

Research Article

This article is published by **Jozac Publishers** in the *African Social Science and Humanities Journal (ASSHJ)*. Volume 7, Issue 3, 2026.

ISSN: 2709-1309 (Print)
2709-1317 (Online)

This article is distributed under the Creative Commons [Attribution 4.0 International \(CC BY\) License](#).

Article detail

Received: 14 May 2026

Accepted: 10 July 2026

Published: 20 August 2026

DOI:

<https://doi.org/10.4314/asshj.v7i3.2>

Conflict of Interest: The author/s declared no conflict of interest.



Provision of birth registration services in Zambia's Kabwe District: Measures and challenges

Lisuba Kabanda¹, Royd Malisase^{2*} 

^{1&2}Department of Government and Management Studies, The University of Zambia, Zambia, lisuba2013@gmail.com¹, royd.malisase@unza.ac.zm²

*Corresponding author: royd.malisase@unza.ac.zm

Abstract: Target 16.9 of the Sustainable Development Goals (SDGs) requires all countries to achieve universal birth registration by the year 2030. However, about 150 million (2 in 10) children remain unregistered globally. Zambia has the second-lowest registration rate in the world, with only 14% of children registered. Only 23% of children in Kabwe District are registered. This research examined measures undertaken to improve birth registration in Kabwe District and the associated challenges. It was a descriptive and qualitative study guided by systems theory. Primary data, analysed thematically, were gathered through interviews held with eight key informants from the Department of National Registration, Passport and Citizenship (DNRPC) and the Ministry of Health (MoH). Secondary data obtained from publications were analysed documentarily. The research discovered that birth registration in Kabwe District was based on the interaction among institutional, financial, legal, technological and social measures and challenges. Using mostly state funding, the DNRPC

collaborated with MoH to enforce legislation aimed at providing mandatory, free and decentralised birth registration services. Technology was incorporated to bring about interoperability, digitisation and automation. Awareness and sensitisation campaigns were carried out. However, birth certificates were not required to access public services. Insufficient funding led to inadequate infrastructure and personnel, making it difficult to properly incorporate technology and undertake social measures. If these challenges are not addressed, they will hamper Kabwe District's and Zambia's ability to attain universal birth registration by 2030. The research recommends the mandatory use of birth certificates for accessing health services and school enrolment.

Keywords – Birth registration, Challenges, Kabwe District, Measures, Zambia

1. INTRODUCTION

Countries use civil registration to record vital events like birth, marriage, divorce, adoption and death. Civil registration is the continuous, compulsory, and universal recording of the occurrence and characteristics of vital events pertaining to the population, as provided through decree or regulation in accordance with the legal requirements in each country (United Nations, 2013). Civil registration provides the needed information for the compilation of vital statistics. Vital statistics are the cornerstone of public health and social development planning (United Nations, 2025). Birth registration is one of the key vital statistics recorded during civil registration. Birth registration refers to the official recording of the occurrence and characteristics of a birth by the civil registrar in the

civil registry. It establishes the existence of a person under the law and provides legal proof of their identity (Chooramun, 2025). This proof is usually through a birth certificate, which is a certified extract from the birth registration record (UNICEF, 2013). The registration process involves three steps: declaration of birth by an informant (health personnel or local official) to the civil registrar, registration of birth by the civil registrar, and issuance of a birth certificate by the civil registrar (UNICEF, 2019).

While enumerations of people have been carried out for thousands of years, the history of birth registration traces to church records in England in the 1500s (Brumberg et al, 2012). This was followed by the formalisation of secular, government-run systems in the late 18th and 19th centuries in France (Code Civil of 1804) and England and Wales (1837). Standardised systems of birth registration began to be implemented in the United States during the late nineteenth and early twentieth centuries. With the formation of the United Nations in 1945, there was an increasing recognition of birth registration as a universal right of humanity until the ratification of the Convention on the Rights of the Child in 1989. The standardisation of the birth certificate format took place in the 1930s (UNDESA, 2023). In 1989, the UN adopted the Convention on the Rights of the Child (UN-CRC), which emphasised birth registration as a fundamental human right. Article 7 of the UN-CRC requires children to be registered immediately after birth. This requirement was reinforced by Article 6.2 of the African Charter on the Rights and Welfare of Children (ACRWC), signed in 1990 (UNICEF, 2013). In 2015, the UN set Target 16.9 of the Sustainable Development Goals (SDGs), focusing on providing legal identity for all, including birth registration, by the year 2030 (UNDESA, 2023).

Today, birth registration is recognised as crucial for securing an individual's legal identity, promoting their rights (such as access to healthcare and education) and protecting children from abuse (like child labour and early marriages) (UNICEF, 2024a). It is for this reason that countries have put in concerted effort to improve birth registration rates. This has included making birth certificates free, decentralising birth registration and issuance of birth certificates to the ward level, and creating birth registration points in health facilities (Sharma et al., 2023; UNICEF, 2019; United Nations, 2024). Some countries have broadened the utility of birth certificates, making them a mandatory requirement for school enrolment, accessing healthcare and immunisation, passports, and obtaining citizenship (Sharma et al., 2023; UNICEF, 2019; Pelowski et al, 2015). These measures have helped to significantly increase birth registration coverage globally. In 2024, about 8 in 10 children under the age of five were registered compared to 6 in 10 recorded in 2000 (UNICEF, 2019; UNICEF, 2024a).

However, even with the accelerated progress, the world is not on track to reach SDG Target 16.9 (universal birth registration) by 2030. There are still about 150 million (2 in 10) unregistered children globally, with 3 in 10 lacking a birth certificate (UNICEF, 2024a). And the rate of registration is uneven. Registration rate is high in Europe (100%), North America (100%), Australia and New Zealand (100%), Central Asia (99%), Latin America and the Caribbean (95%), Eastern and South-Eastern Asia (94%), Northern Africa and Western Asia (86%) and Southern Asia (78%) (UNICEF, 2024b). Sub-Saharan Africa lags with only 51% of children being registered. It is home to over half (90 million) of the world's unregistered children, projected to rise to over 100 million by 2030 if current trends continue (United Nations, 2024).

In Zambia, registration of vital events, such as births, was introduced during the pre-colonial period, when the British South African Company (BSAC) enacted the European, Aliens and Coloured Births and Deaths Registration Act No. 12 of June 1898. Recording of births and deaths began in 1908 (Kambole & Silanda, 1994). However, the law only provided for the registration of births and deaths occurring among whites and individuals of Asian origin, and not those of indigenous people (DNRPC & UNZA, 2023). This situation continued even after the country gained independence in 1964. It was only in 1973, with the Birth and Death Registration Act (CAP 51) of 1973, that every birth and death occurring within the boundaries of Zambia was to be registered without distinction to origin or descent (Republic of Zambia, 1973). The Act provided for normal registration to be done within a month of birth, within 2 to 12 months for late registration, and after 12 months for delayed registration. The Act also established the Department of National Registration, Passport and Citizenship (DNRPC) as a specialised institution responsible for

birth registration in the country (Kambole & Silanda, 1994). However, the Act provided for a highly centralised civil registration system, resulting in minimal coverage of birth and death registration (DNRPC & UNZA, 2023).

In response, the government formulated and adopted the Civil Registration and Vital Statistics (CRVS) National Strategic Action Plan 2015-2019 to reform and improve the CRVS system. One offshoot of the plan was the passing of Statutory Instrument (SI) No. 44 of 2016 that provided for change of birth notification forms and decentralisation of birth certification to district levels (Republic of Zambia, 2016; ZamStats, 2019). The DNRPC also began implementing the Integrated National Registration Information System (INRIS). Through INRIS, registration was computerised while records were standardised and linked to legal identification, beginning in 2016 (Dokovic, 2020). The Ministry of Home Affairs also signed a Memorandum of Understanding (MoU) with the Ministry of Health to register births in health facilities. This resulted in the establishment of birth registration desks in about 806 health facilities throughout the country by October 2019 (Mwango, 2019).

However, the CRVS system in Zambia was hampered by a number of problems. These included limited funding and lack of coordination between the DNRPC and its cooperating partners, especially the Ministry of Health (Siame, 2020). There was also inadequate decentralization, with only a few districts able to issue birth certificates. Parents saw birth registration as being optional rather than mandatory. The legal framework did not provide for meting out punishments to parents who did not register their children's births. And parents did not see any incentives in their children having birth certificates. This was because birth certificates were not linked to accessing public services (UNICEF, 2024b). The DNRPC failed to produce certificates in time, putting off future parents. The DNRPC also failed to transmit data to the Central Statistical Office (CSO), the vital statistics authority, to enable it to produce and disseminate statistics on birth registration (CSO & MoHA, 2019). The year 2016 was the first time, in two decades, that a vital statistical report had been generated by CSO from the routine civil registration data. There had been no further vital statistics reports (ZamStats, 2019).

These limited reforms and associated challenges resulted in very low birth registration coverage in Zambia. The birth registration coverage in the country was only 10% in 2010 (UNESA, 2010). It significantly reduced to 3% in 2013 before increasing to 7.1% in 2014, 9.3% in 2015, and 14.7% in 2016 (CSO & MoHA, 2019). The registration rate reduced to 14% in 2018, remaining the same in 2019 (ZamStats, 2019). This resulted in the country having the second lowest birth registration rate in the world between 2010 and 2019.

The birth registration rate in Central Province was below the national average in most years. It was 3.2% in 2013, 2.4% in 2014, and 5.9% in 2015 before rising to 27.7% in 2016 (CSO & MoHA, 2019). There are no available province-level statistics beyond 2016. Similarly, the only available pre-2020 birth registration coverage statistics for Kabwe district is the 10% recorded in 2016. This was below both the national and provincial average and left 90% of children unregistered. This was despite the government having established the first decentralised birth certification centre in Kabwe District in 2015 (DNRPC & MoH, 2017; CSO & MoHA, 2019). The above situation called for further reforms and reduced challenges from 2020 onwards. Although these reforms have been implemented, there is little empirical literature available to understand how these different aspects of reform have been carried out, and how these policies have interacted to determine the outcome of the birth registration process in each district. Most of the studies that exist look at the trend on the national level, the laws and regulations that govern birth registrations, and the coverage levels achieved. Fewer studies have taken into consideration the experience at the district level, as well as the challenges that are faced in carrying out the birth registration process. The gap in the literature makes it difficult to understand the determinants of birth registrations in Kabwe District, being one of the first districts to implement a decentralised birth registration process in the country.

2. PROBLEM STATEMENT

The DNRPC continued to fail to produce annual CRVS reports. It also continued to fail to transmit data to the Zambia Statistics Agency (ZamStats), formerly CSO, to enable it to produce and disseminate statistics on birth registration (ZamStats, 2025). As a result, there were no official birth registration statistics covering 2020 to 2024. However,

UNICEF produced statistics for 2024 which showed that the national registration rate was still at 14%, with only 6% of children possessing birth certificates. This meant that 86% of children in Zambia were unregistered and 96% did not have birth certificates. It was still the second lowest registration rate in the world, only above Papua New Guinea's 13% coverage (UNICEF, 2024a; UNICEF, 2024b).

There were equally no official statistics on Central Province and Kabwe District after 2016. However, research by Malisase and Kabanda (2025), though limited in scope, placed the 2024 registration rate in Kabwe District at 23%, with a certification rate of only 7%. This left 77% of the children unregistered and 93% without birth certificates. The registration rate was higher in urban areas (37%) and peri-urban areas (31%) compared to rural areas (less than 1%) (Malisase and Kabanda, 2025). This meant that most children in Kabwe District remained invisible to the government. As a result, many children lacked legal identity, recognised names and nationality, and were at greater risk of exclusion from essential rights and protection against abuse (UNICEF, 2024a; ZamStats, 2019). It also meant that the country will fail to achieve its target of increasing the birth registration coverage to 50% by 2026 and 100% by 2030 (UNICEF, 2024b). These problems gave rise to the need to study the measures that were taken to enhance birth registration in Kabwe District from 2020 to 2024 and the challenges facing their implementation.

2.1. Research questions

The research answers two questions:

- 1) What measures did the Zambian government undertake to improve birth registration in Kabwe District between 2020 and 2024?
- 2) What challenges has the government encountered in trying to improve birth registration in Kabwe District between 2020 and 2024?

3. LITERATURE REVIEW

3.1. Theoretical framework

The research was guided by systems theory, greatly influenced by the work of the biologist Ludwig von Bertalanffy. He examined human biological systems within an ecological environment, borrowing ideas from Émile Durkheim and Talcott Parsons' studies of social systems (Von Bertalanffy, 1968). A social system is a complex and highly interlinked network of parts exhibiting synergistic properties. It is a collection of interrelated parts acting together to achieve some goal which exists in the environment (Flood and Jackson, 1991). Systems are also open to their social environment, and the whole is greater than the sum of its parts, allowing for interaction and transformation (Gibson et al., 2003). Thus, certain factors in the social environment affect the system and its outcomes and outputs. The system is also believed to interface with other systems (Drack & Pouvreau, 2015). There are expectations on the role and function of the system to conform to standards within the larger social environment. If the system does not subscribe to those norms, then it is considered dysfunctional (Siame, 2020).

When applied to birth registration, the systems theory implies that the success of birth registration depends on the interaction among various interrelated factors. It is assumed that provision of birth registration services, and indeed CRVCs in general, occurs in an environment with various factors, affecting and being affected by it. To begin with, parents and guardians would demand for birth registration services. The DNRPC, as the processor, would utilise the environment by putting in place procedures that, if followed, would lead to improved registration of the children's births. The DNRPC would do this by utilising the institutional, financial, legal, technological and social factors as inputs in the provision of the necessary birth registration services.

This might involve measures like leveraging other institutions, lobbying the government and cooperating partners for increased funding and enactment of appropriate legislation, like making birth registration mandatory and requiring birth certificates to access other services like school and health. Technology would provide digital mechanisms to promote interoperability between the DNRPC and other institutions. Social mechanisms can be leveraged to raise awareness among parents and guardians on the value of birth registration, further increasing

demand. This would lead to the system's desired output of improved registration of children's births and issuance of birth certificates. However, if there are inimical institutions, restrictive legal frameworks, inadequate funding, and inappropriate technology, birth registration services would be compromised. This would lead to the system's undesired output of non-registration of children's births and non-issuance of birth certificates.

3.2. Empirical literature

Reviewed literature indicated that the measures that have been undertaken to improve birth registration as well as associated challenges tended to be institutional, legal, financial, technological and social in nature.

3.2.1. Institutional measures and challenges

Globally, CRVS was supported by a wide range of national and international institutions. At the international level, the United Nations Statistics Division (UNSD) served as the secretariat charged with coordinating global CRVS efforts. Others included the World Health Organisation (WHO), UNICEF, United Nations Development Programme (UNDP) and United Nations Population Fund (UNFPA). Multilateral development banks, like the World Bank Group, the African Development Bank (AfDB) and the Asian Development Bank (ADB) provided the much-needed financial support for CRVS initiatives (United Nations, 2025). The Centre of Excellence for CRVS Systems and the Health Data Collaborative engaged in research, advocacy, and technical support. Regional bodies included the Economic Commission for Africa (ECA) and the African Union through its Accelerated Improvement of Civil Registration and Vital Statistics (APAI-CRVS) programme (UNDESA, 2023).

At the national level, the specific institutions responsible for CRVS differed by country. However, they typically involved a combination of civil registration authorities, national statistical Agencies and various government ministries, especially ministries in charge of health, home affairs, justice, and social development (Msiska, 2020). Civil registration authorities were responsible for the continuous, permanent and compulsory civil registration. National statistical agencies utilised civil registration data to compile and disseminate vital statistics. Ministries collaborated with civil registration authorities and used CRVS data. CRVS institutions focused on digitalising CRVS systems and promoting interoperability by building links between CRVS systems and other sectors (AfDB & COMESA, 2023). Other initiatives were decentralising CRVS, making them more accessible as well as gender mainstreaming CRVS systems (DNRPC & UNZA, 2023).

The CRVS system in Zambia was supported by the aforementioned global and regional institutions. The main national-level institution responsible continued to be the DNRPC (DNRPC & UNZA, 2023). It continued to be responsible for civil registration (births, deaths, marriages, and adoptions), issuing national identity cards (NRCs) and passports, processing citizenship applications and maintaining vital statistics. It also continued to collaborate with ZamStats and the Ministry of Health to improve CRVS. The DNRPC had been decentralised to all provinces. And 50 out of the 116 districts had the capacity to print birth certificates (UNICEF, 2024b). ZamStats utilised civil registration data to compile and disseminate vital statistics. The Ministry of Health, under the MOU with the Ministry of Home Affairs and Internal Security (MHAIS) continued to operate birth registration desks at health facilities (Mwangwewo, 2023). This approach had succeeded in Namibia where registration facilities were set up in all hospitals across the country (UNICEF, 2013).

However, birth registration centres tended to be inadequate while key institutions failed to coordinate properly. This was especially the case in developing countries (Paleker et al., 2023). In Zambia, while the DNRPC had been decentralised to all provinces, only 50 out of 116 districts had the capacity to print birth certificates (UNICEF, 2024b). The number of birth registration desks continued to stagnate in the 800s despite the country having over 3,000 health facilities. This was concerning since over 90% of registered births in the country were initiated at birth registration desks (DNRPC & UNZA, 2023). DNRPC's many functions prevented it from adequately focusing on birth registration and producing CRVS statistics. This resulted in ZamStats being unable to produce and disseminate annual CRVS reports (ZamStats, 2025). There was also a lack of inter-ministerial cooperation. A confusing division

of roles made it difficult for ministries and agencies to work together to strengthen the system. This was mostly the result of a lack of infrastructure, understaffing, and a lack of capacity building (Yokobori et al, 2021; UNICEF, 2024b).

3.2.2. Legal measures and challenges

Almost all countries in the world, including Zambia, have passed laws making birth registration mandatory. The laws have also made birth registration free, allowing parents to acquire their children's birth certificates without having to pay. Some countries, like Congo (Brazzaville), the UK, China, and most of those in South East Asia, have made late and/or non-registration a punishable offense, often with fines (The African Child Policy Forum, 2013; UNICEF, 2024a). In addition, some countries made birth certificates a requirement for acquiring identity documents (passports and citizenship documents), employment and social security. They are also a requirement for accessing public services, like education and health (United Nations, 2025). For instance, a birth certificate is a mandatory requirement for school enrolment in countries like Nepal, India, Nigeria and the Maldives. In Nepal, this increased birth registration from 35% in 2006 to 77% in 2019 (Sharma et al., 2023). It also contributed to the aforementioned high birth registration rates in Europe, North America, Australia and New Zealand, Central and eastern Asia, Latin America and the Caribbean, and Northern Africa (UNICEF, 2013; UNICEF, 2024b).

Zambia continued to rely on the Birth and Death Registration Act (CAP 51) of 1973 and Statutory Instrument No. 44 of 2016. The former made birth registration mandatory and free, while the latter provided for the decentralisation of the registration and certification process (Birth and Death Registration Act (CAP 51) of 1973; 2016). These were supplemented by the National Civil Registration and Vital Statistics Policy of 2022, which outlined the strategic direction for scaling up registration services, including the integration of digital tools to enhance data collection, management, and monitoring (Republic of Zambia, 2022a).

However, most of the legal provisions were poorly enforced in most countries. For instance, parents were rarely fined for delaying to or non-registration of their children's births. Other documents were accepted in place of birth certificates when accessing public services (Chooramun, 2025; United Nations, 2025). Some countries, like South Africa, had laws that barred registration and insurance of birth certificates for children born to foreigners (Births and Deaths Registration Act 51, 1992). And others, like Indonesia, made marriage certificates a requirement, making it difficult for single mothers to register their children (Kusumaningrum et al., 2016). In the case of Zambia, the country had not updated its legal framework post-2019. It still relied on the provisions of the Birth and Death Registration Act (CAP 51) of 1973 and Statutory Instrument No. 44 of 2016. Therefore, while birth registration was mandatory and free, birth certificates had not been made a requirement for acquiring passports, National Registration Cards, employment, social security, or accessing public services (UNICEF, 2024b; DNRPC & UNZA, 2023). The current legal framework demanded legal documentation such as proof of parentage or identity, which some vulnerable groups did not possess. As a result, it marginalised children born out of wedlock, to underage mothers, refugees, undocumented immigrants and those living in informal settlements (Mwangwewo, 2023; Ozah & Monwai, 2025). These children faced legal and procedural barriers that delayed or prevented their registration, further complicating their access to protection and essential services (UNICEF, 2024b).

3.2.3. Financial measures and challenges

Since the provision of CRV services was expensive, costing individual countries millions of dollars, some countries charged fees for obtaining birth certificates. However, most parents struggled to afford these fees, leading to low certification rates (Msiska, 2020; Kusumaningrum et al, 2016). Most countries thus made birth certificates free. Nevertheless, meant that governments had to source funds to cover the costs. While developed countries managed to meet these costs through national budgets, most developing countries relied on donor support from international agencies (like the EU, World Bank, UNICEF and PLAN International) and foundations (like Gates and Omidyar). These funds were used to strengthen CRVS systems, undertake awareness campaigns and improve accessibility, interoperability and innovation (United Nations, 2025). For instance, the World Bank funded birth registration in

Africa through its Identification for Development (ID4D) and Global Financing Facility (GFF). Through ID4D, financial help was offered to improve digital ID systems integrated with civil registration. The GFF mobilised resources for CRVS and linked it to health systems. UNICEF provided funding in addition to offering technical expertise to boost registration rates (UNDESA, 2023).

For example, the Universal Birth Registration program, launched by the Kenyan Government in 2010, succeeded mainly due to the funding provided by UNICEF and PLAN Kenya. Through this funding, birth registration coverage rose from 13.3% to 27.7% by 2014 (Pelowski et al., 2015). In the case of Uganda, funding from UNICEF enabled the government to succeed in reaching rural communities, increasing the national birth registration rate from 21% in 2006 to 30% in 2011 (UNICEF, 2013). Funding from the EU, World Bank and UNICEF had been key to meeting the costs of birth registration and other CRVS services in Zambia (UNICEF, 2024b; DNRPC & UNZA, 2023).

Nevertheless, funding towards CRVS, especially birth registration, in developing countries remained inadequate. Most governments did not prioritise CRVS while donor funding failed to plug the huge funding gap, estimated at more than 50% in most developing countries (Kyei-Gyamfi et al., 2025). In Zambia, most national budgets in the past ten years had not provided any specific funding towards CRVS. Rather, an aggregate fund was allocated to the DNRPC at the national level without any guidance on how it should be distributed among the department's numerous functions (DNRPC & UNZA, 2023). As a result, the department prioritised funding for the issuance of National Registration Cards since they were regarded as a key identity document and a priority for politicians due to them being a requirement for accessing voter's cards (Siame, 2020).

3.2.4. Technological measures and challenges

Key technological measures undertaken in most countries included automated systems, biometric identification, digital identity, electronic records, mobile registration units, smartphone applications, integration with digital health services, and cloud-based databases (Chooramun, 2025). These technologies helped, among others, simplify procedures, speed up processing, improve data security and accuracy, improve accessibility by reducing the need for travel, raise awareness of the value of birth registration, increase coverage, and speed up identification of emergencies. Several countries, including Australia, Ghana and Cambodia, have already implemented such systems with positive outcomes (Plan International & Accenture, 2025; Kyei-Gyamfi et al., 2025). In Zambia, DNRPC began digitising and automating birth certification processes through INRIS in 2021. INRIS aimed at creating a centralised biometric database and linking birth records with national IDs (NRCs) for improved access and security. INRIS was integrated with other electronic systems such as the Ministry of Health's SmartCare System (Mwangwewo, 2023). By mid-2021, over 81% of legacy records were digitised and over one million enrolled in digital ID. Another significant technological measure was the API Manager, integrated into systems like the Ministry of Health's SmartCare, to capture birth registration events at the point of occurrence (DNRPC & UNZA, 2023). It linked health facilities directly to the civil registration system, ensuring that birth data was captured automatically and digitally, eliminating delays in registration (Malisase & Kabanda, 2025).

The main technological challenges related to poor internet penetration, limited interoperability, and inability to share information. There were also issues with digital security, protection of personal data, privacy, and data safety, in order to prevent any misuse (Kyei-Gyamfi et al., 2025). Another significant obstacle was the limited digital literacy among rural communities, older caregivers, and marginalised groups (Plan International & Accenture, 2025). Outdated legal frameworks that often did not fully support or recognise digital records, electronic signatures or cross-sectoral interoperability equally posed challenges (Chooramun, 2025). In many rural and remote areas of Zambia, there was limited access to ICT infrastructure, including internet connectivity, electricity, and digital devices. Without digital infrastructure, marginalised children remained vulnerable to being excluded from formal registration processes. This was exacerbated by the lack of digital literacy among marginalised populations, including women, the elderly, refugees and people in rural areas (DNRPC & UNZA, 2023; Malisase & Kabanda, 2025).

3.2.5. Social measures and challenges

The main social measures adopted in many countries include public campaigns to raise awareness and sensitise parents, traditional leaders, and health workers on the importance of birth registration (Kusumaningrum et al., 2016). Some governments, especially in developing countries, use social protection programs like conditional cash transfers that require birth certificates (World Bank, 2018). In Southeast Asia, birth registration had been made mandatory for school enrolment (Sharma et al., 2023). In Uzbekistan, the state paid the mother a bonus for registering her child, and birth certificates were needed for immunisation and health care (Pais, 2002). The Zambian government introduced awareness campaigns using mobile phones and community radio to inform parents and guardians on the value of birth registration and the steps involved. These campaigns were particularly important for rural areas where traditional outreach was ineffective (DNRPC & UNZA, 2023; UNICEF, 2024b).

However, social challenges, especially in developing countries, included illiteracy, gender discrimination, geographic barriers, poverty, and war or internal conflicts. Others were limited mothers' knowledge on birth registration and cultural beliefs like delayed naming of children (Pais, 2002; World Bank, 2018). For instance, preference to register male rather than female children negatively affected birth registration in Sudan (Ehab, 2015). The Zambian government's failure to put in place incentives for birth registration was a major challenge. The country's rapid population growth also compounded the problem and exacerbated inequities in access to and quality of birth registration services (Malisase & Kabanda, 2025).

3.2.6. Lessons and gaps identified in the literature

Overall, the literature above showed that the common measures undertaken to improve birth registration were institutional, financial, legal, technological and social in nature. They specifically included decentralising birth registration systems and removing bureaucratic hurdles in birth registration processes, providing adequate funding and developing appropriate legal frameworks that responded to local peculiarities. Others were giving incentives to parents and guardians for acquiring birth certificates, creating public awareness on the significance of birth registration, and implementing outreach programmes to reach out to rural populations or marginalised groups. However, various challenges were encountered, including a lack of government commitment and limited resource allocation. There was also failure to provide meaningful and sustained incentives aimed at creating demand for birth registration. Further, most interventions tended to focus on addressing perceived rather than real barriers to registration.

Nevertheless, most of the available literature, especially on Zambia, was based on secondary data. It failed to collect data from officials in charge of birth registration. Instead, data was collected mostly from parents. Parents were best placed to know barriers they faced in accessing birth registration services. Service providers were the ones best placed to provide valid and reliable information on the challenges they encountered when providing birth registration services. In addition, most literature was country, rather than district-specific. Therefore, this research filled these gaps by understanding the measures the Zambian government undertook to improve birth registration in Kabwe District between 2020 and 2024, as well as the associated challenges encountered.

4. RESEARCH METHODOLOGY

The research was a case study of Kabwe District, the provincial capital for Central Province, located in central Zambia. The district's population of children under the age of five was 33,662, consisting of 16,723 males and 16,940 females (Republic of Zambia, 2022b). The District was selected because it had urban, peri-urban and rural residential areas embodying the characteristics of high-, middle- and low-income households that fairly represented the situation in Zambia. Kabwe district also had a fair mix of cultural values, religious groupings and languages spoken (Republic of Zambia, 2022b). It also had birth registration coverage below the national average despite it being the location of the first birth registration centre outside Lusaka, established in 2015 (Malisase and Kabanda, 2025).

The research was descriptive in nature and adopted a qualitative approach in collecting and analysing data in order to produce detailed and nuanced findings (Creswell & Creswell, 2017). Data were gathered from both primary and secondary sources. Primary data was collected between October 2023 and January 2024 from a sample size of eight key informants. The eight key informants consisted of five officials from the DNRPC – two at the provincial level (DNRPC1 and DNRPC2) and three at the district level (DNRPC3, DNRPC4 and DNRPC5). Others were three officers from the Ministry of Health, composed of one District Mother and Child Health Coordinator (MH1) and two nurses - one each from two health facilities with birth registration desks (Nurse1 and Nurse2). After interviewing the eight key informants, the researchers noticed that interviewing additional informants did not produce any new information. Realising that data saturation had been reached, researchers ended data collection (Bryman, 2016). Secondary data came from research reports, journal articles, and government documents. These documents were accessed from the internet and the sampled institutions. While primary data sources provided fresh information in line with the aims of this research, secondary data helped to identify existing knowledge and information gaps (Saunders et al, 2023).

The research employed purposive sampling in order to select suitable key informants who, based on the positions they held, had necessary information (Creswell & Creswell, 2017). Primary data from the key informants was collected through interviews held using semi-structured interview guides. The data were then analysed using thematic analysis, which involved identifying, analysing and reporting themes within the data. Secondary data was collected using document review, which involved a systematic collection, documentation and organisation of data on the topic from written documents (Bryman, 2016). It was then analysed using document analysis, which entailed finding, selecting, appraising and synthesising data contained in documents so as to yield themes. These methods of collecting and analysing primary and secondary data enabled the researchers to triangulate findings (Saunders et al, 2023).

The research relied on content validity by ensuring that the questions in the interview guides covered the potential measures undertaken and challenges encountered when providing birth registration services (Creswell & Creswell, 2017). Internal consistency was used to ensure reliability. This was achieved by ensuring that questions in the research instruments were logically related. Only logically related responses were taken to be reliable (Saunders et al, 2023). However, the research did have some methodological limitations. Conducting it in one unique district out of the 116 districts in Zambia might have limited the generalisability of the findings. Sampling key informants from only two institutions might have limited perspective. Nevertheless, the impact of these limitations was minimised through a properly undertaken purposive sampling and reaching data saturation.

4.1. Ethical considerations

The research was conducted in line with the requirements of the University of Zambia Humanities and Social Sciences Research Ethics Committee (HSSREC). Therefore, before conducting fieldwork, ethical clearance was obtained from HSSREC. The ethical certificate number was HSSREC-2020-SEPT-034. Permission to collect data was obtained from all the sampled organisations. Informed consent was obtained from all key informants before conducting interviews. They were informed that their participation was voluntary and ability to stop, doing so at any moment without explaining themselves. To uphold confidentiality, raw data were only accessed by the research team. Anonymity was ensured by using codes, rather than names, when making direct quotations when reporting the findings (American Psychological Association, 2017).

5. PRESENTATION OF FINDINGS

The findings will be presented in terms of the institutional, legal, financial, technological and social measures and challenges. The presentation involved assessing whether the measures outweighed the challenges, thus likely leading to improved birth registration in Kabwe District.

5.1. Institutional measures and challenges

The main institutions aimed at improving birth registration in the district were the DNRPC, Smart Zambia Institute (SZI), and the Ministry of Health (MoH). Registering births and issuing birth certificates was the responsibility of the DNRPC Kabwe District office. Since the DNRPC only had one location servicing the entire district, birth registration desks were opened in some health facilities, in collaboration with the MoH. Both declaration of birth and collection of birth certificates were done at health facilities, while the DNRPC Kabwe District office was in charge of the actual processing and printing of certificates. Health facilities were spread throughout the district thus easing access for parents and guardians by allowing them to register the births of their children immediately after giving birth in the health facilities, rather than having to travel to the one DNRPC office in the district. This was ideal since slightly over 90% of births in the district occurred in health facilities (ZamStats, 2025). SZI, also called the Electronic Government Division, was responsible for providing internet and electronic government services to Government institutions in the district, including the DNRPC office and health facilities. SZI further provided user credentials to enable officials to securely access the INRIS platform, thereby strengthening the credibility of birth registration in the District (Republic of Zambia, 2023a). SZI's provision of these services for free helped lower birth registration service costs.

However, various institutional challenges were faced. The Kabwe District DNRPC office was only allocated three small rooms, with one of them serving as a records room. This led to inadequate storage space, resulting in stacks of papers being kept in within the working space. Vital equipment like enrolment kits and printers was inadequate and poorly maintained. This made the working environment uncondusive. In addition, the organisational structure of the DNRPC was inadequate as it only provided for an establishment of six (6) officers at the district office, out of which only four (4) positions were filled. They were severely inadequate to effectively serve the whole district. Failure to fill certain positions meant that the staff was severely inadequate to effectively serve the whole district. In addition, the DNRPC district organisation structure did not provide for ICT officers needed to support the use of digital birth registration platforms, depending instead on a few officers at the national level. An informant from the Central Province DNRPC office added that

"The district is supposed to be headed by a District Registrar. However, in Central Province, all the districts are headed by either an Assistant Registrar or Assistant Registration Officer. These division two officers are non-management staff yet they are the ones who handle management issues at district level, without any training or incentives for such responsibilities" (DNRPC1, 24th October, 2023).

The inadequate and poorly placed staff performed other functions beyond birth registration. They were responsible for all civil registration (births, deaths, marriages, and adoptions), issuing NRCs and passports, processing citizenship applications and maintaining vital statistics records. This meant that none of the four officers could be allocated to exclusively undertake birth registration. This contributed to delays in processing, printing and distributing birth certificates to the originating health facilities. An informant from Central Province DNRPC Office admitted that the delays in issuing birth certificates put some parents off, stating that

"Parents spend up to two months waiting for the birth certificates. So, some of them just stop makes any follow-ups. Others don't even come to get the certificates by the time they are out" (DNRPC2, 5th January, 2024).

The implementation of the MoU between the DNRPC and MoH commenced with training health facility staff on the birth registration process and the content of the MoU. In Kabwe District, a midwife and two nurses were trained from each selected health facility. However, most were transferred to other districts soon after. This resulted in untrained midwives and nurses taking over birth registration, negatively affecting the process. A nurse in charge of a birth registration desk stated that:

"When I took over the desk, I was just given a basic explanation on the documents needed, like the Birth notification form and parents NRC, and explaining to parents how to fill them in. The rest I just learned on my own using common sense. I used to make mistakes but I'm now okay" (Nurse1, 13th November, 2023).

Some of the health workers were reluctant to take on the responsibility. An informant from Kabwe District DNRPC Office observed that:

“Some health workers only get involved when there is a UNICEF funded mobile birth registration project. Once it ends, they also stop registering. They claim that it is the responsibility of DNRPC and not part of their job description. It is difficult for us as DNRPC to compel such health workers to conduct birth registration on a routine basis” (DNRPC4, 11th November, 2023).

5.2. Legal Measures and Challenges

Birth registration in Kabwe District continued to be implemented and enforced in line with the Birth and Death Registration Act (Cap 51) of 1973, SI No. 44 of 2016, the MoU signed between the Ministry of Health and Ministry of Home Affairs in 2018, and the 2022 CRVS Policy. Through the Act, all births in the district were required to be registered within 30 days (normal registration), within 12 months (late registration), and even after 12 months (delayed registration) free of charge and without discrimination on the basis of parents' origin or descent. The SI enabled decentralising birth notification and registration to provincial, district and health facility levels. The Kabwe District DNRPC office was able to print birth certificates. Key informants noted that the SI improved birth registration in the district. For instance, an informant from the Kabwe District DNRPC Office stated that

“We no-longer have to move physical forms from Kabwe to Lusaka which used to be expensive and took long. It is now possible to print a birth certificate even within one day if the case is urgent” (DNRPC3, 30th October, 2023).

The MoU enhanced collaboration between the DNRPC and MoH in scaling up registration of births. It provided for both parties to ensure adequate monitoring of registration activities so that challenges were detected and resolved in a timely. The CRVS Policy provided for strengthening and harmonising national laws and multi-sectoral coordination mechanisms for birth registration (Republic of Zambia, 2022a). Informants cautioned that it was too early to assess its impact in Kabwe since the dissemination meeting only took place in late 2023.

However, Zambia's legal framework did not provide for the registration of children born outside the country even if the parents were Zambians. In some countries like South Africa, the law barred the registration of children born to Zambian migrants without permanent residency permits (Births and Deaths Registration Act 51, 1992). Therefore, such children's births were left unregistered. This went against the United Nations Principles and Recommendations for Civil Registration, which provided that birth registration was a right and a government's duty, regardless of migration status, nationality, and any other characteristics (United Nations, 2013). In addition, Zambia's legal framework did not provide for mandatory use of birth certificates to access essential services. This reduced the incentives for parents and guardians to demand birth certificates. An informant from Kabwe District DNRPC Office complained that;

“Parents and guardians have options to use alternative documents and this impacts birth registration negatively. This is because they are able to enrol their children in school, claim insurance and obtain legal identity documents without service providers insisting on the production of birth certificates” (DNRPC4, 24th October, 2023).

5.3. Financial Measures and Challenges

Funding for birth registration mainly came from the state budgetary allocation. The funding was provided centrally, administered at the provincial level, and covered all components of CRVS (DNRPC & UNZA, 2023; Republic of Zambia, 2023b). The Kabwe District DNRPC office did not directly receive funding. It depended on allocations from the Central Province DNRPC office. This arrangement created several funding challenges. Since registration and certification were free, the government had to take up the cost. However, the funding was inadequate to meet the demands of improving birth registration in Kabwe District. The budgetary allocation was usually only about 30% to 40% of the required amount (DNRPC & UNZA, 2023). An informant from the Kabwe District DNRPC Office noted that

“Most of the challenges the district is facing in providing birth registration services is due to lack of financial resources. Requests for additional funding through the budget have not yielded positive results. Funding has remained at the same level for the past years” (DNRPC5, 12th November, 2023).

A number of bilateral and multilateral cooperating partners provided financial support towards improving birth registration in Kabwe District. However, the funding was inconsistent and unsustainable. An informant from the Central Province DNRPC Office observed that

The Province has been previously supported financially by World Vision, Luapula Foundation and UNICEF. However, this support has not been consistent. For instance, no such support has been received in 2023. As a result, sustainability of the gains made has been very difficult” (DNRPC1, 24th October, 2023).

Health facility-based birth registration desks also remained poorly funded with the Ministry of Health reluctant to take up the costs due to its own pressing issues. These financial shortcomings compromised undertaking of the ambitious strategies contained in the 2022 National CRVS Policy and the CRVS-NSAP 2021-2025. In addition, necessary technology and sensitisation measures could not be procured and undertaken, respectively.

5.4. Technological measures and challenges

Since 2021, DNRPC officials had been utilising INRIS to automate the registration and certification of births in Kabwe District. Through INRIS, a centralised biometric database was created and linked birth records with NRCs for improved access and security. Over 90% of legacy records were digitised in the district. An informant from the Kabwe District DNRPC office stated that

“The INRIS has improved the process of birth registration in Kabwe District. It allows scanning of supporting documents. This makes the process of retrieving records easier and reduces dependence on manual records” (DNRPC3, 30th October, 2023).

The INRIS was integrated to the Ministry of Health’s SmartCare System. This system linked health facilities directly to the civil registration system, ensuring that birth data was captured automatically and digitally, eliminating delays in registration. However, the INRIS did not include automation of notification and subsequent processing. Parents and guardians were still required to fill in manual notification forms which were later authorised manually and thereafter entered in the system. This resulted in the notification process being slow, tedious and costly. In some instances, the forms ended up being misplaced or lost.

Short Message Service (SMS) technology provided by mobile service providers - Airtel, Zamtel and MTN - was relied upon for communication. Officials from the DNRPC office and health facilities sent SMS (using contact details provided on notification forms) to inform parents when the birth certificates were ready. This measure proved helpful, especially in cases where birth certificates took a long time to be processed. Parents no longer had to repeatedly pass through the DNRPC office or health facilities to check on the status of the certificates. They simply waited to be informed via SMS before visiting the office or health facility, assured of finding the birth certificate. However, the process was that when the certificate was printed, the assigned officer manually sent an SMS to the parent. This was time-consuming and failed to take into account cases of parents without mobile phones or who had changed their numbers, thus not reachable through SMS.

The research also discovered that internet connectivity for processing birth registration and certification was provided by SZI. However, informants from both the DNRPC and health facilities complained that they experienced two to three hours of internet downtimes almost three times per week. This affected the process of inputting data and printing birth certificates, which could only be done when officers were connected to the central INRIS server.

5.5. Socio-cultural measures and challenges

Awareness and sensitisation campaigns were undertaken to educate people on the value of birth registration. These campaigns were undertaken through Information, Communication and Education (IEC) materials, radio programs and health education offered during anti-natal sessions. The campaigns helped to change the mindsets of parents into seeing the need to register their children's births. This was made easier since the population did not practice delayed child naming or beliefs in myths against child birth registration. Kabwe District being an urban, peri-urban and rural district, rather than entirely rural, also explained the lack of significant socio-cultural challenges.

6. DISCUSSION

The creation of the DNRPC as an institution specifically dedicated to birth registration is important and aligns with international standards. Other countries also have institutions charged with coordinating birth registration. Examples include the National Registration Bureau (NRB) in Malawi, the National Population Commission (NPC) in Nigeria, and the Civil Registration Department (CRD) in Kenya (Pelowski et al., 2015; Msiska, 2020; AfDB & COMESA, 2023). The DNRPC's focus on decentralising the district level makes CRVS more accessible to all. Nevertheless, success depends on strengthening structural mechanisms and having adequate human and financial resources. This makes cooperation and collaboration with the MoH, whose health facilities are spread throughout the district, especially important. It allows parents and guardians to easily register their children's births in health facilities without having to travel long distances. This is especially the case if these facilities are provided with all the necessary resources, including human and financial. This is a technique which has succeeded in Namibia and other African countries (UNICEF, 2013). Lack of inter-ministerial cooperation and a confusing division of roles makes it difficult for institutions to collaborate and strengthen the system. This aligns with the Systems theory's emphasis that success depends on collaboration among different components (institutions) in a system (Gibson et al., 2003).

Making birth registration mandatory, free and decentralised are key steps in ensuring universal registration, and the Birth and Death Registration Act of 1973 as well as the Statutory Instrument No. 44 of 2016 do just that. However, the Acts fail to provide for registration of Zambian children born in other countries. They also lack provisions for incentivising registration or punishing non-registration. This leads to failure to motivate or compel parents and guardians to demand birth certificates. Rather than being viewed in isolation, birth registration in Kabwe district would have benefited from being linked to other services, as observed by the systems theory (Drack & Pouvreau, 2015). This is the reason why countries like Congo (Brazzaville), the UK and China punish parents for late and/or non-registration (The African Child Policy Forum, 2013; UNICEF, 2024a). And countries in Europe, North America, Australia and New Zealand, Central and eastern Asia, Latin America and the Caribbean, and Northern Africa have incentivised birth certificates by making them a requirement for acquiring identity documents and accessing public services, like education and health (United Nations, 2025; UNICEF, 2013; UNICEF, 2024b).

Financial availability is an important requirement for improving birth registration. Funding should be decentralised, with finances being allocated to local institutions rather than having them receive undefined shares from national or provincial level institutions. Centralised funding usually leads to funds not trickling down to district offices, the main service providers. This is especially the case when funding is so inadequate that budgetary allocation is less than half of the required amount. This becomes even more severe when cooperating partners fail to provide consistent and sustained support to close the financing gap. True to the concerns raised by systems theory, inadequate funding has led to health desks and the DNRPC office in Kabwe lacking necessary personnel and failing to incorporate necessary technology, enforce legal frameworks and carry out necessary sensitisation measures. This is in contrast to countries with adequate and decentralised funding. The high birth registration rate in Europe, North America, Australia, Central Asia and Northern Africa is mainly the result of adequate and decentralised funding (UNICEF, 2024b; United Nations, 2024). In addition, funding from internal and external donors complemented

government efforts in Kenya and Uganda, more than doubling the registration rates in both countries (Pelowski et al., 2015; UNICEF, 2013).

Countries with high birth registration rates have simplified the birth registration process by making it either semi- or fully computerised. Examples include the Novel Blockchain Technology used in Ghana (Shi et al., 2022). Such technology brings about convenience and speeds up the process of birth registration. INRIS is thus cardinal for automating the registration and certification process as well as bringing about interoperability. It has great potential to improve birth registration in Kabwe District, and Zambia as a whole. This is especially true if all supporting elements like manpower, connectivity, and equipment are provided sufficiently. In addition, automating the birth notification system would help speed up birth registration and make it less costly.

The research by Siame (2020) discovered that most provincial and district DNRPC offices grappled with the negative effect of delayed child naming and traditional myths towards child registration. Kabwe district is not being plagued by cultural beliefs and practices obstructive to birth registration. This could be due to the district being a combination of urban, peri-urban and rural, rather than it being entirely rural. However, awareness and sensitisation campaigns still helped to educate parents on the value of birth registration. Nevertheless, the Zambian government's continued failure to put in place incentives for birth registration will continue to make sensitisation less effective. Registration officials will continue facing difficulties convincing parents to see the value in registering their children's births. This explains why countries like Uzbekistan have resorted to paying mothers who register their children's births (Pais, 2002; World Bank, 2018). However, this would be too expensive to afford in Zambia.

7. RESEARCH IMPLICATIONS

This study has a number of implications. The government should provide for legally binding mandatory use of birth certificates when accessing various services. This will create an incentive for parents to see value in and demand for birth certificates. The DNRPC's approved establishment should be fully implemented, especially at district level. This will improve staffing levels and office infrastructure in Districts. Strengthening the operations of health facility-based birth registration desks by providing necessary financial and technical support is equally necessary. In addition, there is a need to amend the regulatory framework to include provisions for the registration of children born abroad to Zambian parents who return to Zambia without a birth certificate from their country of birth. Further, there is a need to increase funding to at least 70% of the required amount. This will leave a funding shortfall of only 30%, which will be easier for cooperating partners to fill. The funding should also be decentralised to the district level. Furthermore, the INRIS should be upgraded to include provision for the automation of birth notifications. This will speed up the birth registration process and make it convenient for parents.

8. CONTRIBUTIONS TO SCIENTIFIC COMMUNITY AND FUTURE RESEARCH

The findings of this paper provide insight into how provision of birth registration services is based on the interaction among institutional, financial, legal, technological, and social factors. The study reveals that complementing actions through institutions, laws, finances, technology, and society ensure improved service delivery in the birth registration process, while deficiencies in these elements weaken the process. In addition, the results of the study have contributed to enriching the empirical review of the research variables. Lessons from Kabwe district's experience also carry wider national and regional relevance, offering insights for Zambia and other African countries aiming to achieve universal birth registration by 2030. However, this study employed a qualitative research approach targeting officials from only the two key institutions. It lacks information from other institutions, such as SZI, that could have strengthened findings through triangulation. It also lacked insights from parents on how they rated the availability and quality of birth registration services. Further, it was confined to a district with a combination of rural, peri-urban and urban residential areas. Therefore, future researchers should conduct a nationwide mixed-methods

study or one that focuses on a rural or urban district. Researchers can also home in on the performance of health facility-based birth registration desks in improving birth registration.

9. CONCLUSION

Applying the systems theory, the state of birth registration in Kabwe District was based on the interaction between the institutional, financial, legal, technological and social measures and challenges. The DNRPC and its collaboration with the MoH and SZI provided a cardinal institutional framework for effective birth registration. These institutions utilised the legal framework provided by the Birth and Death Registration Act of 1973 and Statutory Instrument No. 44 of 2016 to provide mandatory, free and decentralised registration. This was made possible by the funding from the government and cooperating partners. Through these funds, technology, especially the INRIS, was incorporated to bring about interoperability among the three institutions as well as digitise and automate the birth registration process. And finally, social measures, in the form of awareness and sensitisation campaigns, helped to motivate parents to seek birth registration services. The interaction above led to the desired output, improved birth registration and certification.

However, even the challenges were systemic. The confusing division of roles between the DNRPC and health facilities at district level made it difficult for them to effectively collaborate. Funding was less than 50% of the required amount within the DNRPC's institutional framework, leading to inadequate infrastructure and personnel. Lack of legal provisions to punish non-registration and incentivising registration further compromised institutions' ability to ensure universal registration despite it being free. Together, inadequate funding and weak institutional framework made it difficult to incorporate appropriate technology and undertake social measures. For instance, INRIS lacked automated birth notification while unreliable internet delayed the birth registration process. The interaction above led to an undesired output: impaired birth registration and certification. If these challenges are not effectively addressed, they could hamper Zambia's ability to attain universal birth registration in Kabwe District and countrywide by the SDG deadline of 2030.

10. FUNDING

This research paper received no internal or external funding.

ORCID

Royd Malisase <https://orcid.org/0000-0002-6449-7269>

REFERENCES

- AfDB & COMESA. (2023). *Digitalization of Civil Registration and Vital Statistics (CRVS) Systems in Africa: An assessment of the level of digitalization of CRVS systems in African countries*. AfDB & COMESA.
- American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct*. American Psychological Association. Retrieved from <https://www.apa.org/ethics/code/ethics-code-2017.pdf>
- Births and Deaths Registration Act 51 of 1992. Retrieved from https://www.gov.za/sites/default/files/gcis_document/201409/a51-1992ocr.pdf
- Brumberg, H. L., Dozor, D., & Golombek, S. G. (2012). History of the birth certificate: from inception to the future of electronic data. *Journal of Perinatology*, 32, 407–411. <https://doi.org/10.1038/jp.2012.3>
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
- Chooramun, K. (2025). *Digitalization of Birth Registration in Africa: Trends, Opportunities and Challenges* [Presentation]. African Committee of Experts on the Rights and Welfare of the Child (ACERWC), Maseru, Lesotho.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

- CSO & MoHA. (2019). *2016 vital statistics report*. Central Statistical Office and Ministry of Home Affairs.
- DNRPC & MOH. (2017). *Birth registration coverage survey*. Department of National Registration, Passport and Citizenship and Ministry of Health.
- DNRPC & UNZA. (2023). *The gendered assessment of Zambia's civil registration and vital statistics system: Final report*. The Department of National Registration, Passport and Citizenship (DNRPC) and University of Zambia (UNZA), Department of Population Studies. Retrieved from <https://genderhealthdata.org/wp-content/uploads/2024/10/Gender-and-CRVS-Report-Final-Zambia-2023.pdf>
- Dokovic, Z. (2020). *A snapshot of civil registration and vital statistics systems of Zambia*. Centre of Excellence for CRVS Systems in partnership with the United Nations Economic Commission for Africa (UNECA). Retrieved from <https://idl-bnc-idrc.dspacedirect.org/bitstreams/10ec6c5b-7e0e-4ce0-b649-fd184e1a36d8/download>
- Drack, M. (2015). Ludwig Von Bertalanffy's organismic view on the theory of evolution. *Wiley Journal of Experimental Zoology*, 324(2), 77-90. <https://doi.org/10.1002/jez.b.22611>
- Ehab, A. M. (2015). Reasons for low birth registration in Sudan. *Journal of African Studies and Development*, 7(3), 64–71. <https://doi.org/10.5897/JASD2013.0243>
- Flood, R. L. & Jackson, M. C. (Eds). (1991). *Critical Systems Thinking: Directed Readings*. Wiley.
- Gibson, J. L., Ivancevich, J. M. & Konopaske, R. (2003). *Organizations behaviour, structure, processes* (10th ed.). Irwin McGraw-Hill.
- Kambole, K., & Silanda, N. E. (1994). *The current status of civil registration and vital statistics systems in Zambia*. United Nations Economic and Social Council.
- Kusumaningrum, S., Bennouna, C., Siagian, C., & Agastya, M. N. (2016). *Back to what counts: Birth and death in Indonesia*. Jakarta: The Center on Child Protection Universitas Indonesia in collaboration with the Ministry of National Development Planning and Kolaborasi Masyarakat dan Pelayanan untuk Kesejahteraan. <https://doi.org/10.13140/RG.2.2.27536.12802>
- Kyei-Gyamfi S., Kyei-Arthur F., Afranie, S., Kissi., S. B., & Kyei-Gyamfi, A. (2025). From policy to practice: The achievements, challenges, and outlook of birth registration in Ghana. *International Journal of Paediatrics*, 2025, 1-12, Article ID 8458061. <https://doi.org/10.1155/ijpe/8458061>
- Malisase, R., & Kabanda, L. (2025). Utilising the three delays model in understanding barriers to accessing birth registration services in Kabwe District, Zambia. *African Quarterly Social Science Review*, 2(4), 646–659. <https://doi.org/10.51867/AQSSR.2.4.59>
- Msiska, S. M. (2020). An assessment of birth registration processes among the rural population in Malawi: A case study of Traditional Authority Kasisi in Chikwawa District. *International Journal of Science and Research*, 9(5), 1281–1289. <https://doi.org/10.21275/SR20520210821>
- Mwango, C. (2019, October 20). Zambia sets up 806 birth registration desks at various health facilities across the country. *Radio Phoenix*. Retrieved from https://web.facebook.com/RadioPhoenixZambia/posts/zambia-sets-up-806-birth-registration-desks-at-various-health-facilities-across-10157705333833748/?_rdc=1&_rdr
- Mwangwewo, L. (2023). *The INRIS Project*. Ministry of Home Affairs and Internal Security. Retrieved from <https://www.mohais.gov.zm/?p=2637>
- Ozah, K., & Monwai, F. K. (2025). *Centre for Child Law submissions on the digitalization of birth registration in Africa: challenges and opportunities for children's rights*. Centre for Child Law.
- Pais, M. S. (2002). Birth registration, right from the start. *Innocenti Digest*, 9, 1–33. Retrieved from http://www.childinfo.org/files/birthregistration_Digestenglish.pdf
- Paleker, M., Boggs, D., Jackson, D., Day, L & Lawn, J. E. (2023). Closing the birth registration gap for every newborn facility birth: literature review and qualitative research. *Global Health Action*, 16(1), 1-10. <https://doi.org/10.1080/16549716.2023.2286073>

- Pelowski, M., Richard, G. W., Wangombe, J., Nyakundi, H., Oduwo, O. G., Ngugi, K. B., & Ogembo, G. J. (2015). Why don't you register your child? A study of attitudes and factors affecting birth registration in Kenya, and policy suggestions. *The Journal of Development Studies*, 51(7), 881–904. <https://doi.org/10.1080/00220388.2015.1010156>
- Plan International & Accenture (2025). *Innovations in birth registration*. Plan International's Birth Registration Innovation Team and Accenture Development Partnerships.
- Republic of Zambia. (2016). *Statutory Instrument No. 44 of 2016: Births and Deaths Registration (General) (Amendment) Rules, 2016*. Government Printer. <https://zambialii.org/akn/zm/act/si/2016/44/eng@2016-06-10>
- Republic of Zambia. (2022a). *National civil registration and vital Statistics policy 2022*. Government Printer.
- Republic of Zambia. (2022b). *Kabwe district integrated development plan 2023-2028*. Government Printer.
- Republic of Zambia. (2023). *National Electronic Government Plan 2023-2026*. Government Printer. Retrieved from https://www.szi.gov.zm/wp-content/uploads/2023/08/Final-National_e-Government_Plan_-2023-Final-17.08.2023.pdf
- Republic of Zambia. (2023b). *Estimates of revenue and expenditure (output based budget) for the year 1st January 2024 to 31st December 2024*. Government Printer. <https://www.parliament.gov.zm/node/12247>
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2023). *Research methods for business students* (9th ed.). Pearson Education.
- Sharma, K. S., Ghimire, R. D., Adhikari, D., & Thapa, S. (2023). Birth registration in Nepal: An assessment of progress based on two national surveys. *PLOS Global Public Health*, 3(1), 1–14. <https://doi.org/10.1371/journal.pgph.0000759>
- Shi, J., Danquah, S. K. N., & Dong, W. (2022). A novel blockchain method for urban digitisation governance in birth registration field: A case study. *International Journal of Environmental Research and Public Health*, 19(15), 1–19. <https://doi.org/10.3390/ijerph19159309>
- Siame, S. M. (2020). *Challenges of child birth registration in Zambia: A case study of Lusaka and Chongwe Districts* (Master's dissertation, The University of Zambia). DSpace. Retrieved from <https://dspace.unza.zm/bitstreams/039b914b-f94e-438c-9453-597c5cca6050/download>
- The African Child Policy Forum. (2013). *Birth Registration: The International/Regional Legal Framework*. The African Child Policy Forum. <http://www.africanchildforum.org>
- The Birth and Death Registration Act Chapter 51 of the Laws of Zambia. Retrieved from https://media.zambialii.org/media/legislation/19762/source_file/d62323013b1094c1/1973-21.pdf
- UNDESA. (2023). *Report of the Secretary-General on progress towards the sustainable development goals: Special edition*. UNDESA.
- UNESA. (2010). *Status of civil registration and vital statistics in SADC region*. United Nations Economic and Social Affairs (UNESA).
- UNICEF. (2013). *Every child's birth right: Inequities and trends in birth registration*. United Nations Children's Fund.
- UNICEF. (2019). *Birth registration for every child by 2030: Are we on track?* United Nations Children's Fund.
- UNICEF. (2024a). *The right start in life: Global levels and trends in birth registration*. United Nations Children's Fund.
- UNICEF. (2024b). Birth registration steadily increases worldwide, yet 86% of children in Zambia still lack an official identity. [Press release]. UNICEF Zambia.
- United Nations. (2013). Principles and recommendations for a vital statistics system (Revision 3), *Statistical Papers, Series M No. 19/Rev.3*. United Nations.
- United Nations. (2024). Birth registration increases, but 150 million children still 'invisible'. United Nations. <https://news.un.org/en/story/2024/12/1158056>
- United Nations. (2025). *Population and Vital Statistics Report 2025*. United Nations. <https://doi.org/10.18356/9789211071016>
- von Bertalanffy, L. (1968). *General system theory: Foundation, development, application*. George Braziller. Retrieved from https://monoskop.org/images/7/77/Von_Bertalanffy_Ludwig_General_System_Theory_1968.pdf

- World Bank (2018). World Bank. 2018. *Incentives for improving birth registration coverage: A review of the literature*. The World Bank. <https://doi.org/10.1596/31827>
- Yokobori, Y., Matsuura, J., Obara, H., Sugiura, Y., Kitamura, T., Moyo, C., & Yuasa, M. (2021). Rapid assessment of the civil registration and vital statistics performance of health facilities in the five districts of Zambia: A cross-sectional study. *Heliyon*, 7(11), 1-7. <https://doi.org/10.1016/j.heliyon.2021.e08367>
- ZamStats. (2019). *Zambia demographic and health survey 2018*. Zambia Statistics Agency. Retrieved from <http://www.zamstats.gov.zm/wp-content/uploads/2023/12/2018-Labour-Force-Survey-Report-1.pdf>
- ZamStats. (2025). *Zambia Demographic and Health Survey 2024*. Zambia Statistics Agency. Retrieved from <https://www.zamstats.gov.zm/wp-content/uploads/2025/12/ZDHS-2024.pdf>

