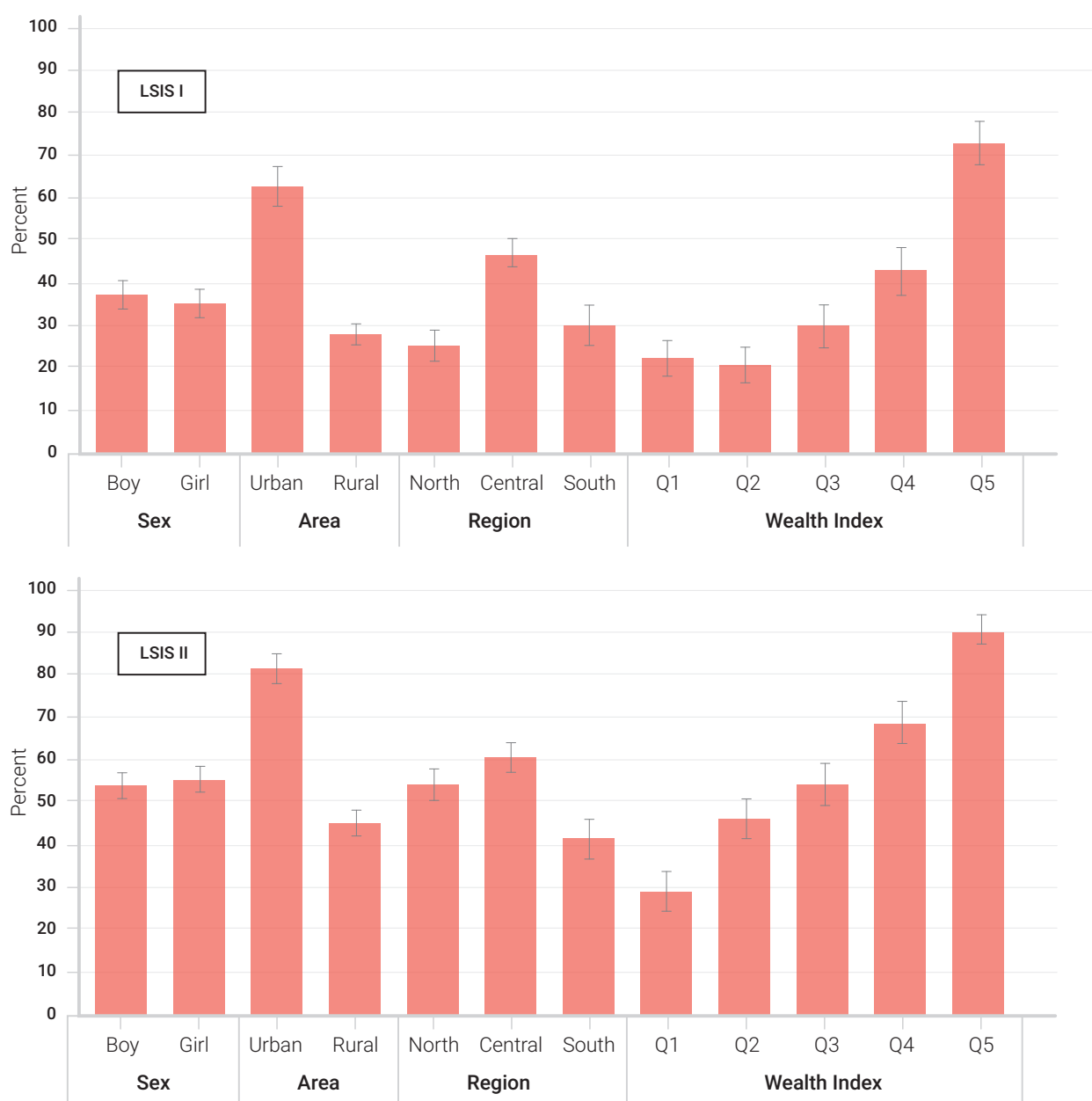


Source: Authors' calculation based on LSIS data from 2011-12 and 2017.  
Note: 95% confidence intervals are depicted.

Figure 14 shows no distinct differences by sex in the completeness of birth registration within one year, based on LSIS data in 2011-12 and in 2017. In line with the previous results, the completeness of birth registration among infants varies significantly with their location of residence. In 2011-12, about 6 in 10 infants in urban areas (63 per cent) were registered within one year, compared to only 3 in 10 infants in rural areas (28 per cent). A substantial improvement in birth registration completeness is clearly observed in both urban and rural areas in 2017. However, the urban-rural differential is still pronounced in 2017, with almost 5 in 10 rural infants (45 per cent) registered, compared 8 in 10 infants in urban areas. In terms of region, similar variations for children under the age of five years (Figure 10) are observed, where the completeness of birth registration within one year is highest in the Central region and lowest in the Southern region for both rounds of LSIS.

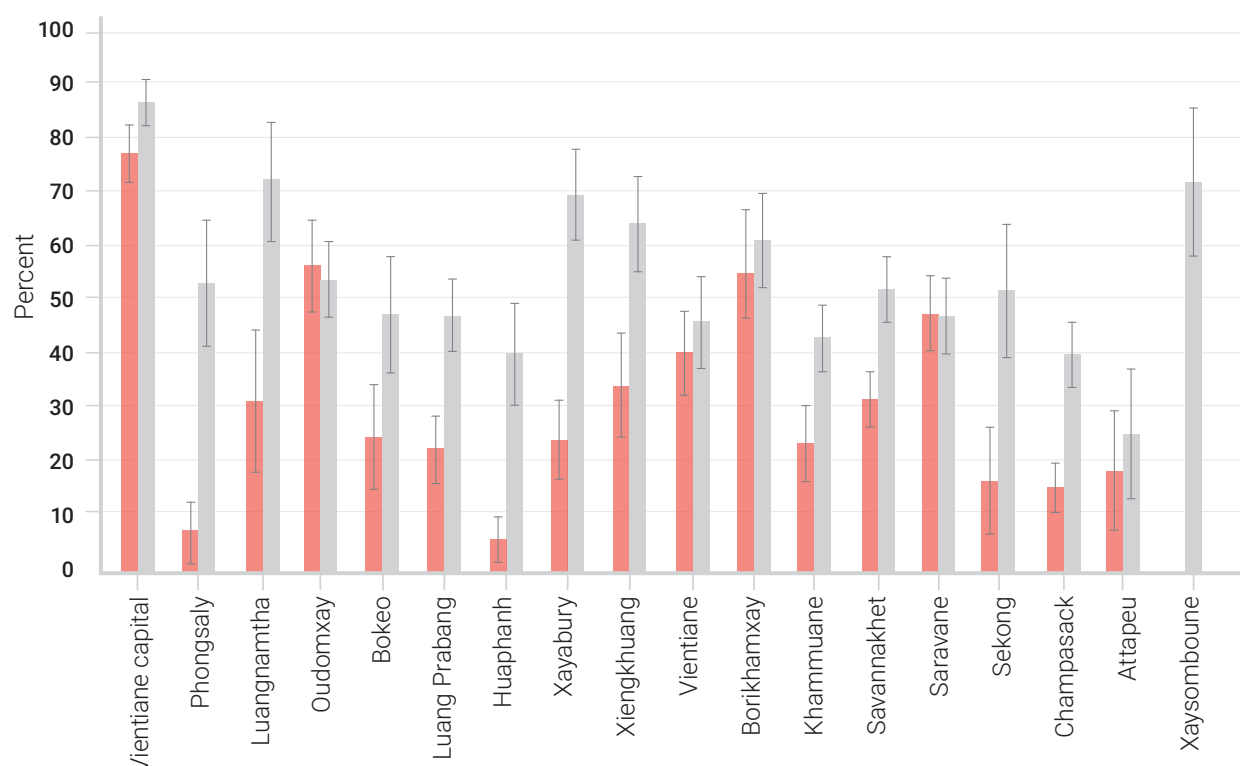
The completeness of birth registration within one year is also observed to increase as the household wealth increases, with the exception for the lowest two wealth quintiles in 2011-12, where 23 per cent and 21 per cent are registered, respectively. In 2017, a clear gradient in the birth registration completeness with respect to the wealth index is seen, where it is highest among families with most abundant economic resources and lowest among families with minimal resources. A large variation across provinces in the completeness of birth registration among infants is apparent for both 2011-12 and 2017 data, as shown in Figure 15. The patterns of variation within these years are similar to those observed for children under the age of five years, as shown earlier in Figure 11. Also consistent, is the pattern of change between these two periods.

**Figure 14: Completeness of birth registration among children born within one year prior to the survey by selected characteristics, Lao PDR**



Source: Authors' calculation based on LSIS data in 2011-2 and in 2017.  
 Note: 95% confidence intervals are depicted.

**Figure 15: Completeness of birth registration among children born within one year prior to the survey by province, Lao PDR**



Source: Authors' calculation based on LSIS data in 2011-2 and in 2017.  
Note: 95% confidence intervals are depicted.

While LSIS data seem to be the best available source for the preliminary inequality assessment, it is important to recognize that they are subject to certain limitations. Like any other survey data, there is a potential for recall bias. This is because a survey respondent, usually a mother or caretaker of a child, may not remember accurate details of the registration or because other family members have taken care of the registration without participation of the respondent. Even though the recall bias tends to be minimized by the information contained in a birth certificate, half of the respondents who reported to have birth registration failed to present a birth certificate. Without proof, there is a possibility that the respondents may interpret a birth certificate as birth notification in a family book. There is also a chance that the respondents intentionally misreport birth registration, in order to be viewed positively by the interviewer.

### 3.4.2 Factors associated with birth registration

This section presents results from multivariate regression analysis on the correlates of birth registration among children under the age of five, based on 2017 LSIS data. In the analysis, the outcome variable was birth registration, constructed based on the mothers' or the caretakers' report to own a birth certificate. This variable was recoded into a dichotomous variable, with 1 indicating having birth registration, while 0 otherwise.

Two levels of factors—i.e., individual and community—as indicated in the literature to have potential effects on birth registration were considered in the model. At the individual level, various characteristics of the children (i.e., sex, age, birth order and place of delivery), the mother (i.e., education attainment, marital status

and health insurance), and the household (i.e., sex of household head, ethnicity, religion and wealth status) were investigated. The potential effect of the community, where the household was located, was assessed at the level of village in which the household was sampled. The community-related variables included region, location of residence, proportion of non-poor households in the village, proportion of men and women in the village who completed at least primary education and mortality rate of children in the village. Note that there were several other variables indicated in previous studies to potentially contribute to birth registration but were not included in our analysis due to the unavailability of data.

A two-level logistic regression model was adopted due to the binary nature of the outcome variable and to account for the hierarchical structure of the survey data. Two diagnostic tests were performed before the analysis. Interclass correlation coefficient (ICC) was used to confirm the need for the multi-level analysis, and whether the community factors were relevant in explaining the variation in the outcome. Multicollinearity was also examined using Variance Inflation factor (VIF).

Table 7 presents the results from the full model, in which all individual and community level variables are included. The results show that, all else being equal, the odds of birth registration increase significantly with the age of the child until reaching the age of four (48 months). Children who are second or later birth orders are significantly less likely to be registered as compared to the first-born. In addition, children born to mothers with higher education and who have health insurance show higher likelihoods of having birth registration. In terms of the household characteristics, the results indicate that the wealth status is positively and significantly associated with the likelihood of birth registration. In addition, children living in a household that is not affiliated with Buddhism are significantly less likely to be registered. The results show further, a significant effect of geographical location on birth registration. Residing in an urban area significantly increases the odds for children to be registered. Moreover, Northern and Central children are more likely to have birth registration, compared to Southern children. With respect to the community's characteristics, the results reveal that children residing in a community with a greater proportion of adults who have at least primary education are more likely to be registered, whereas the odds of children being registered is lower in a community where child mortality is higher.

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**Table 7:** Two-level logistic regression results on factors associated with birth registration for children under the age of five years, 2017, Lao PDR

Variables	Odds ratio	Variable	Odds ratio
Constant	0.216 (0.065)***	<b>Household's characteristics</b>	
Constant (Community)	1.325 (0.119)***	Sex of household head (Ref=Female)	
<b>Child's characteristics</b>		Male	0.877 (0.113)
Age (Ref=0-11 months)		Ethnicity (Ref=Lao-Tai)	
12-23 months	1.236 (0.116)**	Mon-Khmer	0.936 (0.154)
24-35 months	1.356 (0.126)***	Hmong-Mien	1.016 (0.180)
36-47 months	1.217 (0.117)**	Other	0.950 (0.225)
48-59 months	1.137 (0.116)	Religion (Ref=Buddhist)	
Sex (Ref=Female)		Animist	0.723 (0.109)**
Male	1.039 (0.061)	Others	0.452 (0.115)***
Birth order (Ref=first)		Wealth status (Ref=Q1)	
Second or higher	0.794 (0.053)***	Q2	1.556 (0.151)***
		Q3	1.778 (0.224)***
		Q4	2.564 (0.380)***
		Q5	4.651 (0.926)***

Data source: The 2017 LSIS data.

Notes: Robust standard deviations are in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 7: Two-level logistic regression results on factors associated with birth registration for children under the age of five years, 2017, Lao PDR**

Variables	Odds ratio	Variable	Odds ratio
Maternal characteristics		Community characteristics	
Mother's education (Ref=<primary)		Location of residence (Ref=Rural)	
Completed Primary education	1.482 (0.132)***	Urban	1.441 (0.184)***
Lower secondary	1.467 (0.169)***	Region (Ref=South)	
Upper secondary or higher	2.103 (0.314)***	North	2.681 (0.348)***
Union status (Ref=not in union)		Central	1.518 (0.192)***
Currently married/ in union	0.941 (0.186)	% Adults with at least primary education	1.013 (0.003)***
Having health insurance (Ref=no)		% Non-poor households in the village	1.000 (0.002)
Yes	4.362 (0.625)***	% Children who have died in the village	0.980 (0.007)***
		AIC	10,826
		Number of observations	10,575

Data source: The 2017 LSIS data.

Notes: Robust standard deviations are in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

### 3.4.3 Inequalities in death registration

To estimate the completeness of death registration, the following formula is used:

$$\frac{\text{The number of deaths registered with civil authorities in a given year}}{\text{Total number of deaths in the same year}} \times 100$$

For the numerator, the annual registered deaths from 2015 to 2020 provided by MOHA are used with an assumption that the occurrence of a death and the registration take place within the same year. This assumption is made due to our lack of information on the actual date of death, as previously discussed in Section 3.1.

The denominator in the above formula—i.e., the total number of deaths in a given year—is computed by using demographic techniques and model life tables. First, infant mortality and child mortality for males and females are derived based on LSIS data in 2017 and the results are presented in Table 8. Following the LSIS report, infant mortality is defined as the probability of dying between 0-1 years old, and is denoted as 1q0 in this table. Likewise, child mortality is defined as the probability of dying between 1-4 years old and denoted as 4q1.

The mortality rates for infants and for children are calculated based on historical data of births obtained from the LSIS' Women's Questionnaire. All interviewed women were asked whether they had ever given birth, and those who had would be asked further to report the number of sons and daughters who lived with them, the number who lived elsewhere, and the number who died. In addition, women were asked to provide detailed information on live births, starting with the firstborn in chronological order. This information included the sex and the survival status of each live birth. Further, for a child who was alive at the time of survey, the mother was also asked for the current age of the child, while the age at death was obtained for a deceased child, if there was any.

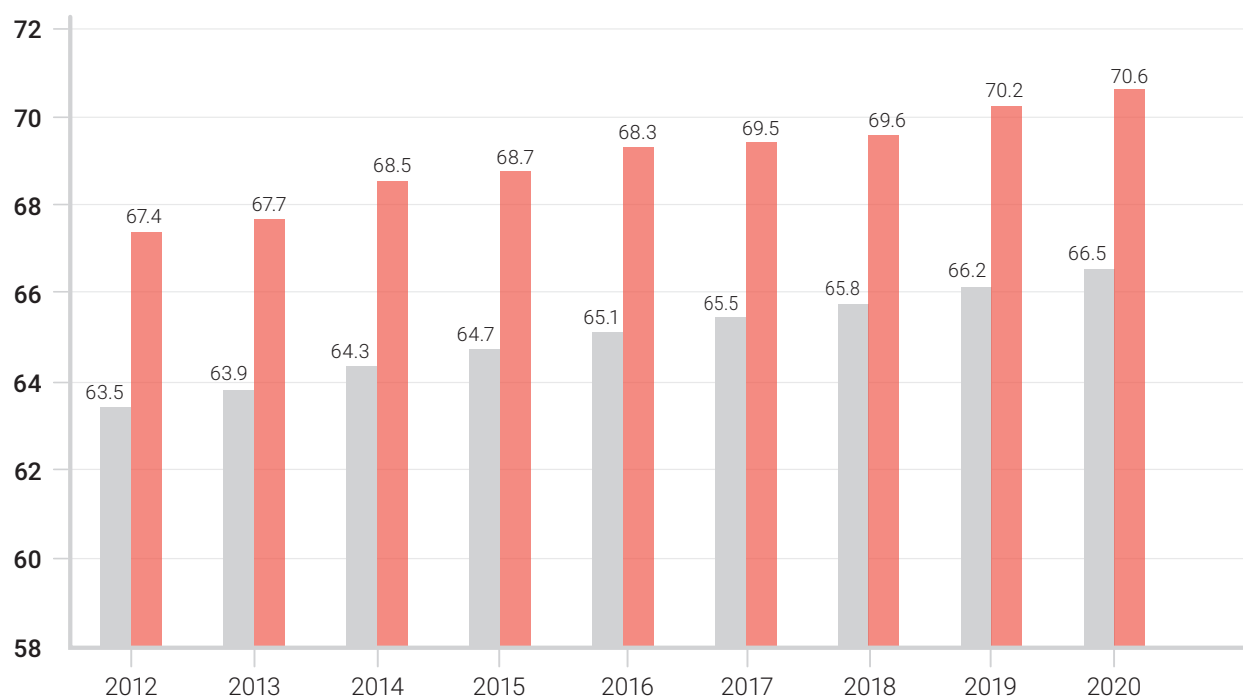
**Table 8:** Infant mortality (1q0) and child mortality (4q1) by sex for one-year period preceding the survey

	Males	Female
1q0	0.04976	0.02452
4q1	0.01312	0.01727

Source: Authors' calculation based on LSIS data in 2017.

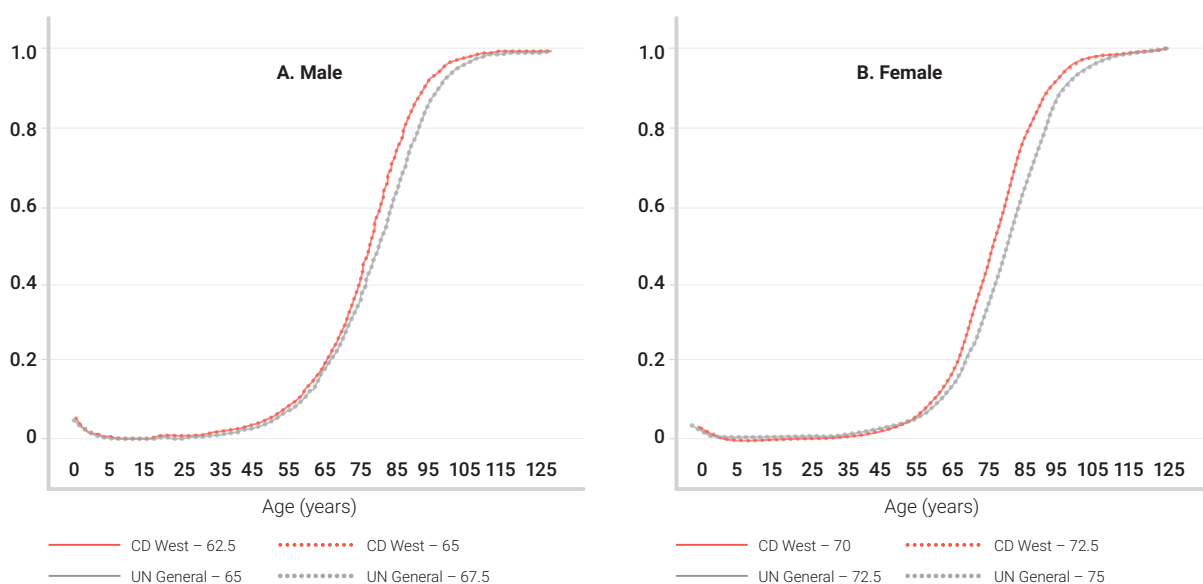
We recognize concerns and critiques on the estimation of deaths, particularly regarding the possibility of creating a distorted picture of completeness (Rao et al. 2020). However, due to the scarcity of death data, we have decided to borrow the age pattern of mortality from model life tables (MLTs). The most suitable MLTs in this study are selected—based on the characteristics of regions that closely match those of Lao PDR—as the West region family of Coale-Demeny's MLT and the General family of UN's MLT. After that, the most appropriate life table (the mortality level) is identified using the infant and child mortality data in Table 7 and the life expectancy of males and females taken from the 2022 UNWPP (See life expectancy data for Lao PDR in Figure 16). We assume that all columns of the selected life table represent the columns of Lao PDR's life tables.

**Figure 16: Life expectancy by sex for Lao PDR (in years), 2012-2017**



Source: UNWPP, 2022.

**Figure 17: Selected mortality pattern from Coale-Demeny's and UN's model life tables for Lao PDR**

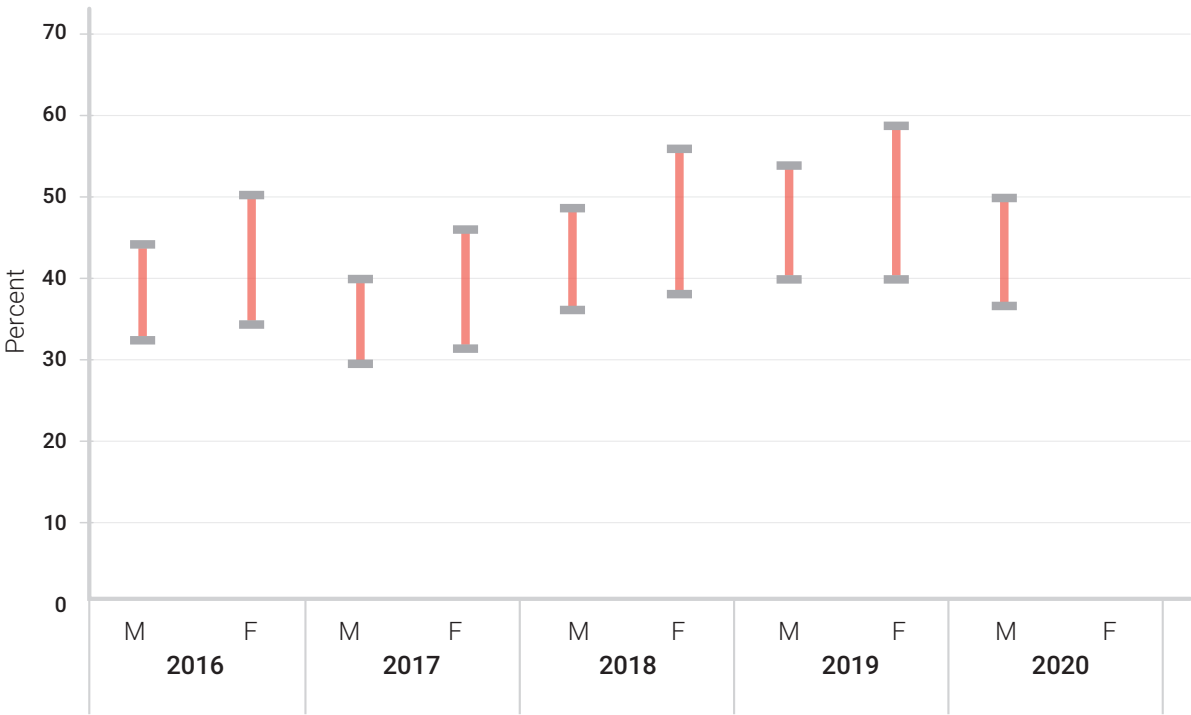


Source: <https://www.un.org/development/desa/pd/data/model-life-tables>

Figure 17 presents the age-mortality pattern from the selected life tables of different MLT systems— i.e., Coale-Demeny and the United Nations. These mortality patterns are applied to the UNWPP estimates of the Lao population between 2016 and 2022, to derive the expected total number of deaths for computing the completeness of death registration.

The completeness of death registration obtained by using different MLTs for males and females can be illustrated in Figure 18. To avoid clustering, the results are presented in ranges showing only the minimum and maximum percentages of deaths estimated to be registered between 2016 and 2020. Overall, the results show a slight drop in the completeness of death registration from 2016 to 2017, followed by an overall improvement between 2017 and 2020. Similar variations in the percentages of death registered across years are observed for males and females, except for the year 2020 where only males show a drop in the completeness of death registration. In addition, female deaths are more likely to be registered over the period observed, compared to male deaths.

**Figure 18: Completeness of death registration for male and female populations, Lao PDR**



As for the completeness of birth registration, the estimation for death registration in this report is subject to certain limitations. As the total number of deaths are estimated based on survey data, it is likely to be affected by various biases and errors. For instance, the history of an infant’s or a child’s death relies wholly on the mother’s account. As such, the accuracy of infant and child mortality is likely to be compromised by recall and social desirability biases. In addition, even though LSIS data are subject to quality assurance, it is the nature of all surveys to have sampling errors. For the 2017 LSIS data, the standard errors for infant mortality are relatively high compared with any other indicators. The large standard errors for these specific groups may be partly due to their small sample sizes. Furthermore, it is important to keep in mind that the validity of the estimation results can be affected by the methodological assumptions of the demographic techniques employed. These assumptions may not hold true for the population of Lao PDR.

# 4

## CONCLUDING REMARKS AND RECOMMENDATIONS

The CRVS system in Lao PDR has been continuously developed since its establishment in 1992, in order to better serve the government agencies in the management of their citizens, as well as to produce key statistics required for policies and interventions for specific target groups. The major steps that have been taken in this regard, were the establishment of the Ministry of Home Affairs (MOHA) in 2011 and two successive amendments of the Family Registration Law (FRL). Other key milestones included the organization of the Citizen Management Inter-ministerial Coordinating Committee in 2014-2015 and the implementation of the 10-year National CRVS Strategy covering the period of 2016-2025.

Recently, the significance of the CRVS system in driving the country's development has been recognized as one of the national priorities and incorporated into the long-term Lao Population and Development Policy (2019-2030). This is owed largely due to the commendable effort to foster the development of the CRVS system through various initiatives by many international organizations, such as UNFPA Lao PDR, World Bank, UNICEF, ESCAP and the Centre of Excellence for CRVS Systems at the International Development Research Centre (IDRC), to name a few.

Despite these improvements, recent statistics show that the completeness of civil registration is still low. This pressing fact stresses the necessity of conducting an inequality assessment using national civil registration data, to identify who is most at risk of not being registered. To do so, however, requires data that are both complete and of good quality. In the following sub-sections, recommendations for further actions by the government of Lao PDR are proposed, focusing on the implementation of the inequality assessment, as well as the data required.

### **4.1 Improving availability of and access to civil registration data**

**Recommendation 1:** *A dataset containing essential information on key vital events should be made available to enable further analyses and use for policy-making as well as for monitoring the progress of achieving the SDGs.*

#### **Recommended actions:**

- A.** As a minimum, the government is highly encouraged to publish in an official document which reports the aggregate numbers of key vital events—i.e., births and deaths—and basic tabulations showing key characteristics of persons experiencing these events—e.g., sex, age and area of residence—based on data collected at the time of registration. The provision of these numbers and detailed tabulations should be made on a regular basis, for example, monthly, quarterly, or on another regular basis that is prompt enough to provide information for administrative uses or other needs.

**B.** For monitoring the progress of the civil registration system, the following information should be made available:

- The characteristics of vital events should contain:
  - Date of occurrence
  - Date of registration
  - Person's age at which the event occurred
  - Places where the event and the registration took place.

The first two items are crucial to adjust for possible delays in the registration.

- The characteristics of a person experiencing a vital event should include, as a minimum, the following data:
  - In case of death: the decedent's sex, socioeconomic status and ethnicity.
  - In case of birth: the infant's race and ethnicity, the father's and mother's demographic and socioeconomic status (see more details under Section 3.3)

**C.** Further actions are required by the government to ensure that the civil registration data formats and tabulations meet all national and international requirements

- Because the production and dissemination of vital statistics for a given year usually require a few years of data preparation in advance, a three- or four-year plan must be developed to cover the entire process from collecting, compiling, editing, querying, coding, sorting and tabulating to disseminating the data. Attention should be given to the quality of data before tabulation. As the responsibility for civil registration and vital statistics is divided between two separate government agencies, i.e., MOHA and LSB, it is thereby important that a clear time schedule for each procedure, particularly for data dissemination, is established.
- The developed plan needs to be reviewed on a regular basis to ensure its effectiveness and the availability of the data needed by all users.
- Major data users are encouraged to participate in this review, not only to ascertain their needs but also to create a collaborative network between MOHA and those who make use of this data.
- Regular analysis of civil registration rates can be a useful performance measurement of the system itself.
- There should be a feedback loop from data analysis to correcting data/highlighting incomplete data provided by registration offices.
- In the newly developed e-CRVS system, drop-down menus with pre-specified selections are preferred over free-form text input fields to improve the quality of data as well as to facilitate further analysis.

**Recommendation 2:** *The Citizen Management Inter-ministerial Coordinating Committee should intensify its efforts to 1) establish and secure a sustainable data-sharing system and culture and 2) integrate a Personal Identification Number (PIN), so that every person has one PIN and a linkage of personal identity across databases.*

**Recommended actions:**

**A.** High priority should be given to developing a data-sharing protocol among the government agencies that are directly involved in the civil registration process. While having a data-sharing

agreement may be regarded as the first crucial step, further action is needed to promote non-ad hoc and impactful coordination and collaboration among these government agencies. As for the next step:

- The Citizen Management Inter-ministerial Coordinating Committee—which functions as the national CRVS system coordination mechanism—is encouraged to take action in developing data exchange protocols and systems that meet all national and international requirements.
  - Sufficient resources should be allocated to facilitate the coordinating committee’s activities.
- B.** A positive attitude toward data sharing must be cultivated among key government agencies. The coordinating committee is encouraged to demonstrate the benefits of data sharing—for example, to minimize redundancies in data collection or storage and to maximize the available resources. Lessons learned from other countries where data have been shared effectively to improve the quality of life of people can also be used as showcases.
- C.** Urgent priority should be given to the development of a PIN that uniquely identifies a person and can link the identity of particular individuals across databases. While the assignment of a PIN at birth through birth registration is preferred and currently implemented in Lao PDR, greater attention should be paid to:
- Populations with the absence of birth registration, but where their legal identities exist in the family book system. This family book system should be linked to the civil registration system to ensure a holistic civil registration management system covering all vital events. And in addition, every person registered in the family book, should also have their birth registered.
  - Populations left behind from the civil registration system and the family book system.

## **4.2 Implementation of inequality assessment for the CRVS system**

**Recommendation 3.** *The government is encouraged to continue implementing the inequality assessment for the CRVS system in Lao PDR and ensure the sustainability of the initiative until the targeted coverage of civil registration can be achieved.*

### **Recommended actions:**

- A.** The government is encouraged to promote a better understanding of how the inequality assessment can drive the improvement of the CRVS system and facilitate government agencies in making evidence-based policies and effective interventions targeting the right group of vulnerable people. A smoother coordination with other government agencies can be established once the full benefits of the inequality assessment have been realized.
- B.** As LSB staff are equipped with technical expertise in demography and statistics, the agency may continue its efforts to organize technical workshops on methodologies or indirect demographic techniques for estimating the completeness of civil registration or producing demographic indicators. This would help ensure other government agencies’ participation and commitment to supporting the implementation of inequality assessments in Lao PDR.
- C.** Having an effective CRVS system is not the only means to increasing the completeness of civil registration. The literature has shown that understanding economic and social values/norms surrounding vital events and cultural practices and concerns over information sharing with the government—particularly among ethnic minorities—is crucial for fostering civil registration. The government is thus encouraged to take the following actions:



- Collecting quantitative data to identify people who decide against birth or death registration and why they do so. Information from areas where a civil registrar's office does not exist or access to the registration service is limited is particularly valuable as the information cannot be accessed by any other means except from surveys. Direct questions can be incorporated into the existing surveys, including the next Census in 2025, and the results can be shared with MOHA and other government entities to devise effective solutions together.
  - Qualitative studies may also be useful to understand the sociocultural context of civil registration.
  - In the case of death registration, the availability and quality of data on causes of death are of particular concern.
    - For all deaths, particularly those occurring outside health facilities, the government is encouraged to make a medical certification of the cause of death as a necessary documentation for death registration.
    - Because there are a large number of areas where physicians or medical personnel are not available to complete the medical certification of the cause of death, there should be increased efforts to expand the use of verbal autopsy to identify the cause of death.
    - As can be seen in many high-capacity countries, the information on decedents and causes of deaths obtained through surveys is useful for producing statistical reports to support the improvement of the civil registration system.
- D.** While LSB has been leading this initiative, the long-term sustainability of this operation by a single agency can be compromised by several factors, such as staff shortages, limited funding, and annual rotation of staff. The following actions are recommended:
- The government should maintain and strengthen its relationships with other supporting agencies and international organizations to ensure that there is no disruption of support, particularly on the technical side.
  - The government is encouraged to allocate budget to maintain the required operations since sole reliance on financial support from external sources may become problematic over time.
  - A strong commitment to improving the CRVS system through the inequality assessment must be set in stone by the government in the national economic and social development plan to compete with many other emerging economic, health, and social issues that may be deemed equally or more important.
- E.** Where existing inequalities have been identified based on our descriptive and multivariate regression analysis using LSIS data, proactive actions should be taken by devising policies to accelerate progress and reduce gaps. The inequality assessment using latest LSIS data should also be continued and further validated against results obtained using civil registration data.
- F.** Key government agencies are encouraged to share their resources by working together on developing a joint costed strategic action plan to maximize efficiency in implementing the 10-year CRVS strategy. This can also help overcome the existing challenge of having limited resources for capacity development. The developed plan should be reviewed on a regular basis to ensure that it can be tailored to the changing needs of these agencies in a timely manner.



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### ***Summary of capacity strengthening workshops***

Two capacity building workshops were organized as part of this project. The first CRVS National Capacity Building Workshop was held in Vang Vieng District, Vientiane Province, Lao PDR, between August 17-19, 2022. The workshop which was co-organized by LSB and ESCAP, was attended in-person by 25 participants from eight ministries relevant to the CRVS system in Lao PDR, with two online participants from UNFPA Lao PDR and UNICEF Lao PDR. Following the first workshop, the second CRVS National Capacity Building Workshop took place on October 25-28, 2022 in a hybrid format, online and onsite, in Vang Vieng District, Vientiane Province, Lao PDR. The second workshop was jointly organized by Lao Statistics Bureau (LSB), ESCAP Statistics Division and UNFPA Lao PDR, with 21 onsite and 3 online participants from 7 line ministries, UNFPA Lao PDR and ESCAP.

The topics of the two workshops were decided by LSB in consultation with ESCAP to reflect the existing capacities and needs of LSB. The first capacity building workshop focused on mortality and life table construction. The content also covered essential concepts and methods related to the inequality assessment of civil registration, as well as some basic and advanced spreadsheet techniques on Microsoft Excel. Meanwhile, the second workshop was aimed to provide essential concepts and calculation methods for vital demographic statistics and measures, including population growth, population structure, fertility, mortality, migration, and nuptiality. The second workshop also covered techniques for presenting statistical data in a meaningful way. Both training workshops were participatory and hands-on in their design. Each one consisted of lectures that were supplemented by practical sessions with exercises using Lao PDR data that were downloaded from UNWPP and WHO websites.

During the first workshop, a group discussion was also organized to collect information from representatives of line ministries, regarding the possible sources of birth and death data to be used for the inequality assessment. The participants were assigned to two separate groups, one focused on “birth data” and the other on “death data”. For each of the potential sources of data identified, the participants were asked to assess the expected quality of data on five dimensions: coverage, accuracy, accessibility, timeliness and data disaggregation. For the second workshop, the representatives from the Ministry of Home Affairs (MOHA), Ministry of Foreign Affairs (MOFA), Ministry of Education and Sport (MOES) and Ministry of Public Security (MOPS) were asked to deliver a 15-minute presentation on the first day on the availability of data and their sharing protocol to support the inequality assessment.

Overall, both workshops were successful in culminating the necessary skills for calculating the demographic indicators that can subsequently be used for the CRVS-related inequality assessment. The workshops also strengthened essential capacity in constructing a life table using Lao PDR data and introduced a few advanced techniques for working on life tables, including expanding the life tables to older age groups and combining a single life table. In addition, the workshops provided a good opportunity for participants from different ministries to be acquainted with the national data and their application on

mortality. Several discussions that took place during the workshops indicated the participants' enthusiasm to apply what they learnt to their relevant work. These discussions also reflected their needs for further capacity development, such as training workshops on the utilization of vital statistics data once these data become readily available in the future. Possible topics to be included are the indirect estimation of key demographic measures using census or civil registration data and methods for estimating population projections for Lao PDR. These topics are deemed timely given that the country is preparing for its next census in 2025. Furthermore, the demographic analysis techniques covered in these trainings will be useful for the production of the country's first-ever vital statistics report.

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