CIVIL REGISTRATION IN SOUTH-EAST ASIA

LEGISLATION, DIGITIZATION AND INEQUALITY

Reforming Legislative Frameworks

The Status of System Digitization

Assessing and Addressing Inequalities

ESCAP
Economic and Social Commission for Asia and the Pacific

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FOREWORD

Significant challenges remain when it comes to registering life events in Asia and the Pacific. An estimated 64 million children under the age of 5 do not have their births registered, and over 8 million deaths each year continue to go unreported.[1] This lack of identity denies such children an existence before the law. As they grow older, it also prevents them from participating in governmental processes or from accessing social and financial services, employment markets and the legal protections necessary for increasing their quality of life and for sustainable and inclusive development. For many adults, their lack of both birth and death certificates means their entire lives are spent being 'invisible' to the governments whose duty it is to protect and care for them.

Universal civil registration and legal identity for all can strengthen a country's ability to measure, monitor and meet a wide variety of goals and targets for the 2030 Agenda for Sustainable Development. With the ambitious targets of 100% birth and 80% death registration by 2030, many countries are completely redesigning or reforming processes for civil registration. Having a common understanding of key issues and good practices related to digitization is important for many reasons – particularly at the regional level where there is real opportunity to create shared resources, commonly referred to as digital public goods. Similarly, countries are increasingly requesting support to conduct comprehensive reviews and reforms of their CRVS legislative frameworks. Legal reviews can assess the degree to which existing legal frameworks foster (or inhibit) key attributes of effective and efficient CRVS systems, including the level of uniformity of procedures across the country, and the degree to which certain groups may be excluded from civil registration services and benefits due to inequitable legislation, regulation, and policies.

In Asia and the Pacific, civil registries are recognized as fundamental to realizing the vision of the Ministerial Declaration to 'Get Every One in the Picture.' The establishment of regional mechanisms promotes South-South cooperation through disseminating knowledge of innovative methods for improving CRVS systems, developing data-sharing approaches and sharing good practices for improving systems to ensure no one is left behind. Stemming from shared visions to improve subregional systems, platforms for sharing information allow stakeholders to regularly communicate with one another and have even generated collective approaches to CRVS data storage and retrieval.

Going forward, it will be important to prioritize the needs of civil registration authorities while still accounting for cross-border interests. It should be based on a shared vision for addressing common issues while maintaining flexibility to local needs and supporting the implementation of the shared vision that, by 2024, all people in Asia and the Pacific will benefit from universal and responsive civil registration and vital statistics systems that facilitate the realization of their rights and support good governance, health and development.

1 https://getinthepicture.org/midterm-report

The establishment of regional networks relies upon the political commitment to improving CRVS systems, as well as an openness to sharing information. Civil registrars across Asia and the Pacific should continue working together to expand registration coverage and meet related SDGs by guaranteeing legal identity for all. The present report makes therefore an important contribution to meeting these shared goals.

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ACRONYMS AND ABBREVIATIONS

ASEAN	Association of South-East Asian Nations
BP Toolkit	Bali Process Civil Registration Assessment Toolkit
COVID-19	Coronavirus Disease 2019
CRC	Convention on the Rights of the Child
CRVS	Civil Registration and Vital Statistics
DHS	Demographic and Health Survey
D4H	Data for Health
EU	European Union
GHAI	Global Health Advocacy Incubator
HDSS	Health and Demographic Surveillance Sites
ICT	Information and communications technology
ID	Identification
IDP	Internally displaced people
Lao PDR	Lao People's Democratic Republic
LGBTI	Lesbian, Gay, Bisexual, Transgender, and Intersex
MICS	Multiple Indicator Cluster Survey
NGO	Non-governmental organization
NR	No response
NTS	No target set
OECD	Organization for Economic Cooperation and Development
PNG	Papua New Guinea
RA	Rapid Assessment of National Civil Registration and Vital Statistics systems
RAF	Regional Action Framework on CRVS in Asia and the Pacific
SDG	Sustainable Development Goals
SEACO	South-East Asia Community Observatory
SOP	Standard Operating Procedure
UN	United Nations
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations Children's Fund
UNSD	United Nations Statistics Division
WHO	World Health Organization

1
INTRODUCTION

After observing the demonstrable success of the Pacific Civil Registrars Network (PCRN) and the Civil Registration Professionals of South Asia (CR8), national stakeholders in South-East Asia (SEA) initiated discussions to establish a similar group of professionals dedicated to common issues in civil registration facing the subregion.

Subregional mechanisms assist members in developing methods to foster coordination and prioritize shared technological approaches to collaborate on common, transboundary challenges. By emphasizing South-South collaboration whilst placing the national needs of the registration authorities at the heart of their visions, these mechanisms are self-sustaining and driven by the participating countries themselves. Member countries also benefit from developments in each other's systems. National stakeholders are streamlining the process for recognizing public documents from other members to ease the transmission of data sharing across borders.

An initial meeting of SEA registrars was organized with support of the Philippines Statistics Authority from 7-9 February 2023 in Manila. Multiple partners attended the event including CDC Foundation, ESCAP, Vital Strategies, Global Health Advocacy Incubator, WHO, UNICEF, and UNFPA.

The objectives of the meeting were to 1) explore and possibly initiate the establishment of a network for civil registrars in South-East Asia, 2) facilitate knowledge exchange and potential collaboration on issues of concern of civil registrars in the region, and 3) document existing practices in the region and common challenges. The meeting provided a professional forum for civil registrars to discuss priority areas that are of common concern to the civil registrars in the region as well as the potential terms of references and organizational setup of a SEA civil registrars network.

For each of the priority areas, identified in collaboration with the Philippines Statistics Authority, a draft background paper was developed in preparation for the meeting. The present publication includes the background papers forming the basis of discussions for the meeting, namely on legislative frameworks, CRVS system digitization, and assessing and addressing inequalities in CRVS. The publication further includes the conclusions and recommendations for further collaboration between the countries in South-East Asia.

2
ORGANIZATION OF CRVS SYSTEMS IN SOUTH-EAST ASIA

Country	Administrative divisions	Agency responsible for civil registration (births and deaths)
Brunei Darussalam		Births, Deaths and Adoption Section, Department of Immigration and National Registration, Ministry of Home Affairs
Cambodia	Four: National, provincial, district, commune (sangkat)	General Department of Identification (GDI), Ministry of Interior
Indonesia	Five: National, provincial, district, sub-district, village	General Directorate for Population and Civil Registration, Ministry of Home Affairs
Lao PDR	Three: National, provincial, district	Department of Citizen Management, Ministry of Home Affairs
Malaysia	One: National	National Registration Department (NRD), Ministry of Home Affairs
Philippines	Five: National, provincial, independent cities, municipalities, barangay	Philippine Statistics Authority (PSA)
Singapore		Immigration & Checkpoints Authority (ICA), Ministry of Home Affairs
Thailand		Civil Registration Division, Bureau of Registration and Administration (BORA), Department of Provincial Administration, Ministry of Interior
Timor-Leste	Four: National, municipality/ administrative post, village (suco), community (aldeia)	National Directorate of Civil Registration and Notary, Ministry of Justice
Viet Nam	Four: National, provincial, district, commune	Ministry of Justice

Organization of CRVS systems in South-East Asia

Country	Primary registration units	Primary civil registrars
Brunei Darussalam	Local area registration offices	
Cambodia	1,652 commune (sangkat) offices	Commune chiefs
Indonesia	District offices	
Lao PDR	18 provincial offices and 148 district offices	
Malaysia	214 National Registration Department offices	
Philippines	1,486 municipal and 148 city civil registration offices	Local civil registrars
Singapore		
Thailand	Over 2,400 district and municipal civil registration offices	
Timor-Leste	13 municipal offices	
Viet Nam		

3
CRVS LEGISLATIVE REFORMS

Considerations for CRVS-related legislative reforms in South-East Asia

Nicola Richards
International Public Health Consultant
Commissioned by the UNICEF Office for South-East Asia

Background

A good legal and regulatory framework is important for the effective management, operation, and maintenance of a civil registration system. Well-designed registration law gives clear guidelines around how the civil registration system will work. It provides the rules needed to register the vital events affecting the civil status of individuals, defines the services the civil registration authority should provide and its role in the production of vital statistics, and clarifies the relationships between relevant actors in the broader civil registration and vital statistics (CRVS) ecosystem, including ministries of health as primary notifiers of births and deaths, and national identification (ID) programs as key users of legal identity data. Overall, a strong legal framework provides the foundation on which an effective CRVS system is built.

The multiple stakeholders involved in CRVS, scattered responsibilities among government agencies and service providers, and complexity of systems and processes, creates several challenges when developing, reviewing, and reforming legislative frameworks. Based on global experience, common challenges include limited provisions for data confidentiality and security, insufficient attention to hard-to-reach, marginalized, and vulnerable populations, poor definitions of key terms, and limited adherence to international standards, particularly the UN *Guidelines on the Legislative Framework for Civil Registration, Vital Statistics and Identity Management*.[2]

Reviews of existing legal frameworks can help to improve understanding of system design, including strengths and weaknesses, identify possible improvements that can be made under existing regulatory authority, and define the required reforms to laws and regulations to achieve best practices and align with international standards.[3] Legal reviews can also assess the degree to which existing legal frameworks foster (or inhibit) key attributes of effective and efficient CRVS systems, including the ability of civil registrars to delegate authority, the level of uniformity of procedures across the country, digitalization of civil registration processes and services, and the clarity of processes for information sharing, among others.

The purpose of this background paper is to provide an update on the status of CRVS-related legislative reforms in South-East Asia in the past 10 years,[4] along with preparing the groundwork for ongoing discussions on legislative reform considerations both generally and specific to South-East Asia.

2 United Nations Statistics Division. *Guidelines on the Legislative Framework for Civil Registration, Vital Statistics and Identity Management*. United Nations: New York. 2019. Available at: https://unstats.un.org/unsd/demographic-social/Standards-and-Methods/files/Handbooks/crvs/CRVS_GOLF_Final_Draft-E.pdf.

3 Schwid A, et al. *Civil Registration, Vital Statistics and Identity Management (CRVSID) Legal and Regulatory Review Toolkit*. Global Health Advocacy Incubator: Washington, DC. 2022. Available at: https://advocacyincubator.org/ghai-advocacy-tools/legal-and-regulatory-review-toolkit-for-crvsid/

4 Countries referred to under South-East Asia for the purpose of this paper are Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic (Lao PDR), Malaysia, the Philippines, Singapore, Thailand, Timor-Leste, and Viet Nam.

CRVS systems in South-East Asia

Following the launch of the Asia Pacific CRVS Decade in 2014, countries in South-East Asia have conducted assessments of the functioning of their CRVS systems. As an outcome of the assessments, several countries developed or are in the process of developing national CRVS coordination mechanisms, CRVS strategies, and targets for monitoring progress (see **Annex Table A1**). Typical strategic actions include revising the legal framework; strengthening the central civil registration agency; revising business processes, registration forms and standard operating procedures; improving coordination between national stakeholders; bringing civil registration services closer to the community; advocacy and outreach campaigns to raise public awareness on the importance of civil registration and increase registration rates; and implementing information and communication technologies (ICT) to improve registration processes and data quality.

As shown in **Table 1**, all countries in South-East Asia have a legal framework for civil registration. However, some legal frameworks are outdated, incomplete, or do not cover all the topics or variables as described in the *Principles and Recommendations for a Vital Statistics System*.[5] Other common issues and challenges include (see **Annex Tables A2 & A3**):

- Fragmented or inconsistent laws and regulations, particularly in decentralized and devolved systems.
- Outdated and/or restricted legislation that does not allow for the use of new and upcoming technologies, including online registration.
- Legislation that is not enforced, particularly among rural and remote areas, and for deaths.
- A lack of legislation and/or regulations requiring health facilities to share data on vital events with the civil registration authority.
- Either not using the WHO international form of medical certificate of cause of death or allowing determination of cause of death to be carried out by non-medical staff and individuals, including registrars, other local officials, and next of kin.

5 United Nations Statistics Division. *Principles and Recommendations for a Vital Statistics System*. Revision 3. United Nations: New York. 2014. Available at: https://unstats.un.org/unsd/demographic/standmeth/principles/m19rev3en.pdf.

Table 1: Legal frameworks for civil registration (as of April 2023)

Country	Primary legislation for birth and death registration	Legal obligation to register within (cost)		Fees/penalties for late registration	
		Live births	Deaths	Live births	Deaths
Brunei Darussalam	Births and Deaths Registration Act (2013 amendment)	14 days *(No cost)*	12 hours *(No cost)*	Yes[6]	Yes
Cambodia	Sub-decree No.103 on Civil Registration (2000)	30 days *(No cost)*	15 days *(No cost)*	Yes	Yes
Indonesia	Law No.24 on Population Administration (2013 amendment) Presidential Decree No.25 on Terms and Procedures for Population Registration and Civil Registration (2008)	60 days *(No cost)*	30 days *(No cost)*	Yes	Yes
Lao PDR	Law on Family Registration No.44/NA (2018 amendment)	30 days *(No cost)*	24 hours *(Fee charged)*	Yes	Yes
Malaysia	Peninsular Malaysia: Births and Deaths Registration Act (1957) Sarawak: Births and Deaths Registration Ordinance (1951) Sabah: Registration of Births and Deaths Ordinance	P. Malaysia 60 days *(No cost)* Sarawak/ Sabah 42 days *(No cost)*	P. Malaysia 7 days *(No cost)* Sarawak/ Sabah 1 day *(No cost)*	Yes	Yes
Philippines	Administrative Order No.1 (1993) Implementing Rules and Regulations of Act. No. 3753 and other Laws on Civil Registration Civil Registry Law No. 3753 (1930)	30 days *(Fee charged in some offices)*	30 days *(Fee charged in some offices)*	Yes	Yes

6 The registration of live births after 42 days and deaths after three days are referred to as 'post registrations' and incur a fee.

Table 1: Legal frameworks for civil registration (as of April 2023)

Country	Primary legislation for birth and death registration	Legal obligation to register within (cost)		Fees/penalties for late registration	
		Live births	Deaths	Live births	Deaths
Singapore	Registration of Births and Deaths Act (2021)	42 days *(Fee charged)*	24 hours *(No cost)*	Yes	Yes
Thailand	1991 Civil Registration Act (2019 amendment)	15 days *(No cost)*	15 days *(No cost)*	Yes	Yes
Timor-Leste	Organic Law No.38/2019 on the Establishment of Civil Registration Offices at the Sub-Municipal level Civil Registry Code (2013 draft) Civil Code No.10/2011 on Civil Registration (2011) United Nations Transitional Administration in East Timor (UNTAET 2000)	30 days *(No cost)*	30 days *(No cost)*	Yes	No
Viet Nam	Decree No. 123 on Implementing Regulations (2015) Law on Civil Status (2014)	60 days *(No cost)*	60 days *(No cost)*	Yes	Yes

Source notes: Country data are from the CRVS Decade Midterm Questionnaires administered by ESCAP, available at: https://getinthepicture.org/resource/midterm-report-databases (accessed 28/11/2022); and ESCAP Country Profiles, available at: https://getinthepicture.org/countries (accessed 29/11/2022).

CRVS-related legislative reforms in South-East Asia

As shown in **Table 2**, five countries in South-East Asia are in the active stage of legislative review. In Timor-Leste, while the country has not been through an official review and reform process, the relatively 'young' nature of its CRVS system means that civil codes and laws are currently in development. For countries with active or complete reviews, the scope of reform has been varied – reflecting both the level of CRVS system functionality, and contextual issues including national development plans and country priorities.

Table 2: Current status of legislative reforms in South-East Asia (as of April 2023)

Country	Status	Start/end dates	Scope	Outcomes
Brunei Darussalam	Unknown			
Cambodia	Active	2018 – ongoing	To create a unified Civil Registration, Identification and Vital Statistics Law that meets international standards and lays the groundwork for a modern and integrated CRVS and ID system.	Draft Law on Civil Registration, Vital Statistics and Identification (CRVSID Law).
Indonesia	Active	2022 – ongoing	Full legal review of CRVSID laws, with potential for updates to laws and regulations.	Legal analysis of CRVS laws and recommendations report and workshop.
Lao PDR	No plans			
Malaysia	Planning	2022 – ongoing	Amending laws to address changes and challenges due to globalization and mobilization.	
	Active	2021 – ongoing	Streamlining the main three laws on births and deaths in Peninsular, Sabah, and Sarawak.	Draft amendments on the Registration of Births and Deaths Ordinance (Sabah Cap.123) and Registration of Births and Deaths Ordinance. (Sarawak Cap.10).

Table 2: Current status of legislative reforms in South-East Asia (as of April 2023)

Country	Status	Start/end dates	Scope	Outcomes
Malaysia	Complete	2019	Detailing the procedure of birth and death registration.	Birth and Deaths Registration Rules 2019.
		2016	Updating processes for death registration.	Amendment of the Births and Deaths Registration Act.
Philippines	Active	2020 – ongoing	Comprehensive legal review.	Draft bills on CRVS.
	Complete	2020	Medicolegal death investigation system review.	Administrative Order 2020-0008 on Rules on Medical Certification of Cause of Death.
	Complete	2018 – 2020	Improve medical certification of cause of death.	
Singapore[7]	Complete	2021	To streamline reporting and registration processes and enable digitalization.	Registration of Births and Deaths Act (RBDA) 2021.
Thailand	Complete	2021 – 2022	Improve the reporting and registration of stillbirths.	Final Legal Recommendation Report on Stillbirth Reporting and Registration in Thailand. Guidelines on Perinatal Cause of Death Review and Analysis.
Timor-Leste	No plans			
Viet Nam[8]	Active	2020 – ongoing	Full legal review with a focus on CRVS system modernization and digitalization	Government is considering whether amendments will be sufficient, or if a new law is desired/required.

7 Registration of Births and Deaths Bill. Ministry of Home Affairs. 10 May 2021. Available at: https://www.mha.gov.sg/mediaroom/press-releases/registration-of-births-and-deaths-bill/.

8 *Report on legal framework assessment on civil registration, vital statistics and identification management in Vietnam*. Ministry of Justice: Hanoi. 2021. Available at: https://www.vitalstrategies.org/resources/report-on-legal-framework-assessment-on-civil-registration-vital-statistics-and-identification-management-in-viet-nam/.

Singapore's legislative review and reforms aimed to streamline existing birth and death reporting and registration processes and enable digitalization, with the goal of making registration processes simpler and more convenient. The country introduced mandatory legal obligations to report all births and deaths, including defining the persons responsible for reporting a birth or death and simplifying the previous two-step process for death registration. The legislative reform allowed for further digitalization of the civil registration system, enabling parents to register a child's birth online, providing for online death certification and registration, and the issuance of digital birth and death certificates in place of physical certificates.

In Thailand, with its relatively well-functioning CRVS system and high levels of birth and death registration completeness, the legal review aimed to improve the recording of stillbirths, as there were no policies or national law on stillbirth reporting and registration, no legal obligation requiring health facilities to systematically track stillbirths, and no data collection on stillbirths at the national level. As a result of the review, the Ministry of Health (MOH) issued guidelines on perinatal and stillbirth reporting that clarified key terms and reporting processes and made it compulsory for public and private hospitals to report such events to the MOH for the compilation of statistics.

While a comprehensive legal review was initially conducted in the Philippines, many of the policy gaps identified could be addressed through the issuance of administrative orders, rather than broad legislative reform. The two resulting draft bills on CRVS under consideration in Congress include a range of features aimed at reaching the 'hardest-to-reach' including:

- Rationalization of the functions of core agencies, partners, and other stakeholders involved in the CRVS system and improving coordination between them
- Establishing a Barangay (village) civil registration system to bring services closer to the people
- Minimizing the cost of civil registration services
- Increasing the use of ICT.[9]

Two other reviews in the Philippines were focused on improving the quality of death registration data, with a particular emphasis on the rules and processes for the medical certification of cause of death. An Administrative Order was issued to 'describe and clarify rules on medical certification of cause of death', including defining standard procedures, clarifying roles and responsibilities, establishing the use of verbal autopsy for non-hospital deaths, and monitoring compliance and violations of CRVS laws around medical certification.[10] There have been challenges in implementing and enforcing the order, due to both disruptions from the COVID-19 pandemic, and given the devolved nature of the Philippines' governance structure, which allows local-level service providers to retain a high-degree of autonomy. In 2020, the country conducted a review of their medicolegal death investigation system to specify procedures around cause of death determination, reporting, and registration of medicolegal cases and deaths during emergencies and disasters.

9 Ambatali, A. *Humanising CRVS via Legislation.* Presentation at the Meeting of Civil Registrars in South-East Asia, Manila, Philippines, 7–9 February 2023. Available at: https://getinthepicture.org/event/meeting-civil-registrars-south-east-asia-manila-philippines-7-9-february-2023.

10 Office of the Secretary, Department of Health. *Administrative Order No. 2020-0008. Rules on Medical Certification of Cause of Death (MCCOD).* Republic of the Philippines: Manila. 2020.

A main challenge for Indonesia's CRVS system is access, as there are many remote villages across the country. As such, its legal review has a broader scope and aims to identify ways of bringing civil registration services closer to the people (below the district level). As of November 2022, initial legal analysis of existing laws and regulations has highlighted 58 various regulations that either have direct or indirect references to civil registration for inclusion in the review. A report will be drafted in early 2023, to be discussed at a stakeholder meeting.

Viet Nam's legal review is focused on ensuring a supportive legislative framework as the country moves to modernize and digitalize its CRVS system, including provisions for the electronic registration of vital events (including registration at the place of occurrence), the issuance of unique identification numbers during birth registration, and the development of an electronic civil registration database. While the Government is yet to decide if a new law is required or if amendments will be sufficient to support these changes, the overall aim of the legislative reform is to ensure convenient, electronic registration services, with better links between government agencies that require civil status data.

Cambodia's legislative reforms are broad-based and wide-ranging – aiming to create an integrated national civil registration and ID system. The broad nature of the reform was informed by several contextual factors, including the desire to digitalize and connect all identity systems (civil registration, residence registration, and national ID registration) to a population register, the need to establish the legislative basis for the digitalization and linkage of systems, and the country's current National Strategic Plan for Identification, with its goal of 'developing the legal environment for personal identification'.[11] The draft CRVSID Law includes changes to civil registration processes, including mandatory notification on vital events occurring in health facilities to registration authorities, and simplifying processes around late and delayed registration to remove barriers to registration (see **Table 3**). The law sets the legal basis for sharing civil registration data with the National Institute of Statistics to enable the generation of vital statistics. The draft law is complete and requires approval from the national steering committee on ID, cabinet, and parliament (anticipated in early 2023) and should come into effect 12 months later. Regulations are currently being drafted, to be ready by the time the law goes into effect.

11 *National Strategic Plan of Identification 2017-2026*. Kingdom of Cambodia: Phnom Penh. 2016. Available at: https://getinthepicture.org/sites/default/files/resources/NSPI%20ENGLISH%20VERSION%2010-01-2017.pdf.

Table 3: Key topics in Cambodia's draft CRVSID Law[12]

Key topics in the draft CRVSID Law	Importance and implications
Universal registration	To ensure all residents of Cambodia have a right to civil registration
Unique identity code that is issued at birth registration	To link data from the civil registration, residence registration, and identity registration systems, and with other data sources
Registration permitted at place of occurrence, as well as place of residence	To make birth and death registration more convenient and accessible to the population, facilitating higher rates of registration
Simplified late and delayed registration processes	To remove barriers to late and delayed registrations, facilitating higher rates of registration
Establishment of civil registrars at the district and provincial levels	To support oversight of commune-level civil registrars and improve administrative processes for the system
Health facilities as responsible for notifying births and deaths	To formalize the active role of health facilities in notifying births and deaths to the civil registrar, enabling for better follow-up with families in the case of late or delayed registration
Foetal death reporting through the health sector	To ensure vital statistics on foetal deaths can be routinely reported in the country
Reporting of deaths required for issuing burial permits	To increase rates of death registration, which are currently low

12 Im, P. *The Development of Law on Civil Registration & Vital Statistics and Identification*. Presentation at the Meeting of Civil Registrars in South-East Asia, Manila, Philippines, 7–9 February 2023. Available at: https://getinthepicture.org/event/meeting-civil-registrars-south-east-asia-manila-philippines-7-9-february-2023.

Legislative reform processes

The Global Health Advocacy Incubator (GHAI), in collaboration with partners as part of the Data for Health (D4H) Initiative, has been the primary technical partner in conducting CRVS-related legislative reviews in the region. Using their *CRVSID Legal and Regulatory Review Toolkit*,[13] which consists of 13 chapters that address different aspects of CRVS/ID systems, GHAI have provided technical support to the review of legal frameworks in Cambodia, Indonesia, the Philippines, Thailand, and Viet Nam.

At the national level, legislative reforms have been primarily managed directly through the CRVS coordination mechanism, or through specialized legal working groups. In Cambodia, a Law Drafting Working Group was established to oversee and lead the legislative drafting process. Starting in 2018 and co-chaired by the Ministry of Justice and Ministry of Interior, the working group had regular three-hour meetings, including virtual meetings during the pandemic. In the Philippines, the Inter-Agency Committee on CRVS was invited to review and validate findings from the legal review.

Challenges and emerging lessons learned

This section highlights the challenges and emerging lessons learned from countries who have conducted a CRVS-related legislative review, both within South-East Asia and among neighbouring regions from Asia and the Pacific.

Insufficient resourcing and political support for legislative reform

CRVS-related legislative reform processes, particularly when based on comprehensive legal reviews of entire legislative frameworks, are resource- and time-intensive activities. At the national level, changes in political priorities can negatively impact the reform process after the review when, for instance, senior leaders are replaced after an election, or a strategic plan comes to an end. This was the case in Papua New Guinea (PNG), where changes in government staffing and priorities after their legal review finished have hindered the passing of draft legislation. In the Philippines, their 'bicameral'[14] parliament is divided into a lower body (the House of Representatives) and an upper body (the Senate). This has caused additional challenges during the legislative reform process, with a proposed law being approved at one level, but rejected at the other – with high-level political support a noted difficulty.

At both the national and local levels, high staff turn-over can create additional challenges when implementing reform recommendations, such as in Bangladesh. While the legal review process itself is complete, proposed changes to national CRVS rules have not been adopted due to change-overs at the Registrar-General level, leading to interruptions in the necessary resourcing to advance changes in the legal and regulatory framework.

Limited technical capacity for implementation of legal reforms

The ability to implement recommendations that result from a CRVS-related legislative review requires a team of experienced legal and CRVS specialists, complemented by professionals with skills in program management for day-to-day operations and a long-term vision of the overall legislative framework and CRVS system. These technical skills are sometimes limited at the country level and can be made more

13 Schwid A, et al. Civil Registration, *Vital Statistics and Identity Management (CRVSID) Legal and Regulatory Review Toolkit*.

14 Bicameralism is a type of legislature that is divided into two separate assemblies, chambers, or houses, known as a bicameral legislature. Bicameralism is distinguished from unicameralism, in which all members deliberate and vote as a single group.

challenging in countries experiencing high staff turnover. This limited technical capacity at the country level is made more challenging by the equally limited availability of suitably skilled development partners working in the field.

Limited operational guidance

While resources such as the UN *Guidelines on the Legislative Framework for Civil Registration, Vital Statistics and Identity Management, CRVSID Legal and Regulatory Review Toolkit and Best Practice Guidelines and Examples of Legislation for Civil Registration and Vital Statistics in the Pacific*[15] are available, there is little practical guidance on how to rollout legislative reform. Specific evidence on topical considerations such as what legal considerations should be given to the organization of a civil registration system, or how the legislative framework can accommodate the increased use of ICT, is also sparse. There remains limited 'template' and 'model' laws and guidelines that are widely applicable as, while core aspects of CRVS systems are the same globally, they are never implemented in the same way, and actual operations may vary considerably given local governance structures, contextual factors, and so on.

Further, while CRVS systems are often broadly grouped into centralized or decentralized, many systems in South-East Asia represent a more 'devolved' model and the level of centralization falls somewhere in between centralized and decentralized (see **Annex Table A4**). In these settings, while the lead agency for civil registration sits at the national (or central) level and is responsible for defining laws, regulations, and standard procedures, the lead agency may not have direct oversight authority over local registrars, particularly when these registrars are locally elected officials or are appointed by locally elected officials. There is limited guidance around what the 'best' legal framework for devolved or decentralized systems might look like, how to conduct monitoring, ensure compliance, and enforce legal requirements, and how legal frameworks can ensure the interoperability of ICT systems implemented in devolved systems. These types of challenges were seen in the Philippines – where the administrative order on medical certification, issued at the central level by the Department of Health, is yet to be fully implemented as the Department has limited direct supervisory and corrective powers at the local level.

Key considerations when changing CRVS-related legislation

The following key considerations reflect both process considerations when undertaking a CRVS-related legal review, as well as emerging good practice considerations for strong legislative frameworks.

Process considerations

Stakeholder engagement and advocacy

Processes and rules relating to the registration of vital events and production of vital statistics are often included in multiple legal instruments that may regulate the powers and responsibilities of ministries of interior, health, planning, national identification, and statistics, among others. Further, as many legal reforms aim to expand the coverage of, and access to, registration services, this often includes the delegation of notification/declaration/registration powers to other government agencies, generally ministries of health. As such, this means that all stakeholders need to be part of the review process from the very beginning – with the ability to provide meaningful comment on the review, draft laws, and their implementation.

15 *Best Practice Guidelines and Examples of Legislation for Civil Registration and Vital Statistics in the Pacific*. Pacific Community: Noumea. 2019. Available at: https://getinthepicture.org/resource/best-practice-guidelines-and-examples-legislation-crvs-pacific-v2.

Stakeholder engagement needs to take place at the local level, particularly for countries in South-East Asia with their geographically dispersed populations, and decentralized/devolved governance structures. In the Philippines for instance, it was difficult for the legal review team to meet with all the various stakeholders and service providers at the local level, and this has been noted as a potential barrier in the effective implementation of the new administrative order. In the Solomon Islands and PNG, who have similarly dispersed populations and significant access challenges, there has been a concentrated effort to include stakeholders from the sub-national level to ensure local level 'realities' are reflected in national discussions.

Advocacy is critically important, particularly once the review is complete and the reform process needs to begin. A common challenge noted was the lack of understanding and commitment from senior parliamentarians about the importance of reforming the CRVS legal framework based on recommendations from the review.

Understanding and agreement on current processes

Process mapping is critical to ensure that all stakeholders understand and agree on current processes, issues, and bottlenecks in the CRVS system.[16] This common understanding is required before being able to implement business process improvements and address related questions such as – will changes to the law address existing issues, is a new law needed or will amendments suffice, and what policy decisions will be impacted by changing the legislative framework. In Indonesia, the highly fragmented nature of the CRVS system and sheer number of regulations make implementation of and adherence to the law difficult for local civil registrars, who may not have access to all the regulations or understand how they work together. The passing of numerous regulations and amendments over the years to 'fix' specific problems have further contributed to the opaque nature of current laws and processes. Similar challenges were encountered in Sri Lanka, where its 'soft laws' governing day-to-day practices had become inconsistent with the actual 'hard law', making enforcement of rules and processes exceptionally difficult.[17]

Defined scope and realistic expectations

Defining the scope of a legal review can be challenging, however in looking at country experiences from within South-East Asia and beyond, it can be noted that countries with relatively well-functioning civil registration systems can focus their reviews on very specific areas or problems, rather than conducting a comprehensive review and reform of the entire legislative framework – as evidenced by the Philippines, Singapore, and Thailand. Countries with less-functional systems (as measured through, for example, low registration completeness, or very outdated laws that do not align with current practices), will likely benefit from a more comprehensive legal review and reform – such as the case for Cambodia, Lao PDR, and Indonesia.

Pilot projects

Once the initial review is complete and changes to the law have been recommended, establishing pilot projects is strongly recommended to help 'see' any potential problems with new rules, policies, procedures, etc., before the legal framework is finalized. In Cambodia, while the draft CRVSID Law is going through the final stages of approval, a pilot project has been established to test the new process of notification from health facilities to the civil registration system.

16 CRVS Systems Improvement Framework. 2021. Available at: https://getinthepicture.org/resource/crvs-systems-improvement-framework.

17 *Legal review of the civil registration and vital statistics (CRVS) system of Sri Lanka*. Office of Additional Secretary, Ministry of Health: Colombo. 2021.

Ensuring local ownership and leadership

Conducting a CRVS-related legislative review and implementing legal reform are long-term activities, often requiring several years from review to drafting, finalization, approval, and implementation. As such, having steady and consistent ownership and leadership at national and local levels is critical to ensure continuity and success of the process. In Cambodia, who began their reform process in 2018, senior representatives from the Ministry of Interior have provided consistent support to the National Steering Committee for CRVS and the Law Drafting Working Group. The reform was also tightly embedded in the country's National Strategic Plan for Identification, which defined the 'development of an enabling legal environment for personal identification' as a priority goal – one that had to be achieved before any further activities on system modernization or digitalization were implemented.

Embedding reviews in long-term planning

In looking outside of South-East Asia, several countries have established national Law Commissions that undertake annual legal reviews as part of broader consultative processes. In England and Wales, for instance, a proposal was put forward to review birth registration and birth certificates, given recent changes to marriage laws, and wider socio-cultural changes regarding gender identity and the use of birth certificates for identification.[18] Refocusing legal reviews from one-off, comprehensive projects, to more regular, targeted tasks may help to build and retain local capacity, as well as ensuring legal frameworks are continuously updated to reflect current realities.

Good practice considerations

Flexibility

A key lesson to come from CRVS-related legislative reviews in South-East Asia and neighbouring regions is the need to ensure flexibility in legal frameworks. Many existing CRVS laws contained provisions or rules that applied to specific paper processes, such as requiring an individual to sign an application form, or defining how paper registries must be kept, or the colour of the pen that must be used on registration documents. In Viet Nam, for instance, Decree No.87/2020/ND-CP states that the 'applicant must be present at the civil registration office to sign the civil status book…',[19] limiting the use of technological innovations such as online registration. In Cambodia, as with many other countries in the region, the legal requirement to register events within the boundaries of an individual's place of usual residence is effectively limiting the ability to implement online registration services that can be accessed from anywhere in the country, and creating a burden on families who may need to travel extensively to conduct registrations. Emerging good practice is seeing provisions that allow for the electronic notification, registration, collection, storage, and transmission of data, and provision of electronic certificates within wider legal and regulatory frameworks.[20] In Cambodia, the draft CRVSID Law does not mention ICT or block its use – ICT processes (including software, vendors, etc.) are instead defined in the implementing provisions.

Flexibility in the legislative framework is critical in ensuring access to civil registration across the country – a noted challenge in the region, with its highly dispersed populations and often difficult geographic terrain. In the Solomon Islands, whose population is scattered over multiple islands and where the civil registration office has traditionally been in the capital, the legal review has focused on giving the Civil Registrar wide

18 McCandless J. Reforming birth registration law in England and Wales? *Reproductive BioMedicine and Society Online*. 2017 (4): 52-28. Available at: https://pubmed.ncbi.nlm.nih.gov/29774266/.

19 *Report on legal framework assessment on civil registration, vital statistics and identification management in Vietnam* (page 22).

20 Schwid A, et al. *Civil Registration, Vital Statistics and Identity Management (CRVSID) Legal and Regulatory Review Toolkit*.

discretion to determine the most appropriate system to make registration services more accessible. This included introducing a one-step process for reporting vital events occurring in the community, where, for example, the health sector is required to notify the local civil registrar of all births or deaths occurring in health facilities or known to health staff. The legal review also focused on ways to bring services to the local level by delegating civil registration functions to other local officials at the provincial level.

Finally, as more government agencies move to requiring proof of birth registration prior to service provision (such as a birth certificate to enrol in school) it is important that the CRVS legal framework is flexible enough to promote registration without becoming a barrier. This often requires working with other agencies and services to bring registration services to the local level – such as allowing schools to submit notifications for late birth registration at the time of enrolment. Many existing laws do not have the flexibility to allow for a variety of informants and agencies to take part in the notification and registration processes and addressing this issue has been a key focus for many reviews.

Inclusive

Legal frameworks must be inclusive if they are to ensure equitable access to civil registration, particularly among groups who are systematically excluded. These include children from extremely poor households, remote rural areas, urban informal settlements, ethno-linguistic minority groups, indigenous peoples, unaccompanied or separated children, asylum seekers, migrants, refugees, undocumented and stateless populations, children with disabilities, LGBTI children, and those affected and/or prone to humanitarian situations.[21] Many countries in the region are attempting to improve and expand registration services among stateless persons, however existing legislation is often 'silent' on how to register such groups and who can be registered, particularly for individuals living in cross-border settlements. Legal frameworks that allow for the registration of all vital events occurring within a country's territories, with or without conferring citizenship, for instance, are critical in ensuring everyone can access registration services.

Thailand has taken several measures to promote birth registration and reduce vulnerability to statelessness, particularly among children who are at-risk of being unregistered or are from historically marginalized groups – starting with implementation of the Registration of Residential Inhabitant Act BE 2534 (1991) and its Amendment BE 2551 (2008), which provide the right to birth registration for all children born in Thailand, regardless of their parents' legal status or civil registration documentation. In 2016, the Cabinet approved two resolutions to further address the issue of statelessness and promote the rights of stateless persons in Thailand. The first grants foreign children born in Thailand the right to remain in the country legally, following the rights of their parents, and preventing them from being criminalized as illegal immigrants. The second resolution enables foreign children born in Thailand to apply for Thai nationality based on eligibility criteria. In recognizing the importance of local government officials in implementing the legal framework, a Handbook of Civil Registration and Nationality was produced in 2005 with the support of UNHCR, and a series of capacity building workshops were carried out.

Security and privacy by design

Civil registration systems have always included a wealth of personal information. However, digitization and the linking of civil registration with national ID systems have given rise to new concerns over the volume of data collected, used, and stored; the range of analytical tools using personal data; and threats to privacy

21 *Realizing the Rights of Every Child in ASEAN. 10 Recommendations*. The ASEAN Secretariat and UNICEF East Asia and the Pacific Regional Office: Bangkok.

from hacking and unauthorized access and use. Ideally, countries should have general data protection laws that embody the concepts outlined in, for instance, the 2013 OECD Privacy Guidelines, 2016 EU General Data Protection Regulation, World Bank Principles of Identification for Sustainable Development, and the 2018 UN Personal Data and Privacy Principles.[22] One example from the region is the Philippines' Data Privacy Act (Republic Act No.10173), which sets out the basic requirements for the digital storage, processing, access, and transmission of personal data by the government.

For countries with absent or outdated legislation on data security and privacy, emerging good practice involves outlining how the CRVS system can apply these concepts in a way that provides for protection, while also allowing authorized access for administrative and statistical purposes (see **Box 1**).

BOX 1

INNOVATIONS AND SYSTEMS IMPROVEMENTS CONTAINED IN THE DRAFT LAW ON CIVIL REGISTRATION, VITAL STATISTICS AND IDENTIFICATION, CAMBODIA

Use of Data, Privacy and Data Security (Chapter 3)

This chapter sets out the provisions governing use of personal identity data, privacy and data security. These provisions:

a. **Grant every person the right to access their own data in government databases and request correction of personal identity data if incorrect.**
b. **Allow authorized officials to use personal identity data for authorized administrative -purposes, in accordance with privacy principles.**
c. **Requires that personal identification data be maintained as confidential.**
d. **Permits the use of the population register to generate statistical information, while requiring that privacy and confidentiality must be maintained when doing so.**
e. **Requires that the collection, transmission and storage of data be done in a secure manner.**
f. **Permits only authorized officials to access data.**

CRVS-related legislative reform in South-East Asia: Looking ahead

This paper has focused on the experiences of nine countries in South-East Asia in conducting CRVS-related legislative reviews. While the challenges and emerging lessons learned are applicable to all countries, they may be of particular interest to countries who are in the early planning stages or those who are considering conducting a review and subsequent reform process. For Cambodia, the Philippines, Singapore, Thailand, and Viet Nam, while initial legislative reviews are nearing completion or complete, the key considerations when changing CRVS-related legislation remain equally relevant, as do the good practice considerations.

In looking ahead, it is important to consider the persistent challenges in ensuring equitable access to civil registration for all individuals. Recent concluding observations on implementation of the Convention on the Rights of the Child (CRC) included findings from the Philippines and Viet Nam.[23] Regarding civil

22 Schwid A, et al. *Civil Registration, Vital Statistics and Identity Management (CRVSID) Legal and Regulatory Review Toolkit*.

23 United Nations Human Rights Treaty Bodies Database. *CRC – Convention on the Rights of the Child. 91* Session (29 Aug 2022 – 23 Sep 2022). Available at: https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/SessionDetails1.aspx?SessionID=2503&Lang=en.

registration, in the Philippines, the Committee was concerned about the large number of children, '…particularly Muslim, indigenous children, children of Indonesian and Japanese decent and Filipino children of overseas migrant workers…' who remain unregistered, which can lead to statelessness and the deprivation of the right to a name and nationality and access to basic services. In Viet Nam, the Committee, '…expressed concerns about the persistent disparities in the enjoyment of rights by children in vulnerable situations. It called upon Viet Nam to address disparities in access to all public services by girls, children with disabilities, LGBT children, children living in poverty, children belonging to an ethnic or religious minority or Indigenous groups, and migrant children. It also asked Viet Nam to ensure that all children have access to household registration.'

While not as recent, similar conclusions have been observed for Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Singapore, Thailand, and Timor-Leste. These observations serve as a timely reminder of the importance of legislative frameworks that support the rights of all individuals to access civil registration (and identification) services without any form of discrimination based on race, ethnicity, geographic location, or religious, marital, or refugee status; for foreign nationals, temporary workers, or asylum seekers; and for nomadic, displaced, or indigenous populations. All countries in the region have expressed interest in conducting inequality assessments of their CRVS systems, and to-date, Indonesia, Lao PDR, Thailand, and Viet Nam have completed an assessment. Moving forward, all countries would benefit from applying an equity lens to reviews of CRVS-related legislation, and while the two new chapters on issues for women and children and LGBTI people included in the *CRVSID Legal and Regulatory Review Toolkit* provide a solid starting-point, as civil registration systems become more inclusive, and those 'hardest to reach' become harder and harder to reach, legal frameworks will likely need to become more adaptive and flexible and able to meet the specific circumstances and challenges facing individuals who remain unregistered.

4
CRVS SYSTEM DIGITALIZATION

Innovations in CRVS system digitization and digitalization in South-East Asia

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Background

Advances in information and communication technologies (ICT) are providing significant opportunities to strengthen management information systems, with digital tools facilitating data capture, storage and exchange, and information management. Digitization and digitalization (see **Box 2**) are critical components in strengthening civil registration and vital statistics (CRVS) systems globally – helping improve access to registration services, particularly among rural, remote, and underserved populations. The long and complex paper trail from the occurrence of a vital event to its registration and processing for vital statistics gives way to a high number of lost and misplaced records and errors in abstracting and recording information – with digital tools providing an efficient means of improving the quality of data contained in records and increasing overall system performance. Shared or interoperable digital systems to help move data between relevant agencies are a promising method of addressing the fragmented and siloed nature of many CRVS systems, while automated digital processes can help to ensure consistency in countries with decentralized or devolved governance structures and facilitate better service provision and the timely production of vital statistics based on administrative records.

As countries strive to establish secure and effective digital systems, many are completely redesigning or reforming processes for civil registration, including its links with health information systems, systems that produce vital statistics, national identity management systems, and systems related to government services and service provision, such as social protection and education. From initial efforts focused on the digital storage and retrieval of vital event records, efforts are underway to automate virtually every aspect of the civil registration process, with an increasing focus on registration activities occurring at the lowest administrative level and those occurring in health facilities. In some countries, ICT are enabling the use of digital records to allow residents to access and share their own personal data as part of transactions with government, service providers, and private businesses, often through mobile applications ('apps').

For a variety of complex reasons, digitization and digitalization efforts often fail to meet expectations. Based on global experience,[24],[25],[26] common reasons for failure include a lack of engagement from end-users, insufficient time and resources allocated to support organizational process changes or the digitization of inefficient registration processes, inadequate understanding of the complexities of CRVS systems by

24 Alwan A, et al. Strengthening national health information systems: challenges and response. *Eastern Mediterranean Health Journal*. 22(11): 840-850.
25 Abdul-Hamid H. *Data for Learning: Building a smart education data system*. World Bank Group: Washington DC. 2017.
26 Bakar AD, Sheik YH, Sultan ABH. Opportunities and Challenges of Open source Software Integration in Developing Countries: Case of Zanzibar health sector. *Journal of Health Informatics in Developing Countries*. 6(2): 443-453. 2012.

ICT vendors, limited or non-existent data sharing agreements between government ministries and authorities, and under-investment in building local capacity to effectively operationalize ICT systems and tools. Many digitization efforts are also designed as under-resourced projects – implemented with insufficient time, money, and technical support to ensure sustainability beyond the project term.[27]

At the same time, several countries have effectively integrated ICT into their CRVS systems – expanding access and removing barriers, with an increasing body of evidence on what works. Having a common understanding of key issues and good practices related to digitization and digitalization is important for many reasons – from improving stakeholder alignment and guiding funding decisions, to facilitating discussions on how to build systems that advance social development. As such, the **purpose of this background paper is to provide an update on CRVS system digitization and digitalization efforts in South-East Asia over the past 10 years**.[28] The paper will prepare the groundwork for ongoing discussions on ICT considerations based on identified issues and challenges, and key lessons learned – with a focus on key considerations when implementing digital solutions for CRVS, both broadly and specific to South-East Asia. The paper will further provide a starting point for additional knowledge sharing amongst civil registrars in South-East Asia.

BOX 2

DIGITIZATION, DIGITALIZATION, AND THE DIGITAL TRANSFORMATION[29]

Digitization is the process of converting data and information from a physical (paper) format to a digital one – for example, entering the details from a registration book into a computer software program. An important note on digitization is that it only refers to the data or information being digitized, not the processes leading up to its collection. This next step is referred to as digitalization – the use of digital technologies to change business models and operations, including automation. The digital transformation, finally, refers to the results of digitization and digitalization. While several digitalization projects might be implemented as part of digital transformation, it refers to the resulting strategic business transformation that requires cross-cutting organizational change to implement and support digitalization. In essence, digitization and digitalization are about the technology – while digital transformation is about the individual.

27 Dehnavieh R, et al. The District Health Information System (DHIS2): A literature review and meta-synthesis of its strengths and operational challenges based on the experiences of 11 countries. *Health Information Management Journal*. 48(2): 62-75. 2019.

28 For the purpose of this paper, the 10 countries referred to under South-East Asia are Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic (PDR), Malaysia, Philippines, Singapore, Thailand, Timor-Leste, and Viet Nam.

29 Bloomberg, Jason. Digitization, Digitalization, and Digital Transformation: Confuse them at your peril. *Forbes* 29 April 2018. Available at: https://www.forbes.com/sites/jasonbloomberg/2018/04/29/digitization-digitalization-and-digital-transformation-confuse-them-at-your-peril/?sh=409397bb2f2c.

Key terms

Digital signature	'An asymmetric key operation where the private key is used to digitally sign data and the public key is used to verify the signature. Digital signatures provide authenticity protection, integrity protection, and non-repudiation, but not confidentiality protection.'[30]
Electronic signature	'An electronic authentication technique that carries the legal weight of—and substitutes for— a handwritten signature.'[7] *'Note that 'electronic signature' and 'digital signature' are often used interchangeably but are NOT synonymous. Digital signatures are one technical implementation of an electronic signature using public-key cryptography. In addition, digital signatures are also used for functions (e.g., authenticating devices) that do not serve the same purpose as an electronic signature, which is to substitute for a handwritten signature.'*[7]
Foundational identification (ID) systems	Foundational identification systems include civil registries, universal national identity systems, and population registers. They are created to serve as authoritative sources of legal identity information for the general population and to provide proof of identity for a variety of public and private sector use cases.[4] They are typically owned and operated by government institutions, aim for full coverage of the population, and provide credentials that function as an official form of identification for multiple functional purposes.[31]
Functional identification (ID) systems	'An identification system created to manage identification, authentication, and authorization for a particular service or transaction, such as voting, tax administration, social programs and transfers, financial services, and more. Functional identity credentials—such as voter IDs, health and insurance records, tax ID numbers, ration cards, driver's licenses, etc.—may be commonly accepted as proof of identity for broader purposes outside of their original intent, particularly when there is no foundational ID system.'[7]
Interoperability	Interoperability in e-Governance is defined as,'…the ability of different systems from various stakeholders to work together, by communicating, interpreting and exchanging the information in a meaningful way' (pg. 2).[32]
National identification (ID) system	A foundational identification system that provides national IDs—often a card—and potentially other credentials for the purposes of legal identity.[4] While there is no internationally agreed definition of identity management, the term refers to the issuance of a proof or legal identity to each individual by a government authorized entity and the maintenance of systems for managing information and documents associated with such identity.[33]

30 Practitioner's Guide: Glossary. Identification for Development (ID4D), The World Bank. Available at: https://id4d.worldbank.org/guide/glossary (Accessed 27/01/2023).

31 United States Agency for International Development. *Identity in a digital age: Infrastructure for inclusive development*. USAID: Washington DC. 2017. Available at: https://www.usaid.gov/digital-development/digital-id/report (Accessed 12/04/2023).

32 Connecting the dots: Toward a social protection interoperability framework in Fiji. World Bank Group: Washington, D.C. 2022. Available at: https://openknowledge.worldbank.org/handle/10986/38358 (Accessed 27/01/2023).

33 United Nations Legal Identity Expert Group. *United Nations Strategy for Legal Identity for All*. UN LIEG: New York. 2019. Available at: https://unstats.un.org/legal-identity-agenda/documents/UN-Strategy-for-LIA.pdf (Accessed 14/04/2023).

Key terms

Open-source software (OSS)	'Software for which the source code is available under an open licence. Not only can the software be used for free, but users with the necessary technical skills can inspect the source code, modify it, and run their own versions of the code, helping to fix bugs, develop new features, etc.'[34]
Open standards	Technical standards that are free from licensing restrictions and generally developed in a vendor-neutral manner. They facilitate interoperability and data exchange among different products or services and are intended for widespread adoption.[11]
Population register	'…an individualized data system, that is, a mechanism of continuous recording, or of coordinated linkage, of selected information pertaining to each member of the resident population of a country in such a way to provide the possibility of determining up-to-date information concerning the size and characteristics of that population at selected time intervals. The population register is the product of a continuous process, in which notifications of certain events, which may have been recorded originally in different administrative systems, are automatically linked on a current basis.'[10]
Proprietary software	Proprietary (or closed source) software is owned by a company that restricts the ways in which it can be used. Users normally need to pay to use the software, cannot read or modify the source code, and cannot copy the software or re-sell it as part of their own product.[11]
Source code	The files of computer code, written by programmers, used to produce a piece of software. The source code is usually converted or 'compiled' into a form that the user's computer can execute. The user never sees the original source code unless it is made publicly available as open source.[11]
Standards	A published specification: for example, the structure of a particular file format, recommended nomenclature to use in a particular domain, a common set of metadata fields, etc. Conforming to relevant standards greatly increases the value of published data by improving machine readability and easing data integration.[11] The use of standards promotes interoperability and helps to prevent vendor lock-in by ensuring data can be freely moved between different systems.
Unique identifier	In the context of identification systems, an identifier (typically an alpha-numeric number, however biometrics can also be used) that uniquely identifies a person—i.e., each person only has one and no two people share the same identifier. Identifiers are generally assigned for a person's lifetime in a particular ID system (i.e., their number does not change over time), typically after validating a person's identity and uniqueness through a deduplication process.[7]
Vendor lock-in	The situation when system owners are dependent (i.e., locked-in) on a single provider of technology for hardware, software, and/or support services, and cannot easily move to a different vendor without substantial costs, legal constraints, or technical incompatibilities.[35]

34 Glossary. Open Data Handbook. Available at: https://opendatahandbook.org/glossary/en/ (Accessed 27/01/2023).

35 Opara-Martins J, Sahandi R. & Tian F. Critical analysis of vendor lock-in and its impact on cloud computing migration: A business perspective. *Journal of Cloud Computing.* 5(4). 2016. https://doi.org/10.1186/s13677-016-0054-z.

CRVS system digitization and digitalization

Globally, countries are applying technological and non-technological (process) innovations to improve their CRVS system, with reform policies and strategies focusing on increasing the number of registration points through the decentralization of registration responsibilities and improving existing registration processes by shifting from paper-based and manual processes to a combination of paper-based and digitalized processes. Given the broad ways in which digital technologies can be applied to CRVS systems, this paper has grouped their potential applications into five categories:

1. **Digital tools for notification**. Shifting from paper-based and manual methods of capturing and transmitting information on the fact of a vital event to the civil registrar, to electronic ones. Tools can include mobile devices in the field (phones and tablets), and the use of electronic information systems in health facilities that are linked with the civil registry, among others.

2. **Digitization/digitalization of registration processes**. Systems for electronic data entry, storage, retrieval, and transmission of individual (unit-record) information on vital events. While slightly different systems may be designed for use in different levels of civil registration offices (from local to national), they all generally enable the following functions:

   a. **Validation and verification**. The act by which a relevant authority validates that all necessary documentation has been provided, to verify the vital event information so the registration process can continue.

   b. **Registration**. The act of formally registering a vital event at a civil registration office. At this point, details of the event are entered into the official civil register by the registrar.

   c. **Certification**. The issuance by the civil registrar of a legal document certifying the vital event.

   d. **Sharing of information**. Activities in which information items pertaining to the individual event are shared with higher levels within the civil registration system.

   e. **Storage and archiving (local)**. The process whereby individual registration information is stored and incorporated into local archives so that copies of certificates can be retrieved as required.

3. **Digitization/digitalization of the central CRVS database**. An electronic database or warehouse for storing civil registration records, including historical archives, and sharing them with relevant stakeholders including agencies responsible for producing vital statistics and national identification programs. Core functions are likely to include:

   a. **Generation of unique identifiers** to facilitate retrieval of records and sharing of data between databases and systems.

   b. **Storage and archiving (central)**. The process whereby individual registration information is stored and incorporated into the permanent archives so that copies of certificates can be retrieved as required. This may include separate systems for the digitization of historical records.

   c. **Sharing of information**. Activities in which certain information items pertaining to the individual event are shared with other government systems and/or agencies.

4. **Integration and interoperability with other sectors, including national identity management and eGovernment**. Digital tools that enable different functional units (e.g., systems, databases, devices, or applications) to communicate, execute programs, or transfer data in a 'seamless' manner, reducing the need for individuals to provide the same information repeatedly.
5. **Digital tools for vital statistics**. Digital tools, usually software packages, which provide automated processes for the compilation, tabulation, analysis, visualization, presentation, and/or dissemination of vital statistics, often with inbuilt quality-control functionality. Specific tools to assist in automated morbidity and mortality coding are also included in this category.

Digitization and digitalization efforts in South-East Asia

Within South-East Asia, few countries have achieved a fully digitalized CRVS system for keeping records, issuing certificates, and data storage and retrieval – while others are still working towards achieving universal civil registration coverage and completeness with predominantly paper-based and manual systems (see **Table 4 & Annex Table A5**).

Digitalization of the civil registration and civil identification system in Singapore is advanced, with a wide range of eGovernment services available to citizens via the Internet, including online registration, digital verification and authentication, and consented data sharing between government agencies and private businesses. In Malaysia, Thailand, and Viet Nam, significant progress in digitalizing registration services at decentralized levels has been achieved, with all countries moving towards increased interoperability between databases under the larger objective of expanding service access through eGovernment.

Given the highly devolved nature of the Philippine CRVS system, several different digital systems are in place across the country, with some areas still reliant on paper-based methods for registration. Cambodia, Indonesia, and Lao PDR have achieved partial digitalization, and all three countries have extensive plans around improving digital interoperability between key government systems. In Timor-Leste, where the organization and functionality of the CRVS system is undergoing development, progress has been made in expanding access to the centralized CRVS database at the municipal level.

Table 4: Current status of digitization and digitalization of CRVS systems in South-East Asia, as of April 2023

Country	Digital tools for notification	Digital registration processes	Digital central CRVS database	Interoperability with other sectors	Digital tools for vital statistics
Brunei Darussalam	–	–	–	–	–
Cambodia	No (planned)	Limited (primarily paper-based, digital pilots)	Yes (limited access at sub-national levels)	No (planned)	–
Indonesia	No (paper-based links with MOH)	Yes (some paper-based)	Yes (access down to district level)	Substantial (automated)	–
Lao PDR	No (planned)	Limited (primarily paper-based, digital pilots)	Yes (limited access at sub-national levels)	No (planned)	No
Malaysia	Substantial (self-service & links with MOH)	Substantial (self-service)	Yes (access at all levels)	Substantial (automated)	Yes
Philippines	No (paper-based links with MOH)	Yes (some paper-based)	Yes (access at CRS outlets)	Yes (some manual processes)	Yes
Singapore	Substantial (self-service & links with MOH)	Substantial (self-service)	Yes (access at all levels)	Substantial (automated)	Yes
Thailand	Substantial (self-service & links with MOH)	Substantial (self-service)	Yes (access at all levels)	Yes (some manual processes)	Yes
Timor-Leste	No	Yes	Yes (access down to municipal level)	No (planned)	–
Viet Nam	No (in development with MOH)	Yes (some paper-based)	Yes (access down to provincial level)	Yes (some manual processes)	–

– Current status is unclear and/or could not be confirmed with the country

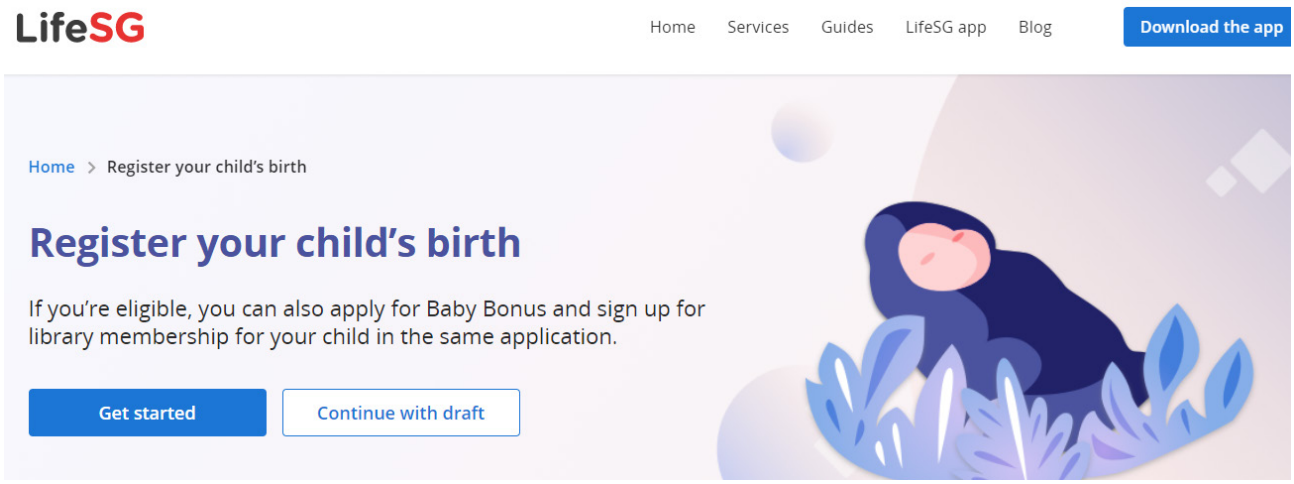
Digital tools for notification

Leveraging mobile phones and networks

As deploying a countrywide electronic civil registration system requires extensive supporting infrastructure and resourcing, leveraging off other digital tools, including mobile phones and networks, can offer significant opportunities. Registration officials in Uganda and Mozambique,[36] for example, are provided with mobile phones that are preauthorized to communicate and share registration data. Communication relies on the 'unstructured supplementary service data' (USSD) mobile communication protocol, a platform with many similarities to short message services (SMS), but with several other advantages. Unlike SMS, they do not leave a record on the phone of the data being sent, which is significant for data security; they provide structured prompts and forms for data submission, which allows for more complexity in the data being captured and reduces data entry errors; and they do not cost the end-user, with accounts able to be paid centrally. In Tanzania, with the support of UNICEF, a custom-built Android smartphone application was introduced to capture registration data using mobile phones. The app provides an intuitive data capture interface, resulting in fewer errors in the process, and is capable of offline data capture and subsequent data transfer over the mobile network when the device is within range.

In Malaysia, Singapore, and Thailand, with their highly digitalized systems, notification and registration of vital events can be conducted by individuals using personal mobile phones and other web-enabled devices. In Singapore, parents can register their child's birth via the LifeSG online birth registration service and app (**Figure 1**). Apart from these three countries, the use of mobile phones or tablets to notify the local civil registration office of the occurrence of a vital event appears limited in South-East Asia, with no other countries reporting active use of these technologies as part of current registration processes. Both Cambodia and Indonesia expressed interest in using mobile technology to facilitate notification (and registration) in remote and isolated areas – however both countries also noted current limitations with their legislative frameworks, which require registration to occur at an individual's place of usual residence – potentially limiting the scope of mobile technologies.

Figure 1: Website for online birth registration, Singapore



Source: **https://www.life.gov.sg/services/birth-registration**

36 *Synthesis Report. Review of Civil Registration and Vital Statistics Innovations in Eastern and Southern Africa Region: Digitization, processes, and strategies*. UNICEF Eastern and Southern Africa: Nairobi. 2023.

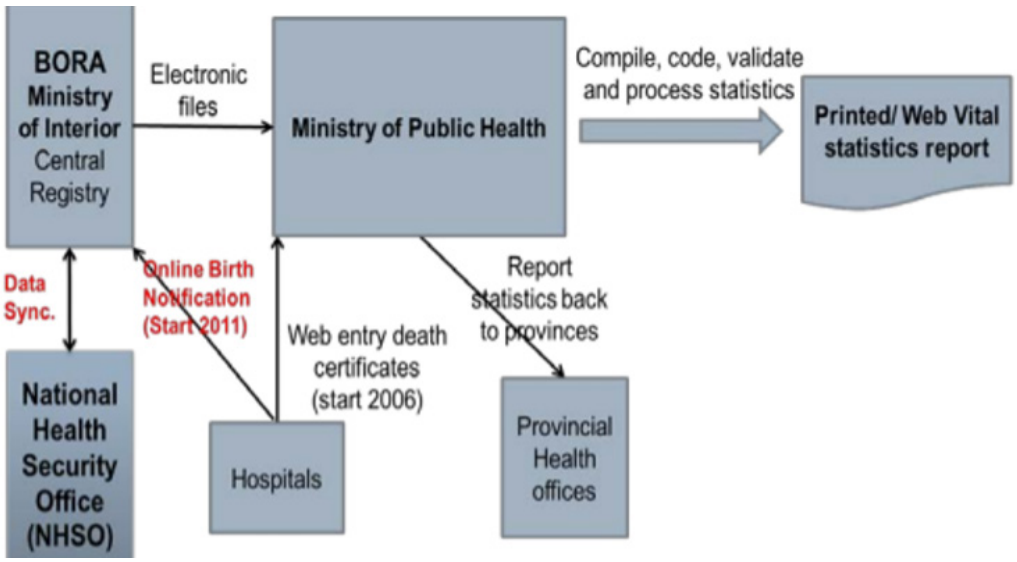
Links with digital health information systems

Leveraging off existing digital health information systems (HIS) can offer significant opportunities in ensuring all vital events are notified to civil registration authorities, particularly in countries where a high proportion of births and deaths occur in health facilities. Experience in the region is varied, with some countries reporting highly integrated electronic systems and linkages, and with others relying on paper-based and manual processes.

Deaths that occur in Singapore, for instance, are automatically registered after a medical practitioner certifies the death online and death information is sent to the Immigration & Checkpoints Authority's Central Identification and Registration Information System (CIRIS). In Thailand, the Bureau of Registration Administration (BORA), Ministry of Public Health (MoPH), and National Health Security Office (NHSO), with the support of UNICEF, launched a pilot hospital-based online birth registration system in six hospitals in 2009. The project expanded to 44 hospitals in 2011 and 898 hospitals by 2016. As part of the system, hospital staff enter information on hospital births (or the information is abstracted from electronic hospital information systems) into a web-based application that automatically transmits the birth information to the civil registration system. Hospital staff can print out birth notification documents directly from the system, without having to fill out a paper form, and give them to parents for registration at the local registration office (see **Figure 2**). The system also allows the civil registrar to monitor families that have not registered their children's birth so they can be followed up.

In Malaysia, data on births and deaths occurring in health facilities are entered into the Ministry of Health's Medical Care Information System (SMRP), which is linked to the National Registration Department's (NRD's) database and used to help verify information provided to civil registration. Births are not considered registered until the parent or informant visits an NRD office to declare the birth and submit various forms and documents. As the system is dependent on health staff for data entry, there is currently a four-to-five-month delay between the occurrence of a vital event and when it is shared with the NRD, limiting the use of the system for civil registration and identity validation purposes.

Figure 2: Online birth notification and registration system



Source: Pannarunothai, Supasit, et al. *Thai Civil Registration and Vital Statistics and Unique Identification Number Systems for Universal Health Coverage: A Case Study*. Health, Nutrition and Population, World Bank Group. Washington DC. 2019. Available at: http://documents.worldbank.org/curated/en/889991570768577260/Thai-Civil-Registration-and-Vital-Statistics-and-Unique-Identification-Number-Systems-for-Universal-Health-Coverage-A-Case-Study.

In Lao PDR, while the health sector currently sends notification data to civil registration using paper-based forms, plans are in place to have data shared electronically between the health management information system (DHIS-2) and proposed electronic CRVS (eCRVS) system. In addition, a proposed Public Portal will allow members of the public to submit notifications and lodge requests for registration online. In Viet Nam, the Ministry of Health is currently developing a database for civil registration data, with a small number of pilot sites established to test how data will flow between health, civil registration, and statistics. Work is currently underway in Cambodia to upgrade the central CRVS database to link to the Ministry of Health's eNCOD (Electronic Notification and Cause of Death database) to automatically collect and share clinical information, including the occurrence of live births and deaths, cause of death information, including the underlying cause of death, and data on foetal deaths (which will be sent to the National Institute of Statistics, NIS).

In Indonesia, midwives are required to record the details of all births and deaths occurring in their service areas, including information pertaining to infant deaths. Under the Recording and Reporting System at Puskesmas Level (*Sistem Pencatatan dan Pelaporan Tingkat Puskesmas*, or SP2TP), this data is reported monthly to the Coordinator Midwife using a paper-based form, before being further aggregated and sent to the Sub-directorate of Family Health and the Sub-directorate Health Service at the District Health Office. Similarly in the Philippines, while health facilities are required to prepare birth and death 'certificates' and submit them to the local civil registration office, these processes are primarily paper-based and manual. In Timor-Leste, where most government systems are still paper-based, notification data from health facilities are entered by health staff into ledger books, with limited official links back to civil registration.

Digitization/digitalization of registration processes

The digitalization of registration processes involves the gradual phasing out of paper-based processes and shifting into the digital domain, including digital capture of registration data at registration points in the field, access to centralized databases, and the ability to instantly search and retrieve records from across the country using computers connected via secured networks or over the internet.

All countries in South-East Asia have begun digitizing their civil registration processes (see **Table 2**). Digitalization in Malaysia, Singapore, Thailand, and Viet Nam is advanced, resembling most contemporary ICT platforms used in high-income countries. Thailand and Viet Nam have made significant progress in digitalizing registration services at decentralized levels, with most sub-national offices linked to the central CRVS database. While Indonesia and the Philippines have also achieved significant progress in digitalizing registration services at decentralized levels, both countries are challenged by connectivity issues in rural and remote areas, and the use of multiple versions of the same software (Indonesia) and the use of multiple, different systems in different civil registration offices (Philippines).

In Cambodia and Lao PDR, digitization has largely been achieved only at the central level, with pilot projects underway for digital data capture at the point of registration and connectivity to the centralized database. In Timor-Leste, where the CRVS system is still largely in development, UNICEF worked with the government to connect all 13 municipal offices with the civil registry database in the capital, Dili. In practice, civil registration processes remain largely paper-based and manual in these countries.

Table 5: Digital systems used to support registration processes in South-East Asia, as of March 2023

Country	System	Established	Features	Lowest level of data entry
Brunei Darussalam	–	–	–	–
Cambodia	Central CRVS database	2013 – 2015	Cloud-based database at the national level with web-based applications that run on authorized computers at registration offices (currently being piloted in commune offices). Provides real-time access to CRVS data including mechanisms for linked services to search and retrieve data.	Commune (limited coverage, expansion in progress)
	Central CRVS database (stand-alone system)	2011 – 2012	Computerized CRVS system	Central office (GDI)
		2009 – 2010	Computerized system for birth certificate data	Central office (GDI)
Indonesia	Population Administration Information System (SIAK)	2006	Electronic system for population and civil registration including the use of a unique identifier for each citizen. There is centralized SIAK and SIAK at district level (replicated databases).	District offices (high coverage, some areas without connectivity)
Lao PDR	Electronic civil registration and vital statistics (eCRVS) system	2023	Central database of civil registration records with web- and mobile-enabled access for registration offices (currently being piloted in 7 provinces and 62 districts). Provides digital processing of vital events notification, registration, certification, and amendment.	District offices (expansion in progress, national coverage expected by May 2023).
Malaysia	i-JPN	2007	Integrated online system for civil registration.	Individuals (self-service).

Table 5: Digital systems used to support registration processes in South-East Asia, as of March 2023

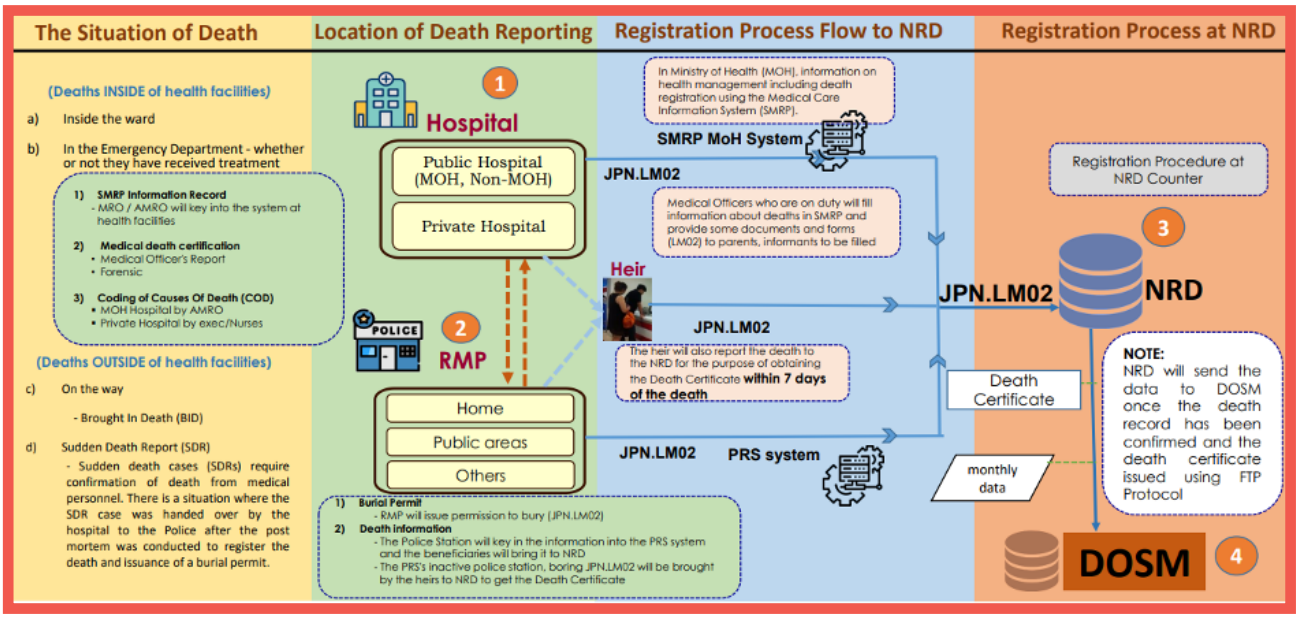
Country	System	Established	Features	Lowest level of data entry
Philippines	PhilCRIS	2011	Data entry for vital events, with automatic transmission of files from the local level to national. Provides data management, the encoding of information from documents, and printing/issuance of certified copies.	Local offices (high coverage, some areas without connectivity or using own system).
	Civil Registry System (CRS)	2000	Provides copy issuance services of civil registry documents enrolled in the CRS database.	Provincial offices & individuals (self-service) (limited coverage, expansion in progress).
	Decentralized Vital Statistics System (DVSS)	–	Automated reporting of vital events to the municipality level.	Provincial offices
	Barangay Civil Registration System (BCRS)	–	An information system for village officials to record and manage data about households.	Local offices
Singapore	Central Identification and Registration Information System (CIRIS).	2007	Provides digital processing for vital event notification, certification, registration, and amendments.	Individual (self-service)
Thailand	Civil registration and national identification card system.	–	Central database for civil registration and national identification.	Municipal offices & individuals (self-service)
Timor-Leste	Demography management information system (DMIS).	2014	Central database for civil registration records that enables users to access civil registration data remotely and generate reports.	Municipal offices (full coverage)
Viet Nam	e-Civil Registration Database (e-CRD).	2015	Provinces and cities across the country use the Provincial Administrative Procedure Information System, which is connected to the e-CRD. This allows for online birth and death registration.	Provincial offices (high coverage, some areas without connectivity)

– Current status is unclear and/or could not be confirmed with the country

Initially developed as an on-premises solution built by a commercial vendor, the majority of the back end for Singapore's civil registration and national identity systems are run by Government on Commercial Cloud (GCC), with most aspects of ICT development handled in-house by the Government Technology Agency of Singapore (GovTech). Most government services can be accessed online, including birth registration, which can be completed online via LifeSG. Online registration has been integrated with a range of support services for newborns, including access to the baby bonus, opening a Child Development Account, and free library membership. In 2022, ICA launched digital birth and death certificates, which can be downloaded at the end of the process. The digital certificates contain a digitally signed QR code that can be verified through ICA's e-Service.

Computers were gradually introduced into Malaysia's civil registration system in 1990, and by 1997, the system was fully digitalized. Since then, all births and deaths can be registered using the online system (i-JPN) at NRD offices and at self-service kiosks in Peninsula Malaysia. A variety of other registration services are also available online, including applying for marriage registration and checking the status of divorce proceedings (see **Figure 3**).

Figure 3: Death registration process using i-JPN, Malaysia



Source: Baharudin, Nazaria. *Disruption of civil registration and vital statistics in Malaysia due to COVID-19.* Presentation made at the Asia Pacific Forum for Sustainable Development, 25 March. Available at: https://www.unescap.org/sites/default/d8files/event-documents/Disruption_CRVS_due_to_COVID-19_Malaysia_Side_Event_APFSD_CRVS_25Mar2021.pdf.

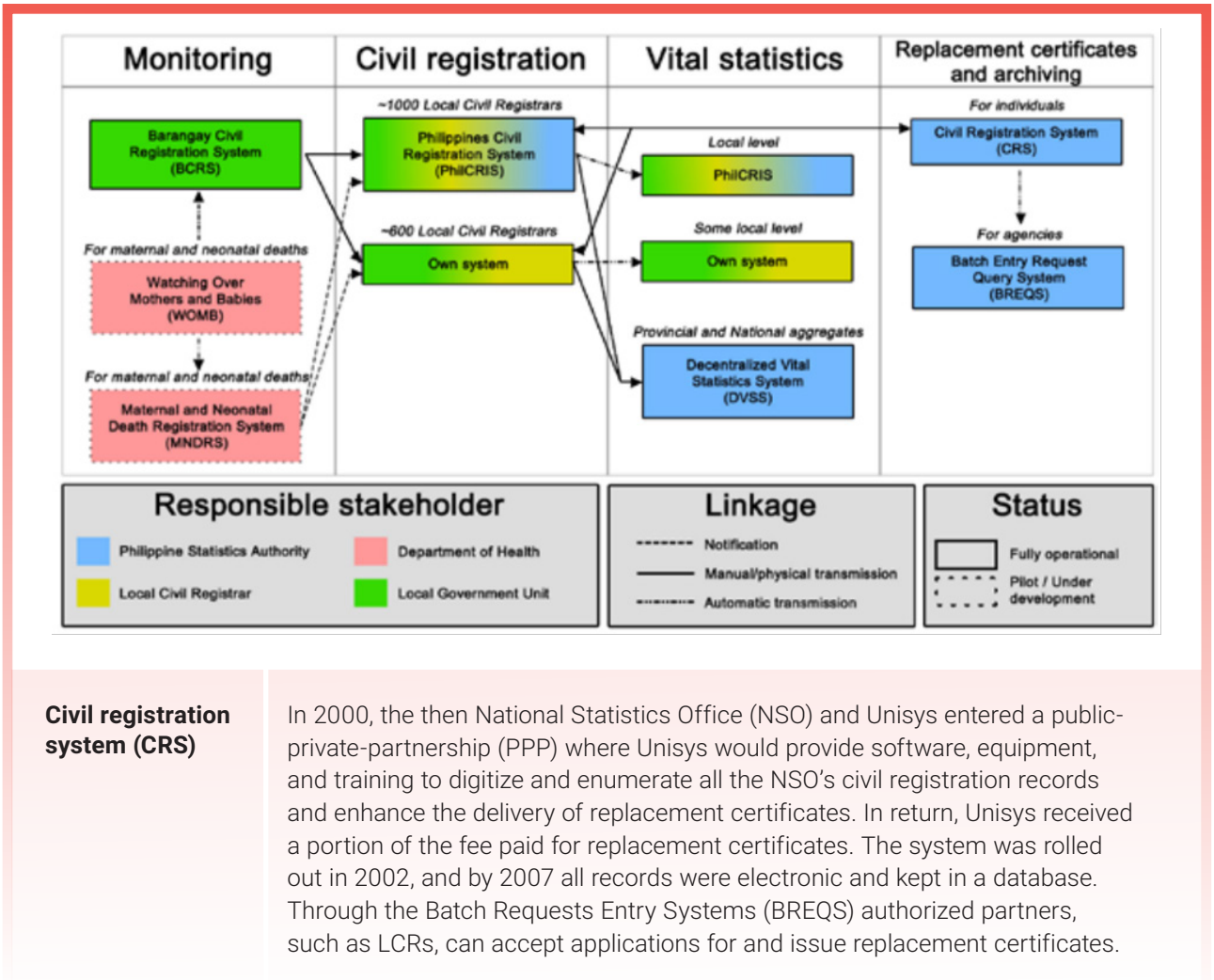
In Thailand, all provincial registration offices and almost all district registration offices are online and connected with the central civil registration system. Data from registration offices are transferred in real-time to the national database and backed-up routinely. Similarly in Viet Nam, all provinces and cities have online birth registration, while 62 out of 63 provinces and cities have online death registration. Almost all the provinces and cities across the country use the Provincial Administrative Procedure Information System, which is connected to the Ministry of Justice's electronic civil status registration and management system.

Indonesia introduced the electronic Population Administration Information System (SIAK) database in 2011. It is available to district (and, in some cases, sub-district) officials to input and verify birth data, generate unique identifiers for newborns, and close entries in the event of a death. This system has not been entirely streamlined across districts, with different versions of the software in use. At the village level, and in regions that do not have access to computers, registration is done manually using paper logbooks.

The first efforts to digitize registration processes began in the early 2000s in the Philippines, and the country now has several different systems being used for registering vital events (see **Figure 4**). While most LCRs have access to digital systems, some are still using paper-based methods, which are sent to provincial offices for encoding.

In Cambodia and Lao PDR, while many civil registration processes are currently paper-based, plans are underway to implement digital processing of vital event notification, registration, certification, name change, and marriage registration, among others. In Cambodia, 10 commune offices were granted access to the system in 2018 and another 14 in 2022 (out of over 1,600 offices). As part of the current World Bank project in Lao PDR, 62 districts in seven provinces have been connected to the central eCRVS database to facilitate digital registration processes.

Figure 4: ICT platforms in the Philippines CRVS system



Civil registration system (CRS)

In 2000, the then National Statistics Office (NSO) and Unisys entered a public-private-partnership (PPP) where Unisys would provide software, equipment, and training to digitize and enumerate all the NSO's civil registration records and enhance the delivery of replacement certificates. In return, Unisys received a portion of the fee paid for replacement certificates. The system was rolled out in 2002, and by 2007 all records were electronic and kept in a database. Through the Batch Requests Entry Systems (BREQS) authorized partners, such as LCRs, can accept applications for and issue replacement certificates.

Figure 4: ICT platforms in the Philippines CRVS system

Philippines Civil Registry Information System (PhilCRIS)	PhilCRIS is a desktop software platform developed by the PSA for LCRs to encode civil registration certificates, store civil registration records electronically as the local civil registry database, query and retrieve encoded records, produce vital statistics, and generate data files that can be transmitted to the PSA for archiving and statistical purposes. The software was specifically developed for use on Windows and offers simplified backup and restoration procedures. While LCRs are not obligated to adopt PhilCRIS, over 1,000 have. The remaining 600 LCRs either do not have the necessary computer skills or equipment, or use other, often proprietary, systems.
Barangay Civil Registration System (BCRS)	First developed in 1992, the BCRS has been implemented in many of the 42,000 Barangays. The BCRS facilitates civil registration by providing Barangay officials with an information system to record and manage demographic and biographic information about residents by household. In addition, the BCRS provides a basis for Barangay officials to actively monitor pregnancies, and maternal and neonatal deaths.
Decentralized Vital Statistics System (DVSS)	The DVSS was developed by Unisys in 2011 and upgraded to accelerate and improve the process of producing vital statistics based on civil registration records. Its primary functions are data entry, indexing, maintenance and quality assurance of civil registration data for generating statistical tables. It allows simple importing of data files generated in PhilCRIS by LCRs, while data files received in other formats are manually entered.
Watching Over Mothers and Babies (WOMB) and Maternal and Neonatal Death Reporting System (MNDRS)	Initiated in 2012, WOMB and MNDRS are systems being developed by the Department of Health to address under or late registration of maternal and neonatal mortality. WOMB, as a maternal and neonatal health tracking system with prompting functions, serves other important purposes related to raising awareness of the services available to pregnant women, including the need to register a newborn infant. MNDRS aims to capture maternal and neonatal deaths through notifications from health workers and from WOMB, and link with the Barangay officials and LCRs to ensure that those deaths do not go unregistered. Both systems are currently in the pilot stage.

Source: Marskell J. *Strengthening Civil Registration and Vital Statistics: A case study of the Philippines.* Philippine Department of Health, Philippine Statistics Authority, Canadian Department of Foreign Affairs, Trade and Development, the World Health Organization and the United Nations Economic and Social Commission for Asia and the Pacific: Bangkok. 2014. Available at: https://getinthepicture.org/sites/default/files/resources/phl_crvs_case_study_2014.pdf.

Digitalization/digitalization of the central CRVS database

For many countries, the path towards digitalization often begins with the development of a central CRVS database, which is then progressively rolled-out at the sub-national level, allowing for all registration points to capture data in digital format, communicate data back to the central database, and retrieve records from the central register as needed. Alternatively, and particularly for countries with decentralized and devolved governance structures, this process may happen in reverse – with sub-national registration offices creating their own databases for localized storage, which are then gradually integrated or linked with each other. In some countries, vital event records are further aggregated into one central national database or population register. In South-East Asia, all countries either have a centralized CRVS database or are in the active development and implementation phases.

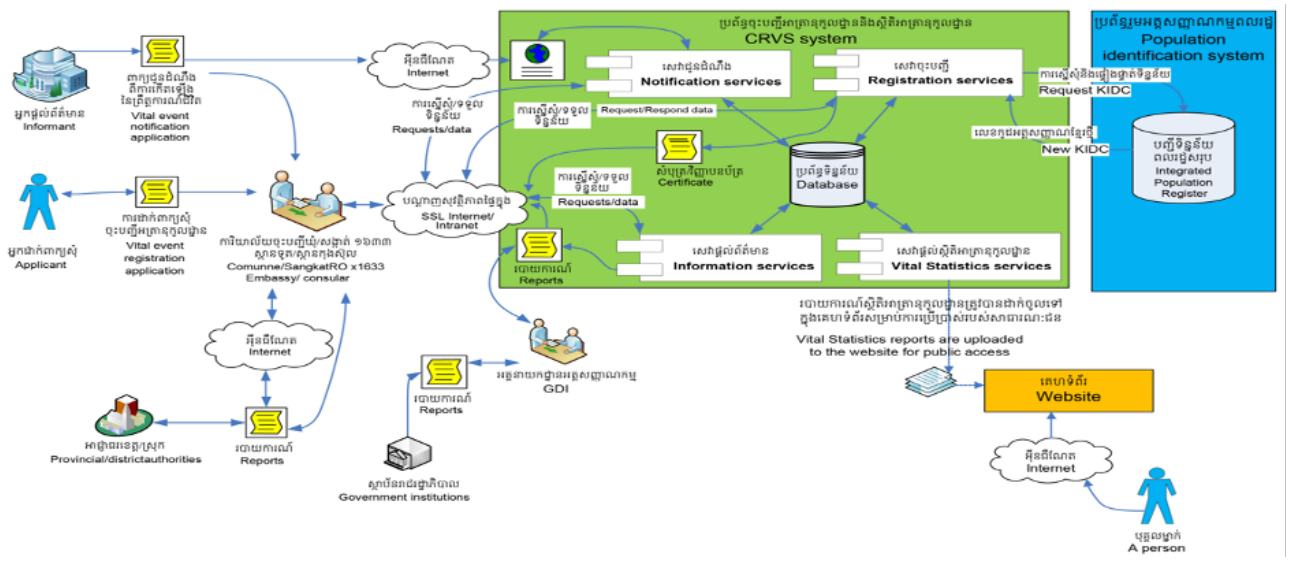
Thailand introduced the Population Identification Number Project in 1982, establishing a Computer Centre for Civil Registration in the Civil Registration Division, and paving the way to create a computerized CRVS database. Electronic files of the population are stored at the centre in the Central Registration Database, according to their population identification number. The record for every person in the database contains all information taken from the population register, and from birth and death certificates sent from registration offices throughout the country.

Digitalization of Malaysia's CRVS system began in 2000, and it has been consistently reviewed and updated in line with developments in ICT, evolving into an extensive framework and network based on structured and extensive legal and functional coordination between relevant government stakeholders. In Indonesia, the General Directorate for Population and Civil Registration (*Ditjen Dukcapil*) started the digitalization process of the civil registration and population registration (*Dinas Dukcapil*) systems in 2006. Between 2010 and 2011, the non-electronic national ID card (KTP) was replaced with an electronic version (e-KTP), and biometrics were introduced for de-duplication of records and identity verification. The electronic Population Administration Information System (SIAK) database was introduced in 2011.

Cambodia introduced a web-based central CRVS database in 2013 to facilitate the real-time searching and retrieval of records, monitoring and evaluation of registration services, and data compilation and analysis. Staff at GDI's national office scan civil registration records from across the country and enter associated identifying data into the database. Records are assigned a unique identifier at birth registration, and data are encrypted before transmission. Data are stored on an Amazon cloud server, and access to the system is restricted by a username and password. As part of the National Strategic Plan for Identification, a stated goal for the country is to create a universal, nationwide, computerized, web- and mobile-technology enabled civil registration system, based on four major services (see **Figure 5**):

1. Notification. Digital data entry of the minimum details about the vital event by an authorized witness, for storage in the system until applications arrive with legal documentation and request registration of the event.
2. Registration. Digital data entry and necessary steps to register the vital event, including verification processes, registration approval processes, and issuance of certificates. Registration offices will be connected to the central CRVS database via the internet.
3. Information. Requests for information by public users.
4. Vital statistics. Digital tabulation and analysis of civil registration data to produce vital statistics reports.

Figure 5: Conceptual design of integrated CRVS system, Cambodia

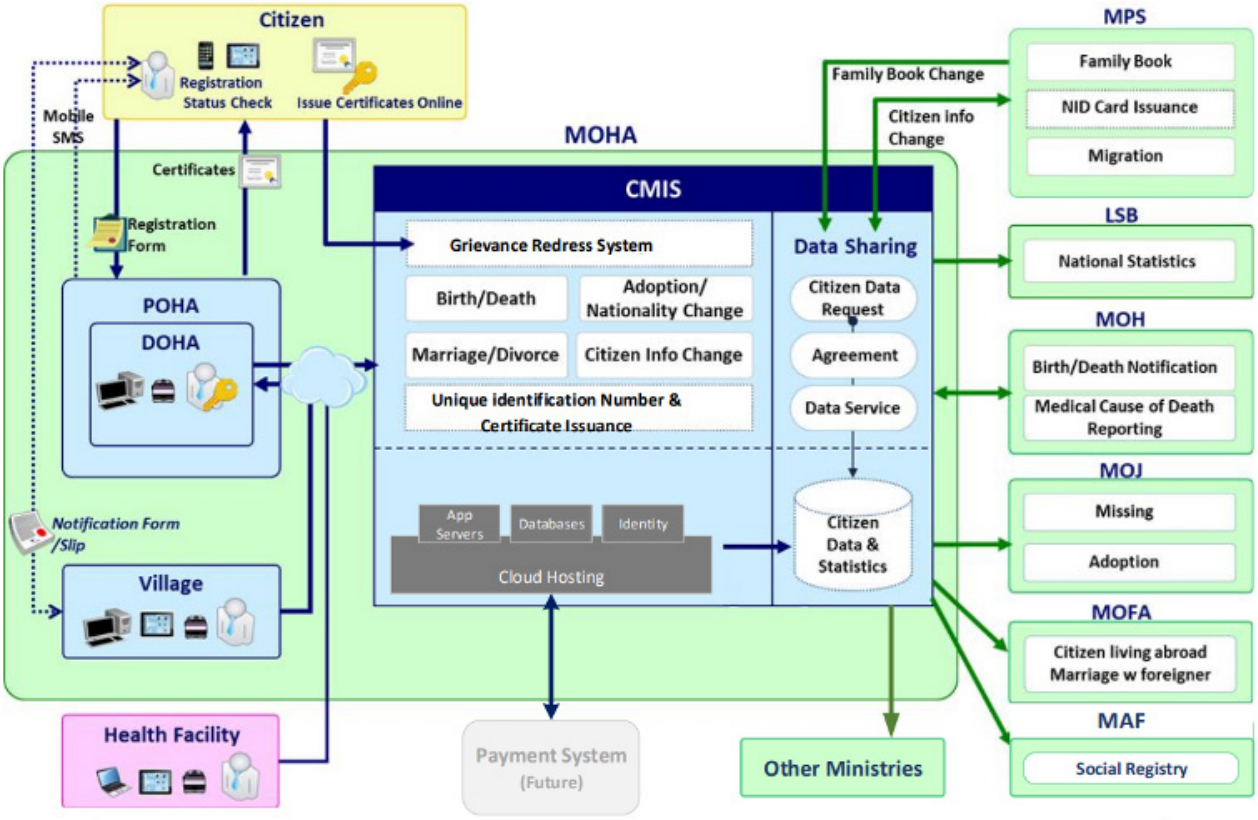


Source: *National Strategic Plan of Identification 2017-2016.* General Department of Identification, Ministry of Interior; Phnom Penh. 2016. Available at: https://getinthepicture.org/resource/cambodia-national-strategic-plan-identification-2017-2026.

In 2015, Viet Nam introduced the 'National electronic civil status database' project to create the e-Civil Registration Database (e-CRD). Implementation began in 2016 in a limited number of provinces and has progressively spread. Information in the database includes civil status information of an individual established during their birth registration, including full name, date of birth, gender, place of birth, personal identification number, and registration number, book number, and name of registration agency.

Digital processing of civil registration records at the central level in Lao PDR is limited, and registration data are not routinely aggregated. In March 2020, the country launched a USD$25 million CRVS project with support of the World Bank to create a functional electronic civil management information system, the Civil Management Information System (CMIS). Access to the database from district and provincial offices will be provided through mobile and web-based applications (see **Figure 6**).

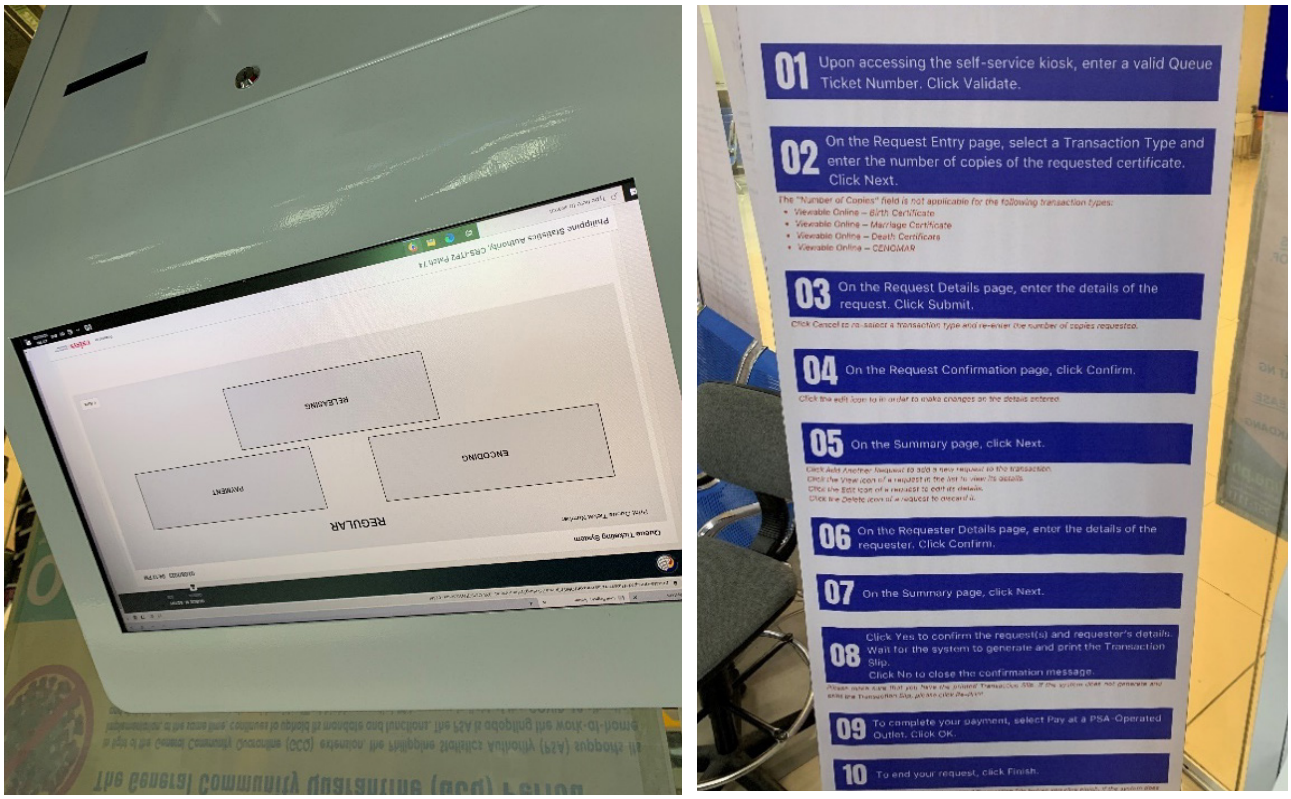
Figure 6: Conceptual design of Civil Management Information System, Lao PDR



Source: *Project Appraisal Document. Lao PDR Civil Registration and Vital Statistics Project*. World Bank Group. Bangkok: 2020. Available at: https://documents1.worldbank.org/curated/en/656591585879412688/pdf/Laos-Civil-Registration-and-Vital-Statistics-Project.pdf.

The centralized CRVS database in the Philippines functions differently to others in the region. Given the devolved governance structure of the country, each LGU manages its own civil registry database (using a mixture of PhilCRIS and other, often proprietary, systems), which are linked to the PSA's provincial and central offices for statistical purposes and for issuing replacement certificates across the country. In 2000, the then National Statistics Office (NSO) and Unisys entered a public-private-partnership (PPP) where Unisys would provide software, equipment, and training to digitize and enumerate all the NSO's civil registration records and enhance the delivery of replacement certificates. In return, Unisys received a portion of the fee paid for replacement certificates. The system was rolled out in 2002, and by 2007 all records were electronic and kept in a database. Through the Batch Requests Entry Systems (BREQS) authorized partners, such as LCRs, can accept applications for and issue replacement certificates.

In 2016, the country began a new 12-year PPP with Unisys for the Civil Registry System-Information Technology Project Phase II (CRS-ITP2). The project aims to digitize civil registry operations, facilitating the collection, access, storage, maintenance, and management of civil records, and enable the production of vital statistics. Self-service kiosks are also being installed across the country to improve accessibility and decrease waiting times in outlets. As of 25 January 2023, 53 outlets nationwide are using the updated system, and an additional 27 outlets are expected to be established by in next two years.



Source: Authors' own photographs taken during a site visit

Unique identifiers

Unique identifiers are critical in the management of administrative records. Identifiers are generally issued when an individual enrols into a system – at the point of birth registration for enrolment into the civil register, for example – and serve as a record locater or index within the system to facilitate operations such as linking records within a database and data aggregation over time. They are increasingly important in identity management and data linkage – both within and between ministries, including the national statistical system, and in many countries, are also used in the private sector. As such, identifiers may apply in foundational and functional administrative systems and can take a broad range of formats; they may be unique to a single sector (such as civil registration or health) or applied across different sectors and systems.

The region has a long history with the issuance of personal identification numbers and cards, and several countries are implementing new systems of unique identifiers linked with national ID systems, including Cambodia and Lao PDR (**Table 6**). Cambodia is transitioning away from the Khmer ID (established in the 1990s) to the proposed Integrated Population Information System (IPIS). Under the new system, individuals will be assigned a personal Khmer Identification Code (KIDC) at the time of birth registration and will use this identifier for life. KIDCs will be generated at the national level and will not be reused under any circumstances. Similarly in Lao PDR, the new civil management information system (CMIS) database will generate a random, 12-digit unique identifier at birth registration and include this on the birth certificate and in the family registration book. The same number will be used at age 15 for the national ID card.

Unique identifiers are issued at the time of birth registration in Indonesia and Malaysia. In Viet Nam, the management agency of the National Population Register issues an individual identification number and returns it to the civil status registration agency for recording in the birth registration certificate. The citizen identification management agency also receives this number to write to the citizen identification card

when issuing the card. The system can also work in reverse – with the civil status registration agency able to directly issue this number together with the issuance of the birth registration certificate, and then transfer information about the personal identification number to the management agency of the National Population Register to enter the information into the database; and at the same time transfer it to the citizen identification management agency to write to the citizen identification card when issuing the card. Unique identifiers are also assigned at birth registration or when an individual is entered into the population register for the first time in Thailand, acting as the key entry for accessing population files. Similarly, in Singapore, NRIC numbers are issued at birth registration for citizens. At the age of 15, individuals must report to the ICA to enrol their fingerprints, irises, and a facial image and are issued with a physical identity card.

In the Philippines, the automatic numbering of birth certificates starts at LCRs at the point of registration. Each unit record in the registry book has its own eight-digit number made up of the year of registration followed by a sequential number based on order in the book (YYYY-nnnn). All cities and municipalities have their own corresponding geographic codes to prevent duplication. In the PSA's CRS database, each birth is assigned a Birth Reference Number (BREN). BREN is a unique alphanumeric number that is assigned to the primary birth certificate of an individual and its primary purpose is to link the persons' birth records in the database with other birth records, in case of double or multiple registrations.

Table 6: Status of unique identifiers in South-East Asia, as of March 2023

Country	Established	Name	Unique identifier practice
Brunei Darussalam	–	–	–
Cambodia	In development	Khmer Identification Code (KIDC)	Random, 10-digits
Indonesia	2006	Unique National ID Number (NIK)	Issued at birth registration from the SIAK database
Lao PDR	2023	Citizen Service Number (CSN)	Random, 12-digits. Issued at birth registration and linked with national identity management system
Malaysia	–	MyKID/MyKAD	Issued at birth registration
Philippines	–	Birth Reference Number (BREN)	Issued at birth registration
Singapore	1966	National Registration Identity Card (NRIC) Number / Foreign Identification Number (FIN)	Structured, alpha-numeric, 9-digits
Thailand	1982	Personal Identification Number (PID)	Structured, 13-digits
Timor-Leste	2014	Birth certification number (with barcode system)	20-digits
Viet Nam	–	Citizen identity card number	Structured, 12-digits. Issued at birth registration (or when applying for a citizen identification card)

– Current status is unclear and/or could not be confirmed with the country

Digital archiving of existing records

Digitized civil registration records, and the databases they are stored in, can only become providers of the most up-to date identity information if all vital registration records for each individual are available in digital format, requiring a system of digitally archiving existing records. Given the large number of paper-based records still present in most countries, this process requires significant financial and human resources, and generally takes several years to complete. The digitizing and indexing project to scan and digitize civil registration records for England and Wales from 1837 and create a new online index of vital events, for instance, has been paused since 2010 due to the 'significant investment' required and lack of available resources.[37] Several countries in South-East Asia also face the additional challenge of requiring software that can work with non-Latin/Roman texts, for which technology options remain limited.[38] Despite this, most countries acknowledge the importance of digitizing historical records and are working towards this. Experiences from within the region have demonstrated two main approaches to the digital archiving of existing records: manual data entry or the use of scanning technology. There is also evidence from outside the region on the use of a third approach, which utilizes digital information captured during enrolment into population-based national identity systems.

Three countries in the region are yet to start the systematic digitization of their records. While digitizing archived paper records has been included in three pilot provinces as part of Lao PDR's broader CMIS project, paper archives of registered vital events at district and provincial offices are not yet being systematically digitized. In Viet Nam, responsibility for digitally archiving historical records has been allocated to the provinces, however implementation status is unclear. The Ministry of Home Affairs in Indonesia issued a directive to all provincial governors and city mayors requesting that all old records of birth certificates contained in hard copy register books be re-entered into SIAK in 2015, however, progress is unclear. A survey conducted in 2016 reported no digitization had taken place as of December 2015.

37 Guidance: Digitisation project. Government of the United Kingdom. Available at: https://www.gov.uk/government/publications/digitisation-project/digitisation-project.

38 See for example, https://guides.lib.utexas.edu/c.php?g=873758&p=6996771.

Source: Authors' own photograph taken during a site visit

Manual data entry

Traditional approaches to digitize existing paper records generally involved manual data entry, as demonstrated in Thailand. Between 1984 and 1987, over 50 million population records from the paper registration system were digitized into the central computerized population database. Thailand trained and deployed over 1,000 operators to work in shifts as part of manually verifying and entering the records into the new system. The original records were also scanned and saved to microfilm and attached with the digital record, to act as evidence of the original event.

Malaysia has over 150 million historical records, dating back to 1869, and work began in 2007 to manually digitize them. As of 2023, approximately 30 million records have been converted to digital format, with an estimated completion date of 2028 – however more resourcing is required.

Starting in 2004 with the support of the Asian Development Bank, Cambodia began a project for the digitization of historical birth records for the period 2002–2006. Seventy-five data clerks were trained in data entry and systematically scanned and inventoried the records into the civil registration database. During this time, more than 6 million records were entered into the system out of 16 million records.

Since then, additional funding was provided by the Swedish International Development Cooperation Agency (SIDA) to continue the work and expand to include death and marriage records. In 2016, the government took control of these activities. As of 2022, an estimated 7 million records (out of 20 million) have been digitized, and the country is actively looking for alternative, automated methods to increase the efficiency of the digitization process.

Scanning

Countries are increasingly turning to the use of automated scanning technologies to assist with digitization, including the use optical character recognition (OCR) technology for the automatic detection, recognition, and extraction of hand-written text into structured digital text for data entry.[39] Several challenges remain with fully-automated technologies, including the poor handwriting of old records, the considerable variation of handwriting patterns given the number of different registrars and officials completing various registration forms and logbooks, and the amount of manual post-processing needed to check for errors. As such, most countries use a combination of scanning with limited manual data entry of key data fields (such as name, date of birth, registration number, etc.) to enable record search and retrieval.

An example of this is in Namibia, where the digitization of historic paper-based civil registration records at the Department of Civil Registration commenced in February 2010 and took eight years to complete. The process was largely outsourced and completed by a local document warehouse company, who used proprietary records management software. For this, some 60 to 100 data entry clerks scanned the historical records into the records management database. Each scanned record was tagged with critical identity and vital event information identified on the scanned paper. These tags were then stored in an associated database. A search in the database using the identity data can look up the corresponding scanned original registration record.

In the Philippines, a scanning module to allow digitization of registration documents was introduced as part of the CRS-ITP1 and has been continued as part of the second phase of the project. As of 2023, over 171 million records have been digitized and stored in PSA's electronic CRS database, with an additional 4 million records digitized annually.

Utilizing data from national identity databases

Given the significant resources required to digitize historical civil registration records, a small number of countries have used information from the digital databases created during the process of establishing national identity programs. The central assumption for this decision is that identity information and dates of birth have been proven during the application process, and therefore they should be treated as a valid proof of identity as well as proof of date of birth.

In Uganda, for instance, a single government agency has authority over both the civil identification and the civil registration systems.[40] Driven largely by a political agenda and the goal of ensuring the integrity of the voter register for forthcoming elections, the newly established registration authority prioritized the issuing of national identification cards. Over one-and-a-half years the authorities managed to enrol almost the entire adult population in the national identification register and provide them with secure national identity cards. Building on the success of the national identity card project in eliminating fraudulent access to

39 Eikvil, L. 1993. OCR: Optical Character Recognition. Available at: http://home.nr.no/~eikvil/OCR.pdf.

40 *Synthesis Report. Review of Civil Registration and Vital Statistics Innovations in Eastern and Southern Africa Region: Digitization, processes, and strategies*. UNICEF Eastern and Southern Africa: Nairobi. 2023.

services, the authorities further widened the scope of identification enrolment to encompass all students at elementary, secondary, and high schools. Enrolment of students was initiated with the goal of accurately identifying and capturing the total number of students at each school and being able to accurately project financial subsidies to schools.

Such an approach carries the risk of discrepancy between data in the digital civil registration register and information in the paper-based vital life event record (if one exists), which could later have significant legal ramifications. However, the approach taken by authorities in Uganda seem to imply a willingness to deal with legal ramifications should they arise rather than waiting for years until all CRVS records have been digitized.

Integration and Interoperability with other sectors

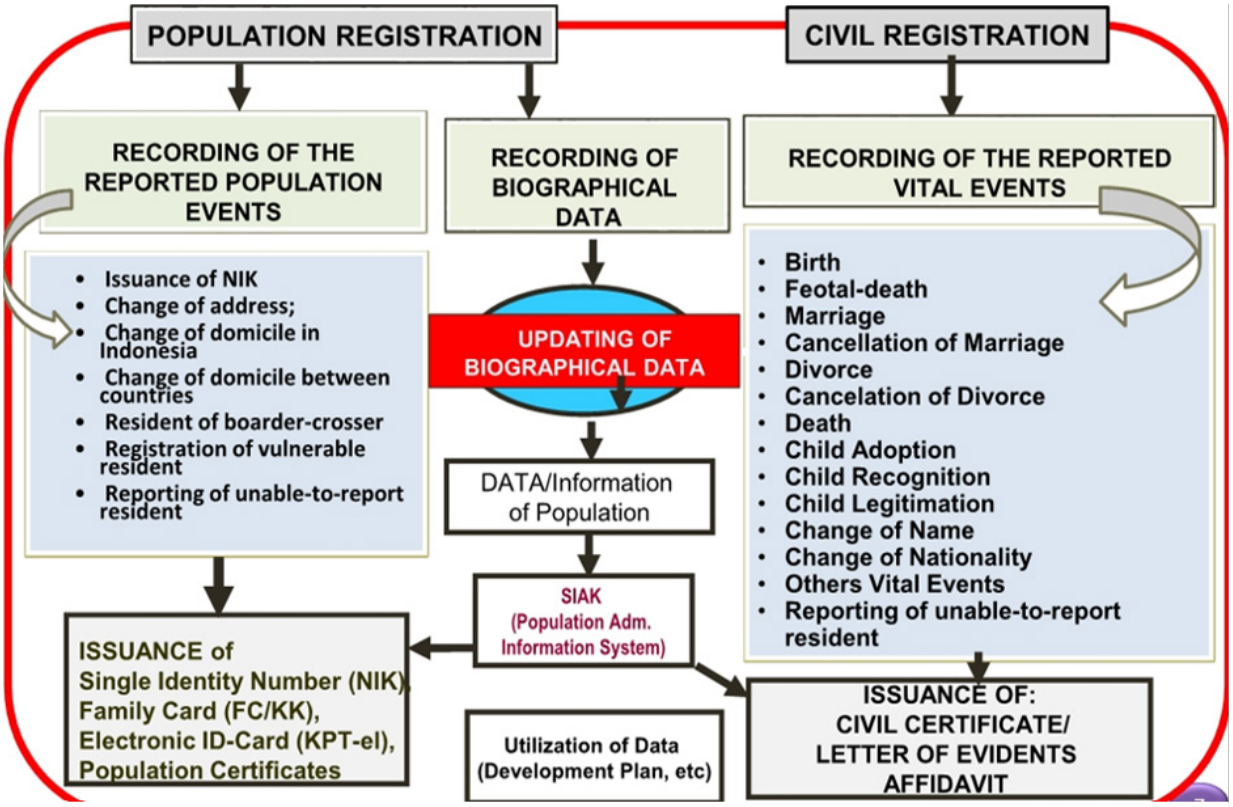
Digital civil registration records and an interoperable central database can provide a range of opportunities for improving other government services, including health, education, and social support. The broader value for public administration includes the ability to obtain data directly from the source, allowing for digital verification of civil registration data – saving time and money. All countries within South-East Asia are working towards greater integration and interoperability of their civil registration systems with other government agencies.

Singapore has highly interoperable government systems. Its National Registration Database contains information from three registries: the Registry of Births and Deaths, the Registry of Citizens, and the National Registration Identity Card (NRIC). The Myinfo feature within Singpass (Singapore's national digital identity) facilitates the sharing of approximately 150 data attributes from more than 10 government agencies for consented data sharing. Data is pulled from authoritative sources, removing the need for manual data entry and repeated verification requirements. Planning for this level of interoperability began in 2015, when the government went through individual fields in key government datasets to identify the most reliable source or 'single source of truth' for variables. Data on current address, for example, is sourced from ICA, while income data from inland revenue, and marriage status from the registry of marriages. Once established as re-usable and authoritative sources, it removed the need for different agencies to ask for the same information multiple times.

Malaysia's unique identifier (MyKAD), issued at birth registration (via the MyKID), is the ultimate reference number for all government agencies. Through its Agency Link Up System (ALIS) to link government agencies, identification information is shared between the immigration department, inland revenue board, police, and over 25 other agencies.

In Indonesia, both the civil registration and population registration systems make population data available to institutional users: at the aggregate-level to allow the production of statistics and at the individual-level to allow a service provider, such as a government agency or bank, to verify the identity of a client (**Figure 9**). Data in the systems are linked through the SIAK database via the NIK (unique national ID number). Access is governed by cooperation agreements, of which there are currently over 5,400. Due to a lack of sustained investment in ICT infrastructure, the current system is unable to service national-scale, real-time usage due to the high number of queries received. As such, institutional users face daily limits on how many Indonesians they can verify and how much population data they can access.

Figure 7: Flow of data between civil registration and population registration systems, Indonesia



Source: Nuyetty MT. Strategies to improve coverage and accuracy of CRVS systems in Indonesia. Presentation at the Workshop on the Operation of Civil Registration, Vital Statistics and Identity Management Systems in East Asian countries, 13-17 November 2017, Hanoi, Viet Nam. Available at: https://getinthepicture.org/resource/presentations-workshop-operation-civil-registration-vital-statistics-and-identity

In Thailand, medical information from the Ministry of Public Health can be mapped to civil registration data held at BORA using the unique identifier, providing morbidity information on the patients who later die after discharge from hospitals. This morbidity data from administrative records is used to validate information on the cause of death of the deceased. The country is also using innovative techniques to link birth and death data to the national AIDS program, for improved health monitoring and planning. As part of the Data Matching scheme in the Philippines, government agencies can provide electronic lists of pensioners, members, and/or beneficiaries to be matched with the PSA's birth, marriage, or death records. The items provided by PSA may vary depending on the mandate of the partner agency in consideration of the Data Privacy Act of 2012. Usually, the sole purpose of such matching is verifying and counterchecking whether the pensioner, member, and/or beneficiary of the government agency has given birth or died during the period covered by the report.

There are several databases operating in Viet Nam, with varying levels of integration and interoperability between them. The Ministry of Public Security manages citizen identification and the National Population Register and Civil Identification Database. There is a link between the civil status database and the citizen identification database. The birth certificate is one of the citizenship papers necessary to receive a citizen identification card. Many information fields in the citizen identification card application form are required to be filled out with the information on the birth registration form. The age information in the birth certificate is the basis for determining the valid age to be issued with a citizen identification card. The Ministry of Public Security is currently completing the collection of citizens' data to fully operate the National

Population Register. This will be the 'core' database for specialized databases to connect, explore, and use. Viet Nam Social Security is also synchronizing the database of its sector with the National Population Database for the purpose of providing insurance services more conveniently.

As part of Lao PDR's proposed Civil Management Information System (CMIS), the unique identifier will allow data stored in the national civil register (eCRVS) to be linked with management information systems belonging to other ministries (for example, family book, national identity card, district health information software, civil service, social registry, pensions, social security, passport, transportation or driver's license, taxes, health care, finance, education, voter rolls, and immigration), increasing the effectiveness and efficiency of public service delivery.

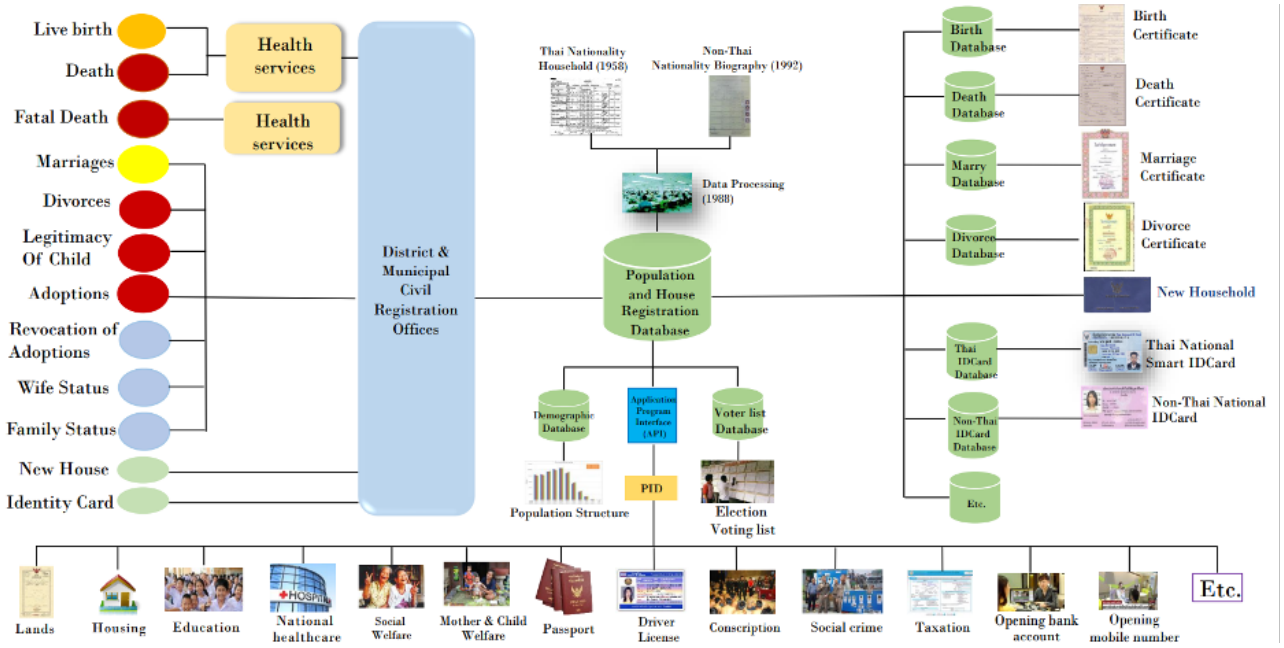
Several projects are underway or in the planning stages around digitization and interoperability within government services in Timor-Leste, which are likely to contribute towards strengthening the CRVS system. These include the development of a municipal data portal and eGovernance strategy for the municipalities, a feasibility study to pilot a 'one-stop-shop' model of service delivery to provide services to citizens from a single window, and planned voter registration with biometric enrolment.

Online services and eGovernment

The Government of Singapore has developed an extensive range of online services, including the LifeSG website and smartphone app, which allow parents to register their child's birth. Singpass was initially established in 2003 as a username and password to sign into government websites. Today, Singpass can be accessed via web browsers and through an app that is accessible for free to all Singapore citizens, permanent residents, and FIN holders aged 15 and older. It enables users to leverage their legal identity to carry out a wide range of online and face-to-face transactions with over 2,000 government agencies and private sector services. Participating government agencies and private sector services can access Singpass through a secure application programming interface (API Exchange, or APEX), which acts as a way for software components to communicate with each other, including the transmission of data. An important characteristic of Singpass as a digital ID is how it functions as an extension of, and builds on, Singapore's foundational ID system. The information in the foundational ID system is used by Singpass, including for onboarding; for the digital identity card; and for face verification. The issuance of a unique identifier and the existence of a national registry of persons as an authoritative source of core demographic attributes facilitate interoperability.

Thailand has progressed through various policy frameworks that emphasize the integrated promotion of e-Government for social good. Under the 'Smart Thailand 2020' plan (also known as 'IT 2020'), the government tasked the Electronic Government Agency with formulating consistent e-government policies across multiple levels, to maintain coherency across all sectors under the wider framework of national development of ICT. The Electronic Government Agency provides a centralized digital platform for other government agencies to enhance efficiency and coherence, developing standards and guidelines and disseminating knowledge and best practices. The Electronic Government Agency also assists public agencies with improving public service delivery, enhancing back-office functions, furthering access to public services for the general Thai public, and protecting the security of public e-services (see **Figure 8**).

Figure 8: Integrated architecture for civil registration, vital statistics, and identity management, Thailand



Source: Chidchanognarth, Vichian. Civil registration, vital statistics and identity management system in Thailand. Presentation. Available at: https://unstats.un.org/unsd/demographic-social/meetings/2019/newyork-egm-crvsims/docs/presentations/Thailand.pdf

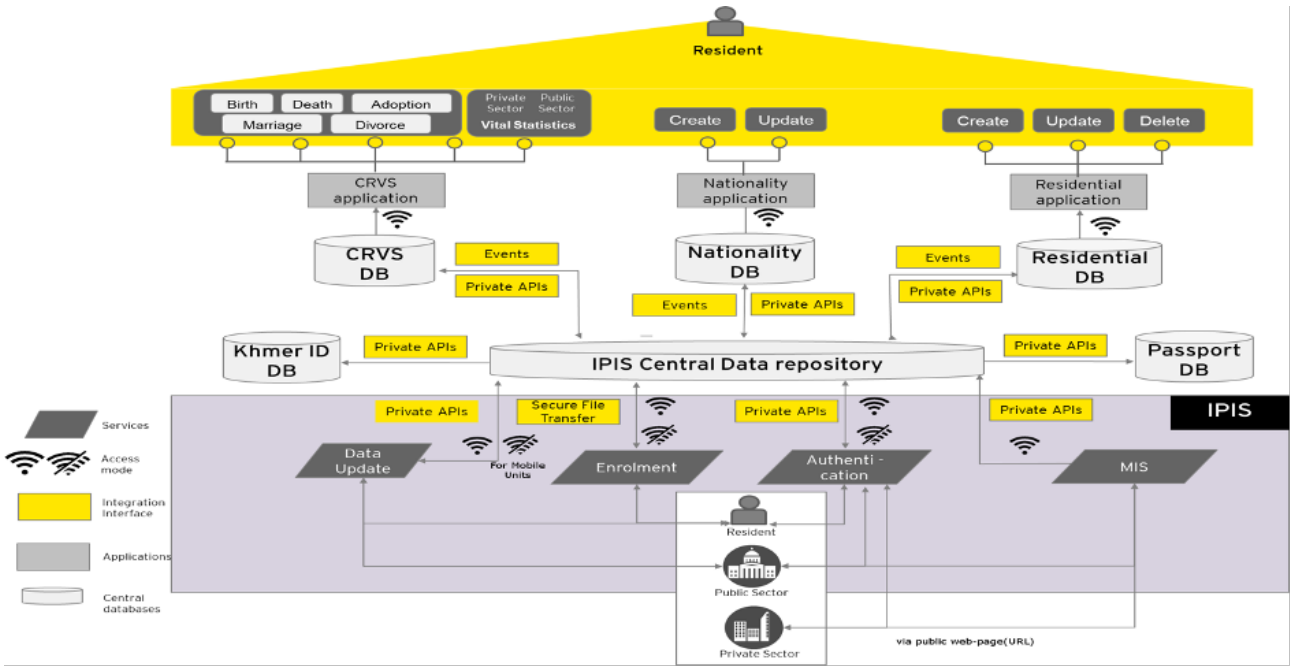
Through Malaysia's MyGovernment Portal, individuals can request a range of services related to their life events, including accessing pre-registration birth forms, and checking personal information through myIDENTITY. During the COVID-19 pandemic, NRD offices were able to capitalize on eGovernment systems. In Sabah, all NRD operations took place based on prior appointments made through the online appointment system using the MyJanjiTemu platform. In February 2021, the government launched the MyDigital Blueprint, which outlines how technology and digitalization will be used to transform the country, including introducing a national digital identity for all Malaysian residents.

Vietnamese citizens can use citizen identification cards to prove their identity when using public administrative services or making various transactions. Under the provisions of Decree No. 87/2020/ND-CP, citizens can submit civil registration papers and documents through the National Public Service Portal or the Public Service Portal of a province/city directly under the Central Government. Many of these systems are using different platforms and software, and there are challenges in terms of linking and synchronizing with each other. As of September 2021, the Ministry of Information and Communications has been assigned by the Government to develop a Decree on electronic identification and authentication and a national electronic identification and authentication exchange platform.

Several countries in the region are also implementing comprehensive, government-wide reforms to improve online services and eGovernment. Work is underway in the Philippines with the Department of Foreign Affairs to develop an online portal for the reporting of vital events occurring among Filipinos living abroad. In Cambodia, digitization plans for CRVS are occurring within a broader framework to introduce e-services for client-oriented, efficient, and transparent service delivery by 2025. The backbone of this is the IPIS, which will include reliable nationwide information on the population based on unique identification from birth, based on the concept of a population register (see **Figure 9**). Data in the IPIS will be updated in real-time based on five key systems: CRVS; Khmer ID Card Management; Passport Management;

Residential Management; and the Nationality System. The CRVS system will act as the initial registration point, where a new record for an individual is created in the IPIS and a new KIDC is generated and assigned to it. The IPIS will enable different institutions to share the same information about the individuals, and to search and contribute to the updating information on individuals.

Figure 9: Conceptual design of integrated eGovernment systems, Cambodia



Source: Institutional arrangements and integration of civil registration, vital statistics, population registers and identity management. General Department of Identification. Bangkok: 2017. Available at: https://getinthepicture.org/resource/presentations-workshop-operation-civil-registration-vital-statistics-and-identity

Working with the World Bank, Indonesia has launched a USD$250 million project to strengthen population and civil registration and increase usage of digital identification to improve the delivery and accessibility of select public and private sector services. Building on existing digital infrastructure, the project will support the development of an identity verification and e-KYC platform for in-person transactions and a national digital ID application for online/remote transactions, as well as modernize ***Ditjen Dukcapil's*** ICT infrastructure and strengthen cybersecurity capabilities. The project also outlines an option for the development of a digital ID smartphone app to:

- enable users to securely verify their identity when accessing online services through websites and other smartphone applications as a 'single sign on', with easy integration for institutional users,
- enable users to remotely consent to sharing their personal data from SIAK and other official sources with institutional users, and
- act as a digital wallet for storage and presentation of digital versions of their e-KTP and other official documents, which can be easily verified.[41]

41 Palacios, Robert. *Project Information Document. ID for Inclusive Service Delivery and Digital Transformation in Indonesia.* World Bank Group. Washington, DC: 2022. Available at: http://documents.worldbank.org/curated/en/099130011242236995/P17521806c90860d0b7a30cd0dc2753b1d

Digital tools for vital statistics

There are several tools, usually software packages, available to provide automated processes for the compilation, tabulation, analysis, presentation, and dissemination of vital statistics, often with inbuilt quality-control functionality. While many are custom-built and proprietary, common examples include:

- **DORIS**. The WHO Digital Open Rule Integrated cause of death Selection (DORIS) software assists in selecting the single underlying cause of death and assessing the quality of coding or the quality of data at the population level. It can be used online and offline.[42]
- **ANACoD**. Analyzing mortality and causes of death (ANACoD) is a digital tool that helps the user to perform a comprehensive and systematic analysis of mortality and cause of death data. The tool automatically tabulates data and presents basic mortality measures in tables and figures. It highlights potential inconsistencies and errors in the data and estimates the completeness of reporting. ANACoD3 (the latest version) generates indicators that reveal potential data-quality issues, as well as an array of comparable indicators including sex- and age-specific mortality rates, crude death rates, life expectancy at birth, causes of death distributed by global burden of disease categories, the top 20 causes of death, and the percentage of ill-defined causes of death. The latest version also allows for analyses of data coded in ICD-10 as well as ICD-11 formats.[43]
- **CoDEdit**. The CoDEdit electronic tool is intended to help producers of cause-of-death statistics in strengthening their capacity to perform routine checks on their data. It is applied at the data compilation stage, and its primary purpose is to warn and flag basic gross errors, alert about possible misuse of codes for causes of death, and finally provide a summary of the data set. The tool is an MS Access-based application. Version 2.0 enables users to perform routine checks on data coded to ICD-11 as well as data coded to ICD-10.[44]

42 https://www.who.int/standards/classifications/classification-of-diseases/cause-of-death.
43 https://www.who.int/standards/classifications/classification-of-diseases/services/analysing-mortality-levels-and-causes-of-death.
44 https://www.who.int/standards/classifications/classification-of-diseases/services/codedit-tool.

5

ASSESSING AND ADDRESSING INEQUALITIES IN CRVS IN SOUTH-EAST ASIA

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Introduction

Civil registration systems designed and functioning as compulsory, permanent, continuous, and universal get everyone in the picture. This is no small feat, even in countries with well-established civil registration and vital statistics (CRVS) systems, as capturing all vital events requires commitment, strong efforts, and innovations to manage disruptions and ensure resilient systems, as seen at the onset of the COVID-19 pandemic.[45] Despite these challenges, countries have a commitment to uphold universality as it facilitates the delivery of services and good governance. Additionally, universality touches upon a range of human rights, such as the right to birth registration; an identity; a nationality; and marriage registration.

Countries commit to these human rights as signatories to the pertinent global declarations, covenants, and conventions but also must support well-functioning civil registration systems to achieve the rights. All ten countries in South-East Asia are signatories of the United Nations (UN) Convention of the Rights of the Child (CRC) which states the right to birth registration. However, 9.4 million children under five years of age in South-East Asia have not had their birth registered.[46] The effort and process to translate a commitment to an achievement can be substantial.

The Asia and the Pacific CRVS Decade (2015-2024) has aligned countries in the larger region[47], where 64.4 million children under five years old have not had their birth registered, to get everyone in the picture through three goals and multiple targets. Six principles underpin the Regional Action Framework on CRVS in Asia and the Pacific (RAF) and its action areas which provide guidance to governments and development partners to strengthen CRVS systems through multi-sectoral efforts and make progress towards targets set by countries based on their capacity and CRVS strategy, if pertinent.[48] The midterm report of the Asia Pacific CRVS Decade completed in 2020 identified progress, for example, birth registration completeness increases in Cambodia from 40% in 2014 to 66% in 2018 and 26 countries registering more than 90 percent of births.[49] Such progress in notable in the brief time period since the inception of the Decade and serves as a reflection of government commitments to the Ministerial Declaration to 'Get Every One in the Picture', guidance set forth in the Regional Action Framework on CRVS in Asia and the Pacific, and investments made by governments and development partners in making progress towards targets.

45 UN Legal Identity Agenda (2020), *Impact of COVID-19*. Available at: https://unstats.un.org/legal-identity-agenda/covid-19.

46 UNICEF (2019), *Birth Registration for Every Child by 2030: Are we on track?* Available at: https://data.unicef.org/resources/birth-registration-for-every-child-by-2030/.

47 The full list of the 53 member and 9 associate member countries in the ESCAP is available at: https://www.unescap.org/about/member-states.

48 ESCAP (2014), *Regional Action Framework on Civil Registration and Vital Statistics in Asia and the Pacific*. Available at: https://getinthepicture.org/sites/default/files/resources/Regional%20Action%20Framework%20on%20Civil%20Registration%20and%20Vital%20Statistics%20in%20Asia%20and%20the%20Pacific_0_0.pdf.

49 ESCAP (2021), *Summary of Getting Everyone in the Picture: A Snapshot of Progress Midway through the Asia and Pacific Civil Registration and Vital Statistics Decade*. Available at: https://www.unescap.org/sites/default/d8files/event-documents/ESCAP_MCCRVS_2021_1_Summary_Getting_Every_One_in_the_Picture_English.pdf.

Just as it is beneficial to measure progress, it is extremely informative to assess the gaps, in particular given the focus on universality in the CRVS Decade. In the absence of 100% registration completeness, it is important to understand if registration inequalities exist, which, where, and why to inform solutions, and how these solutions have reduced inequalities in civil registration. The Regional Action Framework commits States to assess inequalities in CRVS across population subgroups that are marginalized, hard to reach, or otherwise identified as populations of interest for inclusive efforts, and set targets to address inequalities that may stem from the supply side—i.e., outdated CRVS legal frameworks, fees, and registration office locations—demand side—i.e., lack of awareness, poverty, and cultural values— or a combination of both.[50] This commitment is reiterated in the 2021 Ministerial Declaration on Building a More Resilient Future with Inclusive Civil Registration and Vital Statistics, which also calls upon States to remove all barriers to civil registration. Moreover, it aligns with the 2030 Agenda for Sustainable Development through which countries commit to leave no one behind.

Inequalities in all vital events across the life course that are recommended by the United Nations Statistics Division (UNSD) for continuous, permanent, universal, and confidential registration — foetal deaths, live births, marriages, divorces, and deaths— can be closely examined via inequality assessments. This paper primarily focuses on inequality assessments for birth and death registration.

Civil registration completeness in South-East Asia

Measuring civil registration completeness

Universal registration of vital events stipulates that all vital events occurring within a country are captured within the civil registration system. This requires registration completeness and full coverage, accessibility of civil registration offices across all geographic areas and system functionality. Completeness of civil registration, which reflects universality, is measured using the following formula:

$$\%\ \text{birth registration completeness in a specified 12-month period} = \frac{\text{Number of registered live births within a specified 12-month period}}{\text{Actual or estimated number of live births within a specified 12-month period}} \times 100$$

Presented for birth registration completeness, this equation can be used to measure the registration completeness of any vital event. Data for the numerator should come from civil registration, the best source of continuous and complete recording of vital events. The denominator requires a complementary data source that captures the actual number or a best estimate of live births within the specified 12-month period. The regular measurement of completeness is recommended as an annual quality assurance mechanism by UNSD[51] and a calculation to include in annual vital statistics reports.[52] Additionally, birth and death registration completeness are reporting indicators for Sustainable Development Goal (SDG) indicator 16.9.1 on birth registration completeness and 17.19.2, to achieve 100% birth registration and 80% death registration, and the Regional Action Framework on CRVS in Asia and the Pacific.[53]

50 As per the ESCAP Ministerial Resolution 71/14 para 15, marginalized and hard to reach populations are defined as, '[p]eople living in rural, remote, isolated or border areas; minorities; indigenous people; migrants; non-citizens; asylum seekers; refugees; stateless people; and people without documentation.'

51 United Nations Statistics Division (2014), *Principles and Recommendations for a Vital Statistics System.* Available at: https://unstats.un.org/unsd/demographic/standmeth/principles/m19rev3en.pdf.

52 Vital Strategies (2020). *Production of a vital statistics report: guide with accompanying template and workbook*. Available at: https://www.vitalstrategies.org/resources/production-of-a-vital-statistics-report/.

53 United Nations Statistics Division (2021), Indicator 19.19.2 Metadata. Available at: https://unstats.un.org/sdgs/metadata/files/Metadata-17-19-02b.pdf.

Completeness measurements from CRVS

As a component of the CRVS Decade, countries in Asia and the Pacific are measuring progress on various indicators, including five indicators on registration completeness for which countries established targets at baseline. Reported by the civil registration authorities or statistical agencies, the results for three of these indicators highlight targets achieved (blue); progress being made (green); stagnation (yellow); regression (orange); no response (NR); and no target set (NTS) for birth registration completeness (full population and among children under five) and death registration completeness (**Table 7**).

The measurement of these indicators at regular intervals during the CRVS Decade is beneficial to assess progress, as is the case in five countries (Cambodia, Indonesia, Lao PDR, Philippines, and Timor-Leste); regression, as is the case in two countries (Brunei Darussalam and Thailand); and continued achievement, as is the case in Brunei, Singapore, and Malaysia for birth registration and the Philippines and Singapore for death registration. In countries with less than 100% completeness, the indicator results are limited in the information they provide on the registration gap. The aggregate statistic does not reflect potential inequalities due to sex, age, sub-national administrative area, or other stratification variables that can uncover ***who*** is being left behind.

The UN Principles and Recommendations for a Vital Statistics System, Revision 3, recommends the inclusion of registration completeness in annual vital statistics reports, but it does not specify the recommended disaggregation for inclusion in the annual vital statistics report as it does with other tabulation recommendations.[54] Among the countries in South-East Asia that produced vital statistics reports, the Philippines,[55] Brunei Darussalam,[56] and Singapore[57] included various vital event registration disaggregation but did not include estimates of registration completeness. It is informative to include disaggregated registration completeness statistics with other registration statistics as these can highlight gaps to consider addressing in an inequality assessment.

54 United Nations Statistics Division (2014), *Principles and Recommendations for a Vital Statistics System*. Available at: https://unstats.un.org/unsd/demographic/standmeth/principles/m19rev3en.pdf.

55 Philippines Statistics Authority (2020), *Vital Statistics Report*. Available at: https://psa.gov.ph/content/vital-statistics-report-vsr.

56 Department of Statistics: Bandar Seri Begawan (2022), Brunei Daressalam Vital Statistics Report. Available at: https://deps.mofe.gov.bn/SitePages/Vital%20Statistics.aspx.

57 Registry of Births and Deaths, Immigration and Checkpoints Authority (2022), Report on Registration of Births and Deaths 2021. Available at: https://www.ica.gov.sg/docs/default-source/ica/stats/annual-bd-statistics/stats_2021_annual_rbd_report.pdf.

Table 7: Birth and death registration completeness reported at baseline and the midterm report for the CRVS Decade in Asia and the Pacific[58]

	1A. Percent of births in the country in a given year are registered			1B. Percent of children under five in the country whose birth has been registered		
	baseline	**midterm**	**target**	**baseline**	**midterm**	**target**
Brunei Darussalam	100% (2014)	100% (2018)	100%	100% (2014)	100% (2018)	100%
Cambodia	39.5% (2014)	65.5% (2018)	90%	73.3% (2014)	NR	90%
Indonesia	65.9% (2015)	113% (2018)	90%	66.6% (2012)	77.9% (2017)	95%
Lao PDR	31.8% (2014)	42.5% (2018)	70%	74.8% (2011-2012)	73% (2017)	80%
Malaysia	100% (2014)	100% (2018)	NTS	NR	NR	NTS
Philippines	82.1% (2014)	90.8% (2017)	99%	90.2% (2010)	91.8% (2017)	99.50%
Singapore	99.9% (2014)	99.9% (2018)	100%	99.9% (2014)	99.9% (2018)	100%
Thailand	100% (2014)	92.3% (2018)	100%	99.4% (2012)	99.8% (2019)	100%
Timor-Leste	15% (2014)	271% (2018)*	100%	55.2% (2009-2010)	60.4% (2016)	100%
Viet Nam	NR	NR	97%	96.1% (2014)	NR	98.50%

Source notes: Cells are colored according to country midterm progress since baseline: targets achieved (blue); progress being made (green); stagnation (yellow); regression (orange); no response (NR); and no reported target (NTS).

* These figures represent births registered through outreach campaigns which included registration of older inhabitants, thereby increasing the completeness estimation and explaining results greater than 100%.

Country data are from the ESCAP Midterm Report, available at https://getinthepicture.org/sites/default/files/resources/CRVS-midterm-FINAL.pdf (accessed 25/1/2023).

58 Excluding Singapore for which baseline, midterm, and target results were provided for inclusion in this report from the Immigration and Checkpoints Authority in March 2023.

Table 7: Birth and death registration completeness reported at baseline and the midterm report for the CRVS Decade in Asia and the Pacific

	1D. Percent of all deaths in a country in a given year that are registered		
	baseline	**midterm**	**target**
Brunei Darussalam	88% (2014)	84.7% (2018)	100%
Cambodia	24.2% (2014)	36.2% (2018)	30%
Indonesia	NR	NR	NTS
Lao PDR	33.2% (2014)	42.3% (2018)	60%
Malaysia	99.2% (2014)	97.9% (2018)	100%
Philippines	98.5% (2014)	96.7% (2018)	90%
Singapore	100% (2014)	100%	100%
Thailand	89.3% (2014)	89.5% (2018)	100%
Timor-Leste	22.4% (2014)	28.7% (2018)	100%
Viet Nam	NR	NR	90%

Source notes: Cells are colored according to country midterm progress since baseline: targets achieved (blue); progress being made (green); stagnation (yellow); regression (orange); no response (NR); and no reported target (NTS).

* These figures represent births registered through outreach campaigns which included registration of older inhabitants, thereby increasing the completeness estimation and explaining results greater than 100%.

Country data are from the ESCAP Midterm Report, available at https://getinthepicture.org/sites/default/files/resources/CRVS-midterm-FINAL.pdf (accessed 25/1/2023).

Assessing civil registration inequalities in South-East Asia

Rationale for conducting an inequality assessment

The annual calculation of birth and death registration completeness for a vital statistics report is a quality assurance mechanism to assess the functionality of the civil registration system.[59] It is also beneficial for a snapshot of inequalities. However, inequality assessments go further than the assessment of completeness and identify ***who*** is being left behind. Ideally, inequality assessment efforts also identify solutions to improve registration completeness among these populations. These assessments may be conducted using qualitative, quantitative, or a combination of both methods.

It is recommended that all countries, even those with high registration completeness, conduct an inequality assessment to identify if registration completeness gaps exist and ***who*** is being left behind. Ideally, the inequality assessment also explores ***why*** and ***how*** people are being left behind as this information can guide solutions in improving registration among populations being left behind. Inequality assessments may be particularly beneficial in some South-East Asian countries with large migrant, stateless, refugee, and asylum populations (**Table 8**) and substantial displacement from disasters that may result in registration limitations from both the supply — i.e., registration office closures and displacement of registration office staff — and demand side — i.e., lack of awareness and language barriers.

Table 8: Migrant, Stateless, Refugee, and Asylum seeker populations in South-East Asian Countries in 2021

Country	Total population*	Migrants**	Stateless***	Refugees***	Asylum seekers***
Brunei Darussalam	440,715†	81,212†	3,650†	0	0
Cambodia	16,589,023	79,300	75,000	24	12
Indonesia	275,753,191	356,000	641	9,982	3,116
Lao PDR	7,425,057	48,700	No data	No data	No data
Malaysia	33,573,874	3,480,000	112,420	132,086	49,372
Philippines	113,880,328	226,000	260	801	586
Singapore	5,453,566	2,520,000	1,109	0	0
Thailand	71,601,103	3,630,000	561,527	100,510	667
Timor-Leste	1,320,942	8,400	No data	No data	No data
Viet Nam	97,468,029	76,800	35,475	0	0

Source for Brunei:
† Source: Department of Economic Planning and Statistics, Government of Brunei (unpublished data)

Sources (excluding Brunei):
* Source: World Bank available at https://databank.worldbank.org/source/population-estimates-and-projections
** Source: World Migration Report interactive map available at: https://worldmigrationreport.iom.int/wmr-2022-interactive/
*** Source: UNHCR Refugee Data Finder available at: https://www.unhcr.org/refugee-statistics/download/?url=2bxU2f

59 United Nations Statistics Division (2014), *Principles and Recommendations for a Vital Statistics System*. Available at: **https://unstats.un.org/unsd/demographic/standmeth/principles/m19rev3en.pdf**.

The lack of a legal identity deprives individuals of a basic human right and potentially excludes them from a range of social services (i.e., health care, education), employment opportunities, access to banking services, social protection, and even the purchase of a mobile phone and SIM card, and greatly increases their risk of violence, exploitation, and abuse. Children unable to show documentation of their age are at increased risk of child marriage, child labour and being prosecuted as an adult. The COVID-19 pandemic highlighted the value of complete and timely mortality statistics to address the public health emergency. Universal registration of vital events is important to meet human rights and individual level, administrative, and public health needs.

The Philippines, which in 2020 had a population of over 109 million people, has made commendable progress in universal registration as reflected by improvements in birth registration from 82.1% at baseline (2014) to 92.3% at the midterm (2018). (Table 1) However, there is still a gap in achieving 100% registration. With the aim to leave no one behind, even small percentages of registration incompleteness matter. This should serve as the impetus to conduct an inequality assessment and implement solutions to close the registration completeness gap. It is also worth noting, that the higher proportion of the population are registered, the more difficult it becomes to navigate services for individuals who are not registered.

Preparing for an inequality assessment

Identifying stakeholders

It is preferable to complete an inequality assessment as a collaborative activity with interagency and civil society organization (CSO) engagement. CRVS stakeholders in different departments and agencies and CSOs bring a wealth of knowledge, experience, and access to potential data sources that may be necessary for the assessment.

Stakeholder engagement serves as a mechanism to develop relationships amongst stakeholders for stronger and more regular inter-agency collaboration. Moreover, these relationships are important in the knowledge translation process of the inequality assessment as buy-in and support to address inequalities may be necessary.

BOX 3

STRENGTHENING STAKEHOLDER RELATIONSHIPS VIA AN INEQUALITY ASSESSMENT IN LAO PDR

Through a partnership with ESCAP and UNFPA, the Lao PDR Statistics Bureau conducted a quantitative inequality assessment over a series of four workshops. The workshops included various objectives, including the development of relationships among relevant data providers, data users, and policy makers. Stakeholders engaged in the inequality assessment included:

- **Lao Statistics Bureau (lead agency)**
- **Ministry of Home Affairs**
- **Ministry of Public Security**
- **Ministry of Education and Sports**
- **Ministry of Health**
- **Ministry of Foreign Affairs**
- **Ministry of Labor & Social Welfare**
- **Ministry of Justice**
- **UNICEF**
- **World Bank**
- **World Health Organization**

Relationship building was an important component of the workshops. By the conclusion of the four workshops, participants recommended establishing an inter-agency coordination committee and a data sharing protocol to improve inter-agency collaborations and facilitate data sharing among CRVS stakeholders.[60]

Identifying the focus of the assessment[60]

An important initial step in conducting an inequality assessment is in identifying the focus of the assessment. Registration completeness statistics, such as those reported for the RAF (**Table 7**), do not reveal what inequalities exist, but do highlight the incompleteness of birth or death registration. This gap can be further explored through an inequality assessment.

Legal reviews, such as those presented in the section on CRVS Legislative Reform, and CRVS Business Process Mapping workshops during which stakeholders map out current processes and points of registration discontinuation, can identify policies, laws, and processes that may limit universal vital event registration.[61] For example, a law that requires registration at the place of usual residence may pose as a challenge to migrants or individuals who cannot afford to travel or take time off for registration purposes. Registration fees may serve as a deterrent for people in lower wealth quintiles. Registration processes that require legal status or any form of documentation other than the vital event certificate (i.e., marriage certificate of parents for registration of birth) may impede registration by families that do not fulfil the requirements. Any deterrence or obstacle in registration impacts universal registration and results in people being left behind.

60 Lao Statistics Bureau (2022), Inequality assessment for civil registration and vital statistics systems (CRVS) in Lao PDR: Results and recommendations. Available at: https://www.unescap.org/sites/default/d8files/event-documents/Presentation_Results%20and%20recommendations_Inequality%20assessment%20for%20CRVS%20in%20Lao%20PDR.pdf.

61 Cobos Muñoz D, et al. (2020), *Better data for better outcomes: the importance of process mapping and management in CRVS systems*. Available at: https://pubmed.ncbi.nlm.nih.gov/32146901/.

BOX 4

WHAT ARE INEQUALITIES TO ASSESS IN CIVIL REGISTRATION?

Any demographic characteristic that can be used as a stratification variable for registration completeness is one that can be used to measure inequalities. This is the way to assess who is being missed. The following are examples of stratification variables used to examine civil registration inequalities in countries in South-East Asia. Listed separately for the sake of clarification, many variables are inter-linked.

Sex – The Lao Statistics Bureau mortality projections in 2014-2015 estimated female death registration completeness of 34.1% compared with male death registration completeness of 40%.[62]

Urban/rural residence – A 2016 assessment of birth registration in children under five in Cambodia identified that 97.7% of children under five in urban areas were registered compared to 86% of children under five living in rural areas.[63]

Sub-national administrative divisions (i.e., region, province, and districts) – A 2016 assessment conducted across sub-districts in three provinces in Indonesia found the percentage of children under five with a birth certificate varied between 34% and 69%.[64]

Wealth quintiles – Globally, children in the lowest wealth quintiles are one quarter less likely to have their births registered than children in the highest wealth quintile. In South Asia, 53% of children under five in the poorest wealth quintile have their births registered, compared with 86% of children under five in the richest households.[65]

Education levels – A 2016 assessment of birth registration in children under five in Cambodia revealed lower marriage certification among people with no education (12.5%) compared to people who had attended university (76.5%).[66]

Citizens/non-citizens – In a study conducted in 2010 among ethnic Thai adults, 41% with a Thai citizen parent had their birth registered compared to 6.6% with no Thai citizen parents.[67] Additionally, the Thai Ministry of Public Health only produces vital statistics on Thai citizens.[68]

Minority ethnic groups/indigenous population – A 2016 assessment in Cambodia revealed 93.7% birth registration completeness among the majority ethnic group (Khmer) and 64.2% birth registration completeness in non-Khmer indigenous and ethnic minorities.[69]

Residency – A 2016 assessment in Cambodia revealed 75.2% birth registration among children in families that did not possess residential documents compared to 92.5% birth registration completeness among children in families that possessed residential documents.[70]

62 ConVERGE (n.d.), *Lao People's Democratic Republic: The history of civil registration and vital statistics in Lao PDR.* Available at: https://lao.unfpa.org/sites/default/files/pub-pdf/unfpa-eng-brochure_latest1.pdf.

63 General Department of Identification Ministry of Interior (2016), *National baseline on civil registration and vital statistics in Cambodia.* Available at: https://getinthepicture.org/sites/default/files/resources/National%20Baseline%20on%20Civil%20Registration%20and%20Vital%20Statistics%20in%20Cambodia.pdf.

64 Center of Child Protection Universitas Indonesia (PUSKAPA) (2016), *Back to what counts: Birth and death in Indonesia.* Available at: https://getinthepicture.org/sites/default/files/resources/1%20Back%20to%20What%20Counts%20Report_ENGLISH.pdf.

65 UNICEF (2019), *Birth Registration for Every Child by 2030: Are we on track?* Available at: https://data.unicef.org/resources/birthregistration-for-every-child-by-2030/.

66 General Department of Identification Ministry of Interior (2016), *National baseline on civil registration and vital statistics in Cambodia.* Available at: https://getinthepicture.org/sites/default/files/resources/National%20Baseline%20on%20Civil%20Registration%20and%20Vital%20Statistics%20in%20Cambodia.pdf.

67 Koning SM, et al. (2021). *Legal status as a life course determinant of health: parent status, adjudication stages, and HIV knowledge among highlanders in Thailand.* Available at: https://pubmed.ncbi.nlm.nih.gov/34635078/.

68 Thai Health Information Standards Development Center (2013), *Review of national civil registration and vital statistics systems: A case study of Thailand.* Available at: https://getinthepicture.org/resource/review-national-civil-registration-and-vital-statistics-systems-casestudy-thailand.

69 General Department of Identification Ministry of Interior (2016), *National baseline on civil registration and vital statistics in Cambodia.* Available at:https://getinthepicture.org/sites/default/files/resources/National%20Baseline%20on%20Civil%20Registration%20and%20Vital%20Statistics%20in%20Cambodia.pdf.

70 Ibid

Through efforts in supporting governments to strengthen CRVS systems, CSOs are another mechanism through which to identify the focus of an inequality assessment.[71] CSO programs and activities may identify inequalities in vital event registration that would benefit from closer assessment.

Identifying data sources

It is important to ensure that data are available to conduct a CRVS inequality assessment of the desired topic. **Table 9** presents a range of possible data sources that are often considered for use to calculate birth and death registration completeness, the methodology for quantitative inequality assessments. Qualitative assessments will rely on toolkits such as the Bali Process Civil Registration Assessment Toolkit (BP Toolkit) or tools developed specifically for the qualitative assessment method.[72]

Table 9: Birth and death data sources and considerations for their use in the quantitative analysis of completeness of vital registration in South-East Asia[73]

Vital event data source	Variables for completeness assessment	Considerations
Civil registration system	Event numbers	Continuous, permanent and mandatory recording
	Event rates	
	Individual record	
Population census	Event numbers	Sporadic availability
	Event rates	Known recall bias
	Individual records	
Household registers	Individual records	Dispersed in every household and therefore not practical for use
Sample registration surveys (SRS)	Event numbers	Most robust alternate data source to ensure reliability for completeness assessment
	Event rates	
	Individual records	
Health and demographic surveillance systems (HDSS)	Event numbers	Relatively small sample size, usually not nationally representative
	Event rates	
	Individual record	

71 ESCAP (2021), Support from development partners in the first half of the Asia and Pacific Civil Registration and Vital Statistics. Available at: https://www.unescap.org/sites/default/d8files/eventdocuments/ESCAP_MCCRVS_2021_2_Support_from_development_partners_English.pdf.

72 The Bali Process Regional Support Office (2018), *Bali process civil registration assessment toolkit*. Available at: https://getinthepicture.org/sites/default/files/resources/Bali%20Process%20Civil%20Registration%20Assessment%20Toolkit.pdf.

73 Vital Strategies (2020), *Estimating completeness of birth and death registration: Methods and options for estimating completeness of civil registration*. Available at: https://www.vitalstrategies.org/wp-content/uploads/Estimating-Completeness-of-Birth-and-Death-Registration.pdf.

Table 9: Birth and death data sources and considerations for their use in the quantitative analysis of completeness of vital registration in South-East Asia

Vital event data source	Variables for completeness assessment	Considerations
Nationally representative household surveys	Event numbers	Robust alternate data source to ensure reliability for completeness assessment Possible recall bias
	Event rates	
	Individual record	
Health program/disease registers	Event numbers	Maternal and child health, TB, cancer registries Useful for data reconciliation
	Individual record	
Administrative health/ insurance records	Individual records	Increasingly used for electronic data linkage and reconciliation
Population projections (i.e. United Nations World Population Prospects)	Event numbers	Subject to modelling assumptions
	Event rates	

Regardless of the method used, the data sources should meet the parameters of data quality necessary for the analysis method, have the same definitions for variables of interest, and capture the population of interest and any necessary disaggregation.[74,75] For quantitative inequality assessments, this may require a review of various data sources and examination of methods to identify the ideal approach for the quantitative assessment. The final inequality assessment report should include an assessment of data quality limitations and efforts to address them to minimize concerns about the plausibility of results and conclusions made.

Current inequality assessment methods

Qualitative assessments for CRVS systems: Bali Process Toolkit

The BP Toolkit is a qualitative method designed to assess and strengthen birth, death, and marriage registration among refugees, asylum seekers, stateless persons, and persons of undetermined nationality.[76] Developed through regional stakeholder engagement in Asia and the Pacific, it presents a three-phase process with tools that national stakeholders can select to assess civil registration inequalities, allowing for adaptability to the national context.

74 Ibid

75 ESCAP (2022), Guidelines for estimating completeness of civil registration of vital events: a guide for practitioners. Available at: https://www.unescap.org/kp/2022/guidelines-estimating-completeness-civil-registration-vital-events-guide-practitioners.

76 The Bali Process Regional Support Office (2018), Bali process civil registration assessment toolkit. Available at: https://getinthepicture.org/sites/default/files/resources/Bali%20Process%20Civil%20Registration%20Assessment%20Toolkit.pdf.

The methods include the production of completeness statistics on the population of interest, completion of a questionnaire, and field visits and focus groups. A results workshop is held to compile and review findings, and develop recommendations. The outcome of this qualitative method is a baseline assessment of registration and documentation completeness, and the identification of gaps, barriers, strengths, and opportunities to improve birth, death, and marriage registration among refugees, asylum seekers, stateless persons, and persons of undetermined nationality. This will allow for the development of an assessment report, action plan and targets for countries to track progress towards closing inequality gaps.

Strengths:

- Emphasizes ownership, participation, and engagement.
- Toolkit facilitates each step and allows for tailoring to national context.

Possible challenges/limitations:

- May require substantial investment from stakeholders in coordinating, participating, and engaging throughout the full process.
- Designed to assess inequalities among refugees, asylum seekers, stateless persons, and persons of undetermined nationality. Tools can be modified for use with other populations of interest.
- Assessment includes quantitative component with the analysis of registration completeness of the population of interest. This requires data that meet a quality standard and statistical capacity in producing the statistics. The Toolkit recommends establishing a statistics subgroup with members of the national statistics office and statistical divisions of other ministries that may have the capacity to support this work. Additionally, development agencies may have the statistical capacity or even data on registration completeness of the populations of interest. Collaboration with experts in statistics is important to address potential challenges in data availability and quality, and in applying direct and indirect methods to calculate registration completeness of populations of interest.

Example:

- Thailand and Viet Nam conducted inequality assessments using the BP Toolkit to pilot the toolkit and also assess CRVS inequalities (**Box 5**). As an output to the assessment, each country developed a list of recommendations to address inequalities in civil registration.

BOX 5

EXPERIENCES FROM THAILAND AND VIET NAM

The BP Toolkit was developed by the Regional Support Office of the Bali Process on Smuggling, Trafficking in Persons and Related Transnational Crime, the United Nations High Commissioner for Refugees Regional Bureau for Asia and the Pacific, and government stakeholders from Bangladesh, Malaysia, Pakistan, Philippines, and Thailand. When the initial toolkit was developed, the Technical Working group proposed pilot testing which was done in Pakistan, Viet Nam, and Thailand. The lead agencies in Thailand and Viet Nam implemented the three phases of the assessment with some variations in activities conducted.

BOX 5

	Thailand	Vietnam
Lead agency	Ministry of Interior (Bureau of Registration Administration, Department of Provincial Administration	Ministry of Justice (Department of Civil Registration, Nationality, and Authentication)
Preparing for an inequality assessment	**February- October 2019**	**August- December 2020**
	Established an interagency Working Group	Organized Interagency Working Group Meetings
	Organized Working Group Meetings	Conducted preliminary desk research
	Conducted preliminary desk research	Organized a workshop to introduce the Bali CRVS Inequality Assessment Toolkit and evaluate its applicability in Viet Nam
	Developed a work plan	Developed a work plan
Field work	**November- December 2020**	**June-December 2021**
	Conducted a gap analysis	Conducted field visits and focus group discussions in Lai Chau, Thua Thien Hue and Dak Lak provinces
	Conducted field visits and focus group discussions in Lai Chau, Thua Thien Hue and Dak Lak provinces	
	Facilitated reflection and review, among members of the Working Group	
Final reporting	**January-July 2021**	**December 2021**
	Finalized the final assessment report	Organized a workshop on the Tookit (with 180 participants from 10 provinces)
	Submitted final assessment report to the MOI for endorsement	Finalize the final assessment report

The final assessment report[77] includes recommendations to address CRVS inequalities. Viet Nam has identified five action areas based on the inequality assessment and initiated efforts to support these activities.

77 The Bali Process Regional Support Office (2022), *Synthesis of the Bali Process civil registration assessment toolkit: Pilot projects in Pakistan, Thailand, and Viet Nam*. Available at: https://www.baliprocess.net/UserFiles/baliprocess/File/Synthesis%20Report%20-%20Final%20Report%20BP%20Civil%20Registration%20Toolkit%20Pilot%20Projects.pdf.

Quantitative assessments for CRVS systems

Registration completeness is a quantitative measure that can be used to assess CRVS inequalities through a variety of methods such as:

- **Comparison of registered births or deaths** from civil registration with recorded deaths from data sources with complete data on actual events (i.e., Ministry of Health or recent census) or with estimates (i.e., United Nations World Population Prospect[78]) using the vital event completeness formula (See 'Measuring civil registration completeness' above).
- Using **secondary data sources** (i.e., Demographic and Health Survey, Multiple Indicator Cluster Survey, and other household surveys) that measure birth or death registration levels for a direct assessment or to estimate registration completeness among subgroups for comparison with civil registration data.
- **Record linkage** by linking individual records from two or more data sources (i.e., civil registration, disease registers, and surveys with individual records) to match for birth or death registration completeness.
- Applying **indirect methods** such as growth balance methods and synthetic extinct generation methods to estimate **death registration** completeness.

These methods vary in technical complexity, with some, such as the indirect methods, requiring strong demographic and statistical capacity. All methods have strengths and limitations to consider for their selection, and data quality and availability requirements.

ESCAP[78] and Vital Strategies[79] have developed resources presenting the listed methods and others to guide users in considering an ideal method for birth and death registration completeness calculations, with considerations on data source requirements, data quality standards, and technical capacity needs. It is important to note that a quantitative inequality assessment is not merely the calculation of completeness, but one that explores completeness by a specific or a range of variables to identify ***who*** is being left behind. Ideally, the quantitative inequality assessment also includes an assessment or discussion on ***how*** and ***why*** these populations are being left behind, and solutions to close the gap. This section will present two examples of quantitative methods —secondary sources and record linkage — to assess inequalities in civil registration.

Quantitative method*: Using secondary sources to assess inequalities in civil registration.*

A range of secondary sources can be used to assess inequalities in civil registration— household surveys, population and housing censuses, administrative data from health information systems, nationally representative household surveys, health and demographic surveillance sites (HDSS), and sample registration surveys— if they are designed to collect information on birth and death registration. For example, the South-East Asia Community Observatory Health and Demographic Surveillance System (SEACO HDSS) site in Malaysia does not currently include questions on birth and death registration, although verbal autopsy is used to assess cause of death and national identity card completeness is captured. Household surveys such as the Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS) are nationally representative and include only limited questions on birth registration. Moreover, MICS and DHS are conducted infrequently and are not conducted in all countries in South-East Asia (**Table 9**).

78 ESCAP (2022), *Guidelines for estimating completeness of civil registration of vital events: a guide for practitioners*. Available at: https://www.unescap.org/kp/2022/guidelines-estimating-completeness-civil-registration-vital-events-guide-practitioners.

79 Vital Strategies (2020), *Estimating completeness of birth and death registration*. Available at: https://www.vitalstrategies.org/wp-content/uploads/Estimating-Completeness-of-Birth-and-Death-Registration.pdf.

Table 10:	Birth registration completeness in children under five in select countries in South Asia, disaggregated by residence, wealth quintiles, and sex

Country	Source	Total	Residence		Wealth quintile		Sex	
			Urban	Rural	Lowest	Highest	Male	Female
Cambodia	2014 DHS	73.3%	84.4%	71.6%	59.1%	86.6%	73.7%	72.9%
Indonesia	2017 DHS	77.9%	83.2%	73.1%	58.5%	91.4%	78.2%	77.7%
Philippines	2017 DHS	91.8%	93.7%	90.4%	83.1%	97.7%	92.3%	91.2%
Thailand	2019 MICS	99.8%	100.0%	99.7%	99.1%	100.0%	99.7%	99.9%
Timor-Leste	2016 DHS	60.4%	65.8%	58.3%	54.5%	69.3%	59.8%	61.0%
Viet Nam	2020-2021 MICS	98.1%	98.3%	98.0%	95.9%	99.8%	97.7%	98.5%

Source: Country data are from the STATcompiler and UNICEF available at: https://mics.unicef.org/surveys and https://www.statcompiler.com/en/.

In the recent 2020 census round, countries, such as the Philippines, have included a new question on birth and death registration, which adds the decennial census an additional secondary data source for consideration in measuring registration completeness.[80]

Strengths:

- MICS, census, and DHS: Data are publicly available and nationally representative.

Possible challenges/limitations:

- Many of the secondary data sources do not currently collect information on birth and death registration. MICS and DHS collect limited information on birth registration completeness. Many HDSS sites do not include questions on birth and death registration.

80 Philippine Statistics Authority, Freedom of Information Act request for a soft copy of the Philippine 2020 Census questionnaire, available at: https://www.foi.gov.ph/requests/aglzfmVmb2ktcGhyHQsSB0NvbnRlbnQiEFBTQS02MjIwNDE0Mjk2MDcM.

- Disaggregations are limited to those that are collected by the secondary data source, restricting the scope of the inequalities that can be assessed, and by the sample sizes of the secondary data sources, which may make it difficult to look at intersectionality and smaller groups.
- Secoondary sources may include limitations that need to be considered within the analysis and conclusions. For example, Adair el. al found self-reported birth registration is over-reported in MICS and DHS when compared with CRVS data.[81]
- Methods require statistical capacity to assess the quality of the data, produce results, and state conclusions based on the analyses.

Example: Through a partnership with the ESCAP CRVS team, the Lao PDR Statistical Bureau supported an inequality assessment over four workshops which included multiple objectives:

  - Identifying birth and death registration inequalities
  - Improving relationships among CRVS data producers, users, and policy makers
  - Building capacity in demographic and statistical skills for data analysis that can be used to assess inequalities using secondary data sources

Using the most recent Lao Social Indicators Surveys, the team estimated birth registration completeness of children under five and those born within 1 year prior to the survey, disaggregating by sex, area, region, wealth index and birth cohort.[82] The team selected civil registration and the Lao Social Indicators survey as the data sources to estimate death registration completeness, disaggregating by sex. In the concluding workshop, participants presented results to national and international stakeholders involved in CRVS and identity management programs in Lao PDR, including recommendations to continue conducting quantitative inequality assessments, improving inter-agency collaborations to share data and support implementation of solutions to close inequality gaps, and conduct qualitative inequality assessments to better understand ***how*** and ***why*** registration gaps exist. This inequality assessment model builds in-country capacity for inequality assessment efforts to continue without reliance on external technical support.

Quantitative method*: Record linkage using two or more data sources.*

Record linkage is a direct method of estimating completeness as it matches recorded vital events across two or more data sources among the same population in a specified period. Data sources listed in Table 3 that include individual records can be considered as a data source for record linkage. Any data source used will need to meet the matching criteria used to link records. A balanced approach is important in establishing the matching criteria to facilitating the matching of as many records as possible while also ensuring accuracy. Three results can be captured from this linkage exercise:

- Events matched in both data sets – data set A and data set B
- Events only in data set A
- Events only in data set B

81 Adair T, et al (2021), How reliable are self-reported estimates of birth registration completeness? Comparison with vital statistics systems. Available at: https://pubmed.ncbi.nlm.nih.gov/34101745/.

82 Lao Statistics Bureau (2022), *Inequality assessment for civil registration and vital statistics systems (CRVS) in Lao PDR: Results and recommendations.* Available at: https://www.unescap.org/sites/default/d8files/event-documents/Presentation_Results%20and%20recommendations_Inequality%20assessment%20for%20CRVS%20in%20Lao%20PDR.pdf.

With these three results, the following completeness calculation can be used to measure completeness as presented in the following equation for birth registration completeness:

$$\text{\% birth registration completeness in specified year} = \frac{\text{Number of registered births within a specified 12-month period}}{\text{Matched births + unique events in each data source within a specified 12-month period}} \times 100$$

Additional methods can be used to identify the potential number of events missed in both sources although this approach requires certain conditions to be met in data sources used. For the purpose of conducting an inequality assessment, it is important to ensure that the data sources have data for the variable(s) of interest and criteria that can be used to match individual events.

Strengths:

- Various data sources can be used, although accessing the data source with individual-level records is a challenge as listed below.
- Electronic methods can be used to automate the matching process.
- This method does not require an advanced level of statistical and demographic capacity to assess the quality of the data, produce results, and state conclusions based on the analyses.

Possible challenges/limitations:

- The data sources should cover the same population and time period.
- Matching criteria should be carefully selected to facilitate matching accurately. Too many criteria may limit matching. Too few criteria may result in matching duplications. Poor quality data collection may hamper the matching process, i.e., spelling differences and missing information.
- Matching can be a tedious process, even when components are completed electronically. It is important to include a verification mechanism of results, such as manual review of a sample of results, to ensure accurate matching.
- Disaggregations are limited to those that are collected by the secondary data source, restricting the scope of the inequalities that can be assessed.
- Accessing data sources with individual records may be challenging, even among government agencies. Data sharing protocols and inter-agency collaboration on inequality assessments may facilitate the sharing of individual level record data.
- When including estimates of events missed by both sources, the result is based on certain conditions that need to be met.

Example: Researchers in Thailand assessed the quality of death registration in Thailand's civil registration system by conducting a record linkage assessment using the Survey of Population Change (SPC).[83] Although not designed as an inequality assessment, this completeness assessment included the evaluation of death registration completeness disaggregated by sex and age groups. Using matching criteria and data from 2005-2006 from both sources, 1882 records were matched in both sources;

83 Vapattanawong P, et al. (2011), *Under-registration of deaths in Thailand in 2005-2006: results of cross-matching data from two sources*. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3209718/.

179 deaths in vital registration data were not matched with SPC; and 556 people in SPC were not matched to death registration data. Additional statistical calculations were conducted to estimate events missed by both systems and its 95% confidence interval.

Death in SPC	Vital Registration	
	Yes	No
Yes	1882	179
No	556	2670 (95% CI 2653-2687)

This assessment identified overall under-registration of deaths in 2005-2006 at 8.69% with substantial variations of under-registration when disaggregated by sex and age. These results highlight the importance of disaggregation to uncover which populations are being missed when calculating registration completeness.

Addressing inequalities in South-East Asia

Given funding and human resource limitations to strengthen CRVS systems, inequality assessments can target efforts to support progress in achieving universal civil registration. In fact, a critical component of an inequality assessment is translating the knowledge gained from the assessment into action. This was the approach taken in Viet Nam after the completion of the qualitative inequality assessment which informed five follow-up activities, including communications efforts among specific under-registered populations to educate on civil registration benefits.[84]

Box 6 highlights a tool developed for the assessment of health inequalities that can be applied, with modifications, to CRVS inequality assessments. This tool includes two post-assessment steps to guide the development of communication goals to inform knowledge translation efforts. These steps should always be included within a CRVS inequality assessment to ensure the information collected can inform efforts to address context-specific issues. CRVS global standards are readily available in UN manuals and recommendations.[85] Inequality assessments identify country specific needs and considerations to address universal civil registration.

Countries in South-East Asia have supported a range of registration efforts, focusing predominantly on birth registration, to increase registration completeness in specific populations that are under-registered or hard to reach. Three main efforts have been through mobile registration campaigns, CRVS legal framework revisions, and digital solutions.

84 The Bali Process Regional Support Office (2022), *Synthesis of the Bali Process civil registration assessment toolkit: Pilot projects in Pakistan, Thailand, and Viet Nam*. Available at: https://www.baliprocess.net/UserFiles/baliprocess/File/Synthesis%20Report%20-%20Final%20Report%20BP%20Civil%20Registration%20Toolkit%20Pilot%20Projects.pdf.

85 UNDESA (2021), *Handbook on civil registration and vital statistics systems: Management, operation and maintenance.* Available at: https://unstats.un.org/unsd/demographic-social/Standards-and-Methods/files/Handbooks/crvs/crvs-mgt-E.pdf.

BOX 6

APPLICATION OF INEQUALITY ASSESSMENT SKILLS AND TOOLS ACROSS SECTORS

Measuring inequalities is not unique to CRVS and, in fact, is done across a range of sectors to identify and better understand gaps. Approaches and tools to assess inequalities can be applied across sectors, for example through the use of the WHO Health Inequality Monitoring Workbook for CRVS inequality assessments.[86] Although the workbook topic focuses on health inequalities, the guidance and five-step approach to identify, assess, and address inequalities can also be applied, with modifications, to assessing inequalities in CRVS systems by reframing the focus on CRVS.

Of importance, the workbook includes two post-analysis steps that are important for evidence-based decision making. Step four focuses on reporting results and step five focuses on the translation of data for action in policy and programs. These steps are important as the analyses conducted should inform decisions and efforts to address gaps. The activities presented in step four can guide analysts and stakeholders involved in CRVS inequality assessments to identify communication goals and objectives and the ideal presentation for the primary audience. These steps are important to ensure the information collected through the inequality assessment is translated into action.

Mobile Registration Campaigns

Registration system improvements can often be classified addressing supply (i.e., limited or no access to civil registration office) or demand (i.e., lack of awareness on the need or importance of registering a vital event). In the case of mobile registration campaigns, both supply and demand can be reasons to bring registration units into communities. Despite the common registration outreach method, these five country examples present variations in registering populations of interest.

86 World Health Organization (2022), *Health inequality monitoring workbook*. Available at: https://apps.who.int/iris/bitstream/handle/10665/358893/WHO-DDI-DNA-MFI-2022.3-eng.pdf.

Cambodia's modern CRVS system was established in 2002 and had no historical basis as all registration records were destroyed during the Pol Pot regime.[87] Given the need for wide spread awareness raising and registration efforts, the Ministry of Interior implemented the Nation-Wide Mobile Civil Registration Campaign that resulted in the registration of 11 million people (92% of the population) between October 2004 and December 2006. This mobile campaign addressed the lack of registration demand due to lack of awareness of the importance or requirement to register births due to recent legal changes.

Timor Leste is another country in South-East Asia with a nascent CRVS system established in 2004, just two years after the country established independence. With only 15% birth registration completeness reported for the Regional Action Framework baseline in 2014 (See Table 1) and only one civil registration office in each municipality, the National Directorate of Civil Registry and Ministry of Justice collaborated with development partners to support mobile registration. Initial efforts in 2014 focused on registering children in hard-to-reach areas.[88] Recent efforts between September 2020 and December 2022 supported birth registration of 37,511 children in 114 villages and 490 sub-villages across seven municipalities. The mobile registration campaign also included the registration of children born to parents with disabilities who have difficulty in accessing civil registration offices in municipal towns.[89]

Since the start of the Asia Pacific CRVS Decade, **Lao PDR** has increased birth registration completeness from 32% in 2014 (baseline) to 42% in 2018 (midterm), and is committed to making further gains in registration completeness. Through the CRVS Project funded by the World Bank, the government of Lao PDR is upgrading its national civil registration system with a range of activities, including the phased implementation of a new eCRVS system launched in three provinces in 2017 and reaching national implementation by the end of 2023.[90] A mass registration campaign with mobile registration units has been implemented using the new eCRVS system.

The Mindanao region in the **Philippines** has tens of thousands of internally displaced people (IDP) due to natural disasters and armed conflict. Abrupt displacement may result in people leaving behind important documents such as birth certificates. In 2013, with technical and material support from UNHCR, the Philippines Government established free mobile registration sites in remote areas for IDPs to receive birth certificates and other civil documents which are important for accessing social security and educational and employment opportunities. This mobile registration campaign addresses supply issues as demand exists for the replacement of birth certificate and other civil documents.[91]

The **Malaysian** National Registration Department has been using mobile registration teams since 2002 to register births and deaths in hard-to-reach communities. Both supply and demand issues impede birth and death registration in these rural and remote areas. The National Registration Department works with various government agencies and CSOs to identify under-registered populations that would benefit from mobile registration. Between 2012 and 2015, the NRD conducted almost 5,000 mobile registration campaigns to provide civil registration or identity documents in over 125,000 applications.[92]

87 General Department of Identification Ministry of Interior (2016), *National baseline on civil registration and vital statistics in Cambodia*. Available at: https://getinthepicture.org/sites/default/files/resources/National%20Baseline%20on%20Civil%20Registration%20and%20Vital%20Statistics%20in%20Cambodia.pdf.

88 Child Fund Australia (2021), *First mobile birth registration unit is reaching children in remote areas of Timore-Leste*. Available at: https://www.childfund.org.au/stories/first-mobile-birth-registration-unit-is-reaching-children-in-remote-areas-of-timor-leste/.

89 Embassy of Japan in Timor Leste (n.d.), *Ambassador Tetsuya Kimura* participated in the completion ceremony of mobile birth registration in Suni Ufe village, Nitibe sub-region, Oecusse-Ambeno. Available at: https://www.timor-leste.emb-japan.go.jp/itprtop_en/20221219_unicef_childbirthregistration.html.

90 World Bank (2020), Laos – Civil Registration and Vital Statistics Project. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/656591585879412688/laos-civil-registration-and-vital-statistics-project.

91 UNHCR (2013) *Global report: Philippines*. Available at: https://www.unhcr.org/us/media/unhcr-global-report-2013-philippines.

92 The Bali Process Regional Support Office (2018), *Bali process civil registration assessment toolkit*. Available at: https://getinthepicture.org/sites/default/files/resources/Bali%20Process%20Civil%20Registration%20Assessment%20Toolkit.pdf.

Mobile registration campaigns are a good mechanism to bring services to hard-to-reach communities, but should not serve as the only access point to civil registration in communities. Efforts should be invested in the supply-side of registration by ensuring full coverage of civil registration services across all regions in a country where the population resides. Inequality assessments may identify populations that would benefit from mobile registration campaigns, but long-term solutions based on qualitative information on ***how*** and ***why*** people are being left behind should be considered for the continuous and universal registration of the population of interest.

Revising the CRVS legal framework

CRVS legal frameworks are the foundation on which CRVS systems function. The Governments of the Philippines and Thailand identified barriers to universal registration and addressed them by revising their CRVS legal frameworks.

Gian, **Philippines** is a town with one of the largest populations of persons of Indonesian descent. The local government estimated 3,000 inhabitants of Indonesia descent were at risk of statelessness due to the lack of identity documents. Late registration fees were identified as a registration challenge so the local government passed a late civil registration fee exemption for people of Indonesia descent.[93]

In **Thailand**, previously only Thai nationals were allowed to register under the Civil Registration Act. The sizable migrant and refugee population in Thailand was at increased risk of statelessness due to this registration barrier. In 2008, the Thai Government amended the Civil Registration Act to allow for universal birth registration, including those born prior to the amendment who were previously unable to register their births.[94] To educate the population and support registration of these marginalized populations, the Ministry of Interior supported a Community Network of Civil Registration Volunteers across 51 provinces from 2008 to 2016. These volunteers educated the community on birth registration, supported birth registration applications, and also informed civil registrars of challenges encountered by community members.

Inequality assessments may reveal barriers to universal registration due to the CRVS legal framework. Amending CRVS law can be a substantial undertaking as it requires political buy-in and support. This should not discourage efforts in assessing the CRVS legal framework, using a tool such as the Legal and Regulatory Toolkit for CRVS and ID management, to consider ways to align the current law with global best practice standards on universal registration.[95] The country examples from Thailand and the Philippines highlight the range of legal revisions successfully adopted and implemented to make progress towards universal registration.

Digital solutions

Digital solutions offer a suite of potential solutions to overcome CRVS barriers and improve efficiency, quality, and processes. However, digital solutions should be developed with thoughtful consideration of the CRVS system and based on optimised processes within that system to ensure good functionality and **universal** benefits. A solution in Malaysia has the potential to improve system efficiency, but has limited benefits for marginalized populations in its current design.

93 Ibid

94 Ibid

95 Global Health Advocacy Incubator (n.d.), *Civil registration, vital statistics and identity management legal and regulatory review toolkit*. Available at: https://www.advocacyincubator.org/what-we-do/our-public-health-advocacy-programs/civil-registration/legal-and-regulatory-review-toolkit-for-crvsid.

Malaysia's CRVS law establishes universal birth registration which aligns with global best practice standards. The passive civil registration process requires families to initiate the process, a task that may be a deterrent for families with limited access to civil registration offices or knowledge of the need to register. The Government of Malaysia developed an online pre-registration form to initiate the birth registration process electronically prior to the family visiting the registration office. The benefit to the family in using this optional service for births that occur in health facilities is to decrease wait time at the civil registration office through the completion of documents in advance and the scheduling of an appointment. Mobile platforms that facilitate family responsibilities in the registration process and improve efficiency may improve registration completeness, if the system is designed as accessible to all.

A study conducted on the mobile registration platform in Malaysia found that refugees and asylum seekers were less likely to give birth in hospitals due to user fees and concerns about their legal status.[96] Since the mobile registration platform is designed only for births occurring in health facilities, these populations would be excluded from accessing this service if they gave birth outside of hospital settings. Additionally, the study found rural and urban differences in access to technology and internet as well as language and digital literacy barriers. This mobile solution does not benefit marginalized populations in its current design.

Digital solutions are not necessarily solutions in all contexts. It is important to ensure the design meets system needs, optimised processes, requirements, and functions while also considering all potential users. In the case of Malaysia, the electronic registration platform requires further development and refinement for it to be available as a solution for all.

Conclusion

Achieving universal registration is no small feat even in high functioning CRVS systems, however its importance as a global standard enabling a range of human rights should serve as an impetus for continued and targeted investments to get everyone in the picture. Countries with large and small gaps in achieving 100% civil registration completeness should conduct an inequality assessment to identify who is being missed, why, and how the system is missing specific populations. Ideally, the inequality assessment:

- Includes CRVS stakeholders across government agencies and civil society organizations to foster communication, collaboration, and support for the implementation of potential solutions to close the inequality gaps;
- Quantitatively identifies **who** is being left behind and includes qualitative information on **why** and **how** these populations are being left behind;
- Includes a communication effort to disseminate results with national and international stakeholders supporting CRVS activities in a country for their awareness regarding the populations requiring targeted registration support and inclusion in the conversation on identifying solutions to close gaps;
- Results in an action plan with concrete steps to improve the civil registration of targeted populations in the short- and long-term; and
- Is repeated at an appropriate interval to assess improvements in closing gaps and identify where others might exist.

96 Razali RM, et al. (2022), *Digitalisation of birth registration system in Malaysia: Boon or bane for the hard-to-reach and marginalized?* Available at: https://www.sciencedirect.com/science/article/pii/S2666623522000605?via%3Dihub.

6
CONCLUSIONS AND RECOMMENDATIONS

Meeting of the civil registrars of South-East Asia

Seda Vertis Hotel, Quezon City, Manila, Philippines
7-9 February 2023

On 7-9 February 2023, an initial meeting of the SEA registrars was organized in Manila with support of the Philippines Statistics Authority. Multiple partners supported the event including ESCAP, Vital Strategies, Global Health Advocacy Incubator, UNICEF, UNFPA, and possible others. The objectives of the meeting were to1) explore and possibly initiate the establishment of a network for civil registrars in South-East Asia, 2) facilitate knowledge exchange and potential collaboration on issues of concern of civil registrars in the region, and 3) document existing practices in the region and common challenges.

The meeting provided a professional forum for civil registrars to discuss priority areas that are of common concern to the civil registrars in the region as well as the potential terms of references and organizational setup of a SEA civil registrars network. For each of the priority areas a draft background paper was developed by ESCAP and UNICEF in preparation for the meeting. The papers were shared with participants and inputs from the meeting will support finalization of the papers. The priority areas have been identified in collaboration with the Philippines Statistics Authority and include the following: legislative frameworks, CRVS digitization, assessing and addressing inequalities in CRVS and discussions on establishing a network.

South-East Asia Civil Registrars Network

Each country in South-East Asia has an operational civil registration office, reflecting this region's prioritization of civil registration in its domestic policy agenda, and their commitment to the realization of the goals of the Regional Action Framework on Civil Registration and Vital Statistics (CRVS) in Asia and the Pacific. Although each country in the region exercises different coordination mechanisms to conduct civil registration tasks, there remains a fundamental commitment to achieve complete civil registration.

A professional network to share information, lessons learned, and good practices of strengthening civil registries in the 10 countries in South-East Asia with a view to leaving no one behind and ensuring legal identity for all was established. It aims to foster coordination and integration of Civil Registrars' inputs and ideas to support implementation of country CRVS strategies and global and regional initiatives such as the Regional Action Framework for Civil Registration and Vital Statistics in Asia and the Pacific.

The network brings together civil registration professionals of South-East Asian countries. This is inclusive of Civil Registrars with State or Country level responsibility for civil registration or their nominee.

A small group of 3-5 individuals from different countries was established to:

1. Identify key issues in common across the civil registrars that would benefit from joint discussion,
2. Facilitate gatherings (virtual or in-person) of members,
3. Identify ways of facilitating ongoing information exchange, and
4. Liaise with other networks on areas of mutual interest.

This group is selected for an initial period of 1-2 years and will establish the programme of work.

This group is self-funding, likely with support from development partners. The network may raise funds for specific activities such as in-person events, knowledge management, and dissemination. No central fund management is planned initially.

ESCAP will provide secretariat functions for 1-2 years.
Face-to-Face meetings of the network may be arranged as required provided adequate financial resources are mobilized. The members are encouraged to bring up various focus areas for discussion in the network.

List of participants

Country/ Organization	First Name	Surname	Title	Organization
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7
ANNEX TABLES

Table A1: Summary of implementation steps and progress towards select targets, Regional Action Framework on CRVS in Asia and the Pacific

Country	Brunei Darussalam	Cambodia	Indonesia	Lao PDR
Implementation cells				
National coordination mechanism	Complete	Complete	Complete	Complete
National strategy	Not started	Complete	Complete	Complete
Monitoring and reporting plan	Not started	Planned	No data	Complete
Inequality assessment	Not started	Not started	Complete	In progress
Target				
1A: Birth registration, within one year of event (%)	100.0	65.5	85.3 (2016)	43.2
1B: Birth registration, children under 5-years old (%)	100.0		71.0 (2014)	73.0 (2017)
1C: Birth registration, all individuals (%)	–	–	–	–
1D: Death registration, all individuals (%)	85.0	36.2	–	37.3
1E: Deaths recorded with a medically certified cause of death (%)	–	NA	50	–
3D: Deaths coded to ill-defined codes (%)	–	28	35	–

Source notes: Unless otherwise stated, country data are from the CRVS Decade Midterm Questionnaires (2019), available at: https://getinthepicture.org/resource/midterm-report-databases (accessed 29/11/2022).

– Current data could not be confirmed with the country

Table A1: Summary of implementation steps and progress towards select targets, Regional Action Framework on CRVS in Asia and the Pacific

Country	Malaysia	Philippines[97]	Singapore[98]	Thailand	Timor-Leste[99]	Viet Nam
Implementation cells						
National coordination mechanism	Complete	Complete	Complete	Not started	Complete	Complete
National strategy	Complete	Complete	Complete	Complete	Complete	Complete
Monitoring and reporting plan	Complete	Planned	Complete	Not started	Complete	Complete
Inequality assessment	Not started	Not started	Not applicable	Complete	Not started	Complete
Target						
1A: Birth registration, within one year of event (%)	100	72.6 (2020)	99.9 (2023)	92.3	–	–
1B: Birth registration, children under 5-years old (%)	NA	93.4 (2020)	Not applicable	98	55.0 (2009/10)	96.0 (2014)
1C: Birth registration, all individuals (%)	92	96.6 (2020)	99.9 (2023)	25.1	–	–
1D: Death registration, all individuals (%)	100	92.3 (2020)	100.0	89.5	20.0 (2011)	–
1E: Deaths recorded with a medically certified cause of death (%)	100	100.0 (2020)	100.0 (2023)	100	–	–
3D: Deaths coded to ill-defined codes (%)	1.6	6.2 (2020)	0.4 (2023)	24.3	–	–

97 Data sourced from the CRVS system and 2020 Census of Population.
98 Data were provided from the country.
99 General Directorate of Statistics (GDS). *Timor-Leste Births and Deaths Statistics Report 2014-2015.* GDS, UNFPA & UNESCAP. Dili: 2017.

Table A2:	Summary of CRVS-related legal frameworks in South-East Asia

Country	Relevant departments, agencies, and/or ministries	Laws relating to the CRVS system	Previous reforms and amendments
Brunei Darussalam	**Legal responsibility for registering vital events:** • Birth, Death and Adoption Section, Department of Immigration and National Registration, Ministry of Home Affairs • Registry of Civil Marriages **Other CRVS stakeholders:** • Ministry of Health	**Primary:** • Births and Deaths Registration Act (2013 amendment) **Others:** • Constitution of Brunei Darussalam – Islamic Adoption of Child Order (2001) • Constitution of Brunei Darussalam – Registration of Adoptions (Amendment) Order (2001) • Registration of Adoption Act (1961) • Marriage Act	• Births and Deaths Registration Act was amended in 2013
Cambodia[100]	**Legal responsibility for registering vital events:** • Department of Civil Registration, General Department of Identification, Ministry of Interior **Other CRVS stakeholders:** • Department of Population Statistics • Department of Khmer ID Card • Department of Passports • Department of Nationality • Department of Administration • Department of Information Management System	**Primary:** • Draft CRVSID Law (2023) • Sub-decree No.103 on Civil Registration (2000) and Prakas (implementing regulations) **Others:** • Civil Code (2007) • Sub-decree No.60 on Identity Cards • Sub-decree No.36 on Khmer National Identity Cards • Law on Nationality (1996) • Law on Marriage and Family (1989) • Law on Immigration • Law on Inter-Country Child Adoption	• The legislative framework was updated in the 2000s to reflect the need to rebuild civil registration records and ensure the operation of civil registration • In 2017, a new guideline was issued to ensure all civil registration is free of charge

100 Dokovic Z. *Snapshot of civil registration and vital statistics systems of Cambodia*. Centre of Excellence for CRVS Systems: Ottawa. 2020.

Table A2: Summary of CRVS-related legal frameworks in South-East Asia

Country	Relevant departments, agencies, and/or ministries	Laws relating to the CRVS system	Previous reforms and amendments
Indonesia[101]	**Legal responsibility for registering vital events:** • Population and Civil Registration Agency, Ministry of Home Affairs **Other CRVS stakeholders:** • Ministry of Social Affairs	**Primary:** • Presidential Decree No.25 on Terms and Procedures for Population Registration and Civil Registration (2008) **Others:** • Presidential Regulation No.62 on the National Strategy to Accelerate Population Administration to Development of Vital Statistics (2019) • Law No.24 on Population Administration (2013 amendment) • Law No.12 on Citizenship (2006)	• Law No.24 was amended to clarify vital events covered by the CRVS system
Lao PDR	**Legal responsibility for registering vital events:** • Department of Citizen Management, Ministry of Home Affairs (MOHA) • Ministry of Public Security • Ministry of Foreign Affairs • Ministry of Justice **Other CRVS stakeholders:** • Ministry of Health • Lao National Statistics Bureau (Ministry of Planning and Investment) • Ministry of Education and Sports • Ministry of Labour and Social welfare	**Primary:** • Family Law No.07/90/SPA (2008 amendment) • Law on Family Registration No.44/NA (2018 amendment) **Others:** • Law on Statistics (2017 amendment)	• The Law on Family or Civil Registration was amended and promulgated in 2018 • Law on Statistics was amended and promulgated in 2017

101 Review Committee. *Assessment of Indonesia's Civil Registration and Vital Statistics System*. 2013.

Table A2: Summary of CRVS-related legal frameworks in South-East Asia

Country	Relevant departments, agencies, and/or ministries	Laws relating to the CRVS system	Previous reforms and amendments
Malaysia	**Legal responsibility for registering vital events:** • National Registration Department, Ministry of Home Affairs • Ministry of Health • Royal Malaysian Police **Other CRVS stakeholders:** • State Department of Islamic Affairs • Department of Statistics • Department of Social Welfare • Department of Indigenous Peoples Development	• Law Reform Act (Marriage and Divorce) (1976) • National Registration Act (1959) • Peninsular Malaysia: Births and Deaths Registration Act (1957) • Sarawak: Births and Deaths Registration Ordinance (1951) • Sabah: Registration of Births and Deaths Ordinance (1951)	• Registration Act amended in 2017 to extend timely registration to 60 days for births and 7 days for deaths
Philippines	**Legal responsibility for registering vital events:** • Philippine Statistics Authority (PSA) • Local Civil Registrars (LCRs) **Other CRVS stakeholders:** • Department of Health • National Commission on Muslim Filipinos • National Commission on Indigenous Peoples • Department of Foreign Affairs • Department of Interior Local Government • Department of Justice • Department of Social Welfare and Development • Department of Education • Commission on Population • Office of the Cabinet Secretary	• Republic Act (RA) No.10625, Philippine Statistical Act (2013) • RA No.10172, Correction on the day and/or month on the date of birth and sex • RA No.9858, Legitimation of Children Born to Minor Parents • RA No.9255, Citizenship Retention and Reacquisition Act (2003) • RA No.9048, The Clerical Error Law • RA No.8374, Indigenous Peoples Rights Act • RA No.7160, Local Government Code (1991) • RA No.3753, Civil Registry Law (1930) • Presidential Decree 1083, The Code of Muslim Personal Law	• AO No.1s (1993) • RA No.9048 was amended with RA No.10172 to allow for the amendment of errors in the civil register without the need for a judicial order • RA No.11222 was enacted in 2019 to rectify simulated birth records and provide an administrative process for adoption proceedings • RA No.11642 was enacted in 2022 to simplify domestic administrative adoption proceedings • RA No.11767 was signed into law in 2022. It states that a foundling found in the country or in Philippine embassies, consulates, and territories abroad, is a presumed Filipino citizen

Table A2: Summary of CRVS-related legal frameworks in South-East Asia

Country	Relevant departments, agencies, and/or ministries	Laws relating to the CRVS system	Previous reforms and amendments
Singapore[102]	**Legal responsibility for registering vital events:** • Registry of Births and Deaths, Immigration & Checkpoints Authority, Ministry of Home Affairs **Other CRVS stakeholders:** • Ministry of Health • Singapore Police Force • Registry of Marriages, Ministry of Social and Family Development	• Registration of Births and Deaths Act (2021) • Coroners Act (2010) • National Registration Act (1965)	• The Registration of Births and Deaths 1937 Act was repealed, and a new Act enacted in 2021 to ensure that all live births, deaths, and stillbirths occurring within Singapore and its territorial waters are registered within the stipulated period. The Act aimed to streamline birth and death reporting and registration processes and enable digitalization.
Thailand	**Legal responsibility for registering vital events:** • Civil Registration Division, Bureau of Registration Administration (BORA), Department of Provincial Administration, Ministry of Interior	**Primary:** • Civil Registration Act (1991)	• Amended in 2008 and 2019 to make the act more inclusive
Timor-Leste	**Legal responsibility for registering vital events:** • Division of Civil Registration and Notary, Ministry of Justice **Other CRVS stakeholders:** • Ministry of Health • Ministry of State Administration	**Primary:** • Organic Law No.38/2019 on the Establishment of Civil Registration Offices at the Sub-Municipal level (2019) • Civil Registry Code (2013 draft) • Civil Code No.10/2011 on Civil Registration (2011) **Others:** • Government Decree on CRVS (2022) • United Nations Transitional Administration in East Timor (UNTAET 2000)	• The Government Decree on CRVS defines the roles and responsibilities of the ministries and faith-based organizations involved in CRVS in the country. It is expected to be approved by early 2023

102 Registration of Births and Deaths Act 2021. Singapore Statutes Online. Available at: https://sso.agc.gov.sg/Acts-Supp/17-2021/Published/20210803?DocDate=20210803&ProvIds=P110-#pr68-.

Table A2: Summary of CRVS-related legal frameworks in South-East Asia

Country	Relevant departments, agencies, and/or ministries	Laws relating to the CRVS system	Previous reforms and amendments
Viet Nam[103]	**Legal responsibility for registering vital events:** • Ministry of Justice **Other CRVS stakeholders:** • Ministry of Foreign Affairs • Ministry of Public Security • General Statistics Office, Ministry of Planning and Investment • Ministry of Health	**Primary:** • Circular No.01/2022/TT-BTP on electronic civil status forms • Decree No.87/2020/ND-CP on an electronic civil registration database and online civil registration services • Circular No.24/2020/TT-BYT on Regulating the Diagnosis form of Causes of Death • Circular No.37/2019/TT-BYT on Statistical Reporting System in the Health Sector • Law on Civil Status (2014) • Law on Marriage and family (1959) **Others:** • Law on Residence • Law on Adoption • Law on Children	• Civil Status law amended to register civil status affairs for non-nationals at the district level, allowing for further decentralization of the system • Marriage and Family Law amended in 2014 to reflect contemporary issues such as same-sex marriage, surrogacy, and marriage to foreigners

103 Han J, et al. *A comparative analysis of laws on civil registration and vital statistics systems: Estonia, Ethiopia, Vietnam, and South Korea.* World Bank Group: Washington, DC. 2017.

Table A3: Key elements contained in existing CRVS legal frameworks, South-East Asia

Key element	Brunei Darussalam	Cambodia[104]	Indonesia	Lao PDR[105]	Malaysia
Law defining the civil registration system exists	Yes	No	Yes	Yes	Yes
Law defining the vital statistics system exists	Yes	Yes	Yes	Yes	Yes
Law clearly states birth and death registration is compulsory	Yes	No	Yes	Yes	Yes
Birth registration law gives clear and unambiguous definitions to be used for: live birth, foetal death, and stillbirth	–	–	–	–	Partial
Definitions are aligned with the international standards	–	–	–	–	–
Law states who is responsible for registering births or deaths and who should declare or report births or deaths	–	Yes	Yes	Yes	Yes
Law or regulation requiring hospitals and health facilities to report births and deaths	–	No	No	No	No
Law or regulations cover the private sector	–	No	–	Yes	No
Law states the time within which births and deaths should be registered	Yes	Yes	Yes	Yes	Yes

104 *Assessing the Quality and Use of birth and death and cause of death information in Cambodia*. Ministry of Interior: Phnom Penh. 2014. Available at: https://getinthepicture.org/resource/assessing-quality-and-use-birth-death-and-cause-death-information-cambodia.

105 Dokovic Z. *Snapshot of civil registration and vital statistics systems of Laos*. Centre of Excellence for CRVS Systems: Ottawa. 2021.

Table A3: Key elements contained in existing CRVS legal frameworks, South-East Asia

Key element	Brunei Darussalam	Cambodia[106]	Indonesia	Lao PDR[107]	Malaysia
Law makes provision for: late registration and delayed registration	Yes	Yes	Yes	No	Partial
Clear procedures for dealing with cases of late and delayed registration	Yes	Yes	–	Yes	–
Stated where births or deaths should be registered; for example, according to place of occurrence or place of usual residence	–	Yes	–	Yes	–
Law clearly designates the functions, duties and responsibilities of each governmental department involved	–	Partial	–	Yes	–
Law establishes how the civil registration and vital statistics systems are to be funded	–	No	–	Partial (CR only)	–
Law stipulates that registration should be free of charge for all	–	–	–	Partial	–
Population covered by civil registration laws clearly defined	–	–	–	Yes	–

106 *Assessing the Quality and Use of birth and death and cause of death information in Cambodia*. Ministry of Interior: Phnom Penh. 2014. Available at: https://getinthepicture.org/resource/assessing-quality-and-use-birth-death-and-cause-death-information-cambodia.

107 Dokovic Z. *Snapshot of civil registration and vital statistics systems of Laos*. Centre of Excellence for CRVS Systems: Ottawa. 2021.

Table A3: Key elements contained in existing CRVS legal frameworks, South-East Asia

Key element	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia
Law includes provisions for registering births and deaths of citizens living abroad	–	Yes	–	Yes	–
Law includes provisions for registering births and deaths of foreign nationals living in the country, nomadic or displaced populations, and refuges and asylum seekers	–	Partial	–	Yes	–
Law includes confidentiality measures to protect individuals	–	–	–	Yes	–
Law specifies who can obtain copies of a person's birth and death certificates	–	–	–		–
Law states who can certify death and medically certify the cause of death	–	No	–	Partial	Yes
Law specifies the official document(s) needed before a burial or cremation can take place	–	Partial	–	Yes	–

– Current status could not be confirmed with the country

Table A3: Key elements contained in existing CRVS legal frameworks, South-East Asia

Key element	Philippines	Singapore	Thailand	Timor-Leste	Viet Nam
Stated where births or deaths should be registered; for example, according to place of occurrence or place of usual residence	Yes	Yes	Yes	–	Yes
Law clearly designates the functions, duties and responsibilities of each governmental department involved	Yes	Yes	Yes	No	Partial
Law establishes how the civil registration and vital statistics systems are to be funded	Yes	No	No	No	No
Law stipulates that registration should be free of charge for all	Yes	No	Yes	No	No
Population covered by civil registration laws clearly defined	Yes	Yes	Yes	–	No
Law includes provisions for registering births and deaths of citizens living abroad	Yes	Partial	Yes	–	–
Law includes provisions for registering births and deaths of foreign nationals living in the country, nomadic or displaced populations, and refuges and asylum seekers	Yes	Yes	Yes	–	Partial
Law includes confidentiality measures to protect individuals	Yes	Yes	Yes	–	Partial

Table A3: Key elements contained in existing CRVS legal frameworks, South-East Asia

Key element	Philippines	Singapore	Thailand	Timor-Leste	Viet Nam
Law specifies who can obtain copies of a person's birth and death certificates	Yes	Yes	Yes	–	–
Law states who can certify death and medically certify the cause of death	Yes	Yes	Yes	No	Partial
Law specifies the official document(s) needed before a burial or cremation can take place	Yes	No	Yes	–	–

– Current status could not be confirmed with the country

Table A4: Organization of CRVS systems in South-East Asia

Country	Organizational structure	Central agency responsible for civil registration system	Location and number of primary registration units	Relationship with national/central registration unit
Brunei Darussalam	Unitary Government Centralized	Birth, Death and Adoption Section, Department of Immigration and National Registration, Ministry of Home Affairs	Local area registration offices	The Sultan declares registration areas, and appoints/ dismisses registrars (see BDR Act, Section 3)
Cambodia	Unitary Government Devolved CR powers Semi-decentralized	General Department of Identification (GDI), Ministry of Interior	1,646 commune offices	CR powers are devolved to locally elected officials (commune chiefs) by national legislation. They report to GDI, but GDI cannot hire or fire staff. There is no sub-national legislation
Indonesia[108]	Unitary Government Devolved CR powers Semi-decentralized	Office of Population and Civil Registration, Ministry of Home Affairs	District offices CR offices or officers may be available at the sub-district or village level depending on local/ regional budget (however they are not mandated under civil registry law)	CR powers are devolved to districts by national legislation; district registrars are appointed by and can be fired by the MOHA. Below the district level, registrars are appointed by regent/ mayor; districts can issue implementing guidelines/SOPs

108 Review Committee. *Assessment of Indonesia's Civil Registration and Vital Statistics System*. 2013.

Table A4: Organization of CRVS systems in South-East Asia.

Country	Organizational structure	Central agency responsible for civil registration system	Location and number of primary registration units	Relationship with national/central registration unit
Lao PDR	Unitary government Devolved CR powers Decentralized	Department of Citizen Management, Ministry of Home Affairs	18 Provincial Office of Home Affairs and 148 District Office of Home Affairs	National legislation devolves CR powers to the Provincial, prefecture, and district level, registrars answer to governor, mayor, district chief
Malaysia	Federal government Centralized	National Registration Department (NRD), Ministry of Home Affairs	National Registration Department office	National law, central government appoints RG, RG appoints State Registrars, including Sabah and Sarawak; sub-national ordinances cannot conflict with national law
Philippines	Unitary government Devolved CR powers Semi-decentralized	Philippine Statistics Authority (PSA)	1,650 local government units (LGUs) and Barangays (villages)	National legislation and AO establish the Office of the Civil Registrar General (CRG), Local Government Units appoint civil registrars, the CRG has supervisory/ technical control over civil registrars

Table A4: Organization of CRVS systems in South-East Asia.

Country	Organizational structure	Central agency responsible for civil registration system	Location and number of primary registration units	Relationship with national/central registration unit
Singapore[109]	Unitary government Centralized	Registry of Births and Deaths, Immigration & Checkpoints Authority, Ministry of Home Affairs	Registry of Births and Deaths offices	National legislation establishes RG, RG appoints public officers/employees as registration officers. Although the RG cannot fire registrars, they can unappoint and appoint someone else
Thailand[110]	Unitary government Devolved CR powers Semi-decentralized	Civil Registration Division, Bureau of Registration Administration (BORA), Department of Provincial Administration, Ministry of Interior	Primary registration units located in every municipality and district offices	CR powers devolved to local officials by national legislation; registrars report to BORA but BORA cannot hire/fire; no sub-national legislation
Timor-Leste	Unitary government Devolved CR powers Semi-decentralized	Division of Civil Registration and Notary, Ministry of Justice	13 Municipal civil registry offices and three notary offices in Dili, Baucau, and Oecusse Birth registration posts have been established in hospitals and health centres in 11 municipalities	CR powers devolved to municipal officials by national legislation

109 *Report on Registration of Births and Deaths 2021*. Registry of Births and Deaths, Immigration & Checkpoints Authority: Singapore. 2022. Available at: https://www.ica.gov.sg/docs/default-source/ica/stats/annual-bd-statistics/stats_2021_annual_rbd_report.pdf.

110 Review of National Civil Registration and Vital Statistics Systems: A case study of Thailand. Thai Health Information Standards Development Centre: Bangkok. 2013.

Table A4: Organization of CRVS systems in South-East Asia.

Country	Organizational structure	Central agency responsible for civil registration system	Location and number of primary registration units	Relationship with national/central registration unit
Viet Nam	Unitary government Devolved powers Semi-decentralized	Ministry of Justice	People's Committee offices at district (705) and commune (10,599) levels, and over 100 overseas representative offices	CR powers devolved to local elected officials by national legislation; registrars report to MOJ but MOJ cannot hire/fire; no sub-national legislation

Source notes: Country data are from the CRVS Decade Midterm Questionnaires, available at https://getinthepicture.org/resource/midterm-report-databases (accessed 28/11/2022); and UNESCAP Country Profiles, available at https://getinthepicture.org/countries (accessed 28/11/2022).

Additional country data sources are provided in footnotes.

Table A5: Status of ICT use in CRVS systems, South-East Asia

		Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia
Agency responsible for birth and death registration		Births, Deaths and Adoption Section, Department of Immigration and National Registration, Ministry of Home Affairs	General Department of Identification (GDI), Ministry of Interior	General Directorate for Population and Civil Registration, Ministry of Home Affairs	Department of Citizen Management, Ministry of Home Affairs	National Registration Department (NRD), Ministry of Home Affairs
Digital tools for notification	**Mobile devices used by registration officials**	–	No	No	No	Yes: Self-service by individuals
	Links to health information systems	–	In progress: eNCOD (Electronic Notification and Cause of Death database system) to send notifications to CR in real-time	Partial: Differs from district to district	In progress: DHIS-2 to be linked with eCRVS via unique identifier	Yes: Electronic linkage, data entry delays
Digital registration processes		–	Limited: Primarily paper-based, digital pilots	Yes: Some registration offices are paper-based	In progress: Expansion in progress with national coverage expected by May 2023	Substantial
Central CRVS database	**Established**	–	2013: Limited access at sub-national levels	2006: Access down to district level	2023: Expansion in progress	2007: Access at all levels
	Name	–	Central CRVS Database	Population Administration Information System (SIAK)	Electronic civil registration and vital statistics (eCRVS) system	i-JPN
Unique identifier	**Established**	–	In development	2006	2023	–
	Generated	–	At birth registration	At birth registration	At birth registration	At birth registration
	Name	–	Khmer Identification Code (KIDC)	Unique National ID Number (NIK)	Citizen Service Number (CSN)	MyKID/MyKAD
Digital archiving of historical records		–	Digitization in progress: As of 2022, slightly over 7 million records (of close to 20 million) have been digitized	Digitization in progress: 2015 directive on digitizing birth certificates, progress unclear	No systematic digitization: Pilot in 3 provinces as part of eCRVS implementation	Digitization in progress: As of 2023, 30 million records (of over 150 million) have been digitized
Interoperability with other sectors		–	No: Planned	Substantial: Automated data sharing	No: Planned	Substantial: Automated data sharing
Civil registration and identity management linkages		–	In progress: New birth certificate to include KIDC	Yes: "Three in one" initiated in 2019 (birth certificate, updated family card, and child ID card)	In progress: Unique identifier will be included on birth certificate and national ID card	Yes: In real-time
Access to online registration services for individuals		–	No: Planned	No: Planned	No: Planned	Yes: Access to online services via web and mobile apps

– Current status could not be confirmed with the country

Table A5: Status of ICT use in CRVS systems, South-East Asia

		Philippines	Singapore	Thailand	Timor-Leste	Viet Nam
Agency responsible for birth and death registration		Philippine Statistics Authority (PSA)	Immigration & Checkpoints Authority (ICA), Ministry of Home Affairs	Civil Registration Division, Bureau of Registration Administration (BORA), Department of Provincial Administration, Ministry of Interior	National Directorate of Civil Registration and Notary, Ministry of Justice	Ministry of Justice
Digital tools for notification	**Mobile devices used by registration officials**	No	Yes: Self-service by individuals	Yes: Self-service by individuals	No	No
	Links to health information systems	Yes: Paper-based	Yes: Electronic linkage in real-time, automated	Yes: Electronic linkage	Yes: Paper-based	No: Planned
Digital registration processes		Yes: Some registration offices are paper-based	Substantial	Substantial	Yes	Yes: Some registration offices are paper-based
Central CRVS database	**Established**	2000: Access at CRS outlets	2007: Access at all levels	Access at all levels	2014: Access down to the municipal level	2015: Access down to the provincial level
	Name	Civil Registration System (CRS)	Central Identification and Registration Information System (CIRIS)	Civil registration and national identification card system	Demography management information system (DMIS)	e-Civil Registration Database (e-CRD)
Unique identifier	**Established**	–	1966	1982	2014	–
	Generated	At birth registration	At birth registration	At birth registration or when first enrolled in the population register	At birth registration	At birth registration
	Name	Birth Reference Number (BREN)	National Registration Identity Card (NRIC) Number /Foreign Identification Number (FIN)	Personal Identification Number (PID)	Birth certification number (with barcode system)	Citizen identity card number
Digital archiving of historical records		Digitization in progress: As of 2021, an average of 4 million records are converted each year, and the database contains over 182 million records	Digital	Digital	No	No: Planned
Interoperability with other sectors		Yes: Some manual processes	Substantial: Automated	Yes: Some manual processes	No: Planned	Yes: Some manual processes
Civil registration and identity management linkages		No: Planned	Yes: In real-time	Yes: In real-time	No	Yes: In real-time
Access to online registration services for individuals		No: Planned	Yes: Access to online services via web and mobile apps	Yes: Access to online services via mobile apps	No	No: Planned

– Current status could not be confirmed with the country

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