# Utilising the three delays model in understanding barriers to accessing birth registration services in Kabwe District, Zambia

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## ABSTRACT

Proof of age, through a birth certificate, helps to protect children from abuse, promotes their rights and establishes their legal identity. However, even though the rate of registration stands at 77% globally, 150 million children under the age of five remain unregistered. Zambia's birth registration rate of 14% is the second lowest in the world. Therefore, this paper utilises the Three Delays Model to understand barriers to accessing birth registration services in Zambia's Kabwe District. It adopts a descriptive-exploratory case study, employing a sequential mixed-methods approach. Quantitative data, collected through questionnaires submitted to 105 randomly selected parents from an estimated 10,500 households in the three sampled wards (Munga, Chililalila and Justin Kabwe), was analysed using SPSS. Qualitative data, gathered using interviews held with eight purposively selected key informants, was analysed thematically. The study discovered that only 23% of parents have registered their children's births. However, the only two first-delay barriers are lack of incentives for birth certificates and lack of information on birth registration, affecting 51% and 56% of parents, respectively. The only two second delay barriers are distance to birth registration facilities, affecting 31% of the parents, and geographical location, with rural-based parents less likely to access birth registration services (0%) compared to 37% and 31% of those residing in urban and peri-urban areas, respectively. There are no third-delay barriers. And regression analysis indicates that none of the barriers have a statistically significant strong relationship with the registration status of children. The study recommends improving sensitisation, decentralising birth registration further and making birth certificates a requirement in accessing public services, especially school enrolment.

**Keywords**: Barriers, Birth Registration, Kabwe District, Three Delays Model, Zambia

## I. INTRODUCTION

The United Nations Children's Fund (UNICEF) defines birth registration as the official recording of the occurrence and characteristics of a birth by the civil registrar in the civil registry. This is done in accordance with the legal requirements of a country and establishes the existence of a person under the law and provides legal proof of their identity (UNICEF, 2024a). A birth certificate is a record issued by the civil registrar that documents the birth of a child. It is a certified extract from the birth registration record and serves as proof that registration has occurred. It is the first, and often only, proof of legal identity for children (UNICEF, 2024a).

Promotion of the rights and welfare of children has been on top of the global development agenda (UNICEF, 2019). This is evidenced by the 1989 United Nations Convention on the Rights of the Child (UN-CRC) which enshrines the rights of children that UN member countries have agreed to uphold (United Nations, 2018). The UN-CRC recognises birth registration as an important aspect when it comes to the protection of children from abuse, promotion of their rights and establishment of their legal identity (Malisase, 2015; Shi et al., 2022). To this effect, Article 7 of the UN-CRC provides that the child shall be registered immediately after birth and shall have the right from birth to a name, the right to acquire a nationality and, as far as possible, the right to know and be cared for by their parents (Pais, 2002). The importance of birth registration is further reflected in the Sustainable Development Goals (SDGs), especially target 16.9, which recognises birth registration as the foundation for legal identity (United Nations, 2018). The African Charter on the Rights and Welfare of Children (ACRWC), under Article 6.2, equally requires every child to be registered immediately after birth (UNICEF, 2019).

The global birth registration rate has increased from 75% in 2019 to 77% in 2024, meaning that about 8 in 10 children under the age of five are registered worldwide. However, this still leaves 150 million or around 2 in 10 children under the age of five unregistered, with 3 in 10 children lacking a birth certificate (UNICEF, 2024a). Over 50 million children whose births are registered lack birth certificates. The highest registration rates are in Europe, North

America, Latin America and the Caribbean as well as most of Asia (especially Northern and Western Asia) with less than 30% of children unregistered (UNICEF, 2024b). Sub-Saharan Africa, where only 51% of children are registered, is home to over half (90 million) of the world's unregistered children. And with rapid population growth in the region, projections suggest over 100 million African children will be unregistered by 2030 if current trends continue (United Nations, 2024).

Birth registration in Zambia started during the colonial era. It was introduced in 1898 through the European, Aliens and Coloured Births and Deaths Registration Act No. 12 of June 1898 (Kambole & Silanda, 1994). However, this law only applied to children of white British settlers, leaving out the indigenous population (DNRPC, 2015). It was only in 1973, some nine years after gaining independence in 1964, when the Zambian Government put in place an all-inclusive legal framework, the Birth and Death Registration Act (CAP 51) of 1973. The Act provides for the registration of every birth that occurs within the boundaries of Zambia, regardless of race (Republic of Zambia, 1973). The Act also established the Department of National Registration, Passport and Citizenship (DNRPC) as a specialised institution responsible for birth registration in the country. Statutory Instrument No. 44 of 2016 was passed to provide for decentralising birth certification to district levels (Zamstats, 2019). These laws are supplemented by the adoption of the National Civil Registration and Vital Statistics (CRVS) Policy in 2022.

Other measures aimed at improving birth registration includes development of the CRVS National Strategic Action Plan 2015-2019 and signing of the Memorandum of Understanding with the Ministry of Health to register births in health facilities. This resulted in the establishing of Health Facility Birth Registration desks in 615 health facilities throughout the country (Kasonde et al, 2016; Yokobori et al., 2021). Currently, 50 out of 116 districts in Zambia have the capacity to issue birth certificates following decentralisation efforts beginning in 2017 (UNICEF, 2024b). The DNRPC is also implementing the Integrated National Registration Information System, intended to digitise birth registration and link it to legal identification. Mobile registration exercises to capture rural communities are also conducted (Dokovic, 2020).

### 1.1 Statement of the Problem

Despite the reforms that have been put in place, birth registration coverage in Zambia is very low. Zambia is one of only three countries in the world, together with Ethiopia and Papua New Guinea, with birth registration rate below 25% (UNICEF, 2024a). The country had a birth registration coverage of only 10% in 2010 before increasing to only 11% in 2014 and then 12% in 2015 (UNESA, 2010; DNRPC & MOH, 2017). Even though the birth registration rate rose to 16% in 2016, it was still the fourth lowest registration rate in the world (CSO & DNRPC, 2016; UNESA, 2016; DNRPC & MOH, 2017). The registration rate even reduced to 14% in 2018, before increasing to 20% in 2019 (ZamStats, 2019). By 2024, the registration rate reduced to 14%, with only 6% of children possessing birth certificates, the second lowest rate in the world (UNICEF, 2024b). This has left 86% of children unregistered, with 96% not having birth certificates.

While there are no current statistics, the birth registration rate in Kabwe District was only 10% in 2016. This was below the national average and left 9 out of 10 children not registered (DNRPC & MOH, 2017; Central Statistical Office (CSO) & DNRPC, 2019). This was despite the government establishing the first birth registration centre, outside Lusaka, in Kabwe District in 2015 (CSO & DNRPC, 2019). This also means that Kabwe District, like most districts in the country, lacked accurate vital statistics on births to support evidence-based planning and allocation of resources. The unregistered children continue being invisible to the government system. They are also at risk of child labour, child marriage, child trafficking, as well as being denied the right to an official identity, a recognised name and nationality, and various rights afforded to citizens (ZamStats, 2019; United Nations, 2024).

The current situation implies that the country is unlikely to achieve its target of increasing the birth registration rate to 50% by 2026 (UNICEF, 2024b). This creates the need to understand the barriers faced by parents in accessing birth registration services in Kabwe District, and Zambia at large. Therefore, this study utilised the Three Delays Model to understand barriers to accessing birth registration services in Zambia's Kabwe District. To achieve this, the paper is arranged as follows: the above introduction and this section is followed by the theoretical framework, a review of related empirical literature, methodology, presentation and discussion of findings and finally a conclusion.

### 1.2 Research Objectives

i. To investigate the First Delay barriers to accessing birth registration services in Zambia's Kabwe District.
ii. To establish the Second Delay barriers to accessing birth registration services in Zambia's Kabwe District.
iii. To posit the Third Delay barriers to accessing birth registration services in Zambia's Kabwe District.

## II. LITERATURE REVIEW

### 2.1 Theoretical Review

#### 2.1.1 The Three Delays Model

The Three Delays Model was proposed by Thaddeus and Maine in 1994 to explain critical delays in receiving care that lead to women and new-borns dying during pregnancy and childbirth (Danna et al, 2020). These delays are 1) the delay in deciding to seek help, 2) the delay in reaching a suitable health facility, and 3) the delay in receiving satisfactory care once at the health facility (Thaddeus & Maine 1994). First delays can be due to sociocultural factors, perceived accessibility and previous negative experiences with healthcare. Second delays include distance to healthcare facilities and availability of and cost of transportation (Mgawadere et al, 2017). Third delays include poor health facilities, poor quality of care and shortages of medical supplies, equipment and trained personnel (Thaddeus & Maine, 1994).

Evidence has shown that the Model is of great value in a variety of contexts, including civil registration (Kusumaningrum et al, 2016). With regards to accessing barriers to birth registration services, the three delays are 1) delay in deciding to seek birth registration services, 2) delay in reaching a suitable birth registration facility and 3) the delay in receiving satisfactory services once at the birth registration facility. Therefore, first delays can be due to lack of incentives for birth certificates, lack of information on birth registration, previous negative experiences with birth registration, registration fees, gender of the child as well as parent's tribe, marital status and religious beliefs (Kusumaningrum et al, 2016). Second delays may include the geographical location where parents live, distance to birth registration facilities and availability of and cost of transportation. Third delays may include language barriers, lack of required supporting documents, long registration process and shortages of trained personnel (Mgawadere et al, 2017; Kusumaningrum et al, 2016).

However, the Model has been criticised for being too simplistic, one-dimensional and sequential (Danna et al, 2020). It is also more applicable to emergency medical services. Therefore, its application to non-emergency services, such as civil registration, may lead to wrong conclusions. Nevertheless, studies have shown that similar social, behavioural and systems factors constrain access to non-emergency services (Kusumaningrum et al, 2016).

### 2.2 Empirical Review

Literature was reviewed in line with the three delays. Studies have identified a number of barriers associated with first delays. Most countries have not made birth certificates a requirement for accessing public services. As a result, children do not need birth certificates to access services like enrolment in schools or healthcare. They are able to utilise other documents like the Under-Five Health Cards or an affidavit (Kasonde et al, 2016; Dokovic, 2020). And when they become adults, they rely on National Registration Cards or driver's licenses, which are equally obtained without needing to produce birth certificates. Therefore, parents do not see incentives or benefits to warrant the trouble of getting birth certificates (Pelowski et al, 2015). Nepal made birth registration mandatory for school enrolment in addition to introducing a cash transfer incentive programme for parents who registered their children. This contributed to birth registration rising from 35% in 2006 to 77% in 2019 (Sharma et al., 2023). UNICEF (2013) found that countries in Central and Eastern Europe (98%), Latin America and the Caribbean (92%), and the Middle East and North Africa (87%) had the highest birth registration coverage after making birth certificates the first step towards citizenship and a pre-requisite to obtaining other important papers. In Uzbekistan, the state pays mother a bonus when they register their children. And birth certificates are needed for immunization, health care and school enrolment (Pais, 2002; Pelowski et al, 2015).

UNICEF (2024b) discovered that lack of knowledge about the registration process continues to be a barrier in many counties. Data from 51 countries indicates that a majority (53%) of parents with unregistered children lack knowledge of how to register a child's birth. Only 47% of parents are aware of the birth registration process. According to CSO & DNRPC (2016), ignorance accounts for 82% of the main reasons for Zambian parents not registering their children's births. In some instances, parents who had previously attempted birth registration were put off by their experience of the protracted process of producing a birth certificate. It required them to visit registration facilities multiple times before a birth certificate could be obtained (Kasonde et al, 2016). These parents make a partially deliberate and conscious decision to not pursue registration (Mgawadere et al, 2017). Many countries have thus intensified community awareness campaigns on the needs and procedures of birth registration. They have also enhanced speed of issuing birth certificates by streamlining the process and digitising records at the registration offices. In Kenya, these measures more than doubled the registration rate in less than 10 years (Pelowski et al, 2015).

Parents still struggle to meet the costs associated with birth registration. Some countries still charge a fee for birth certificates (Msiska, 2020). This is one of the main reasons for the birth registration rate in Indonesia being only 56% despite the country institutionalising CRVS (Kusumaningrum et al, 2016). Similarity, families from poor and rural households in Latin America and the Caribbean countries, like Bolivia, the Dominican Republic, Guatemala, Nicaragua, and Peru, failed to afford birth registrations services (Brito et al., 2013). In these countries, most parents

make cost-benefit analysis and decide against birth registration believing that it is not worth the trouble. Most countries, including Zambia, have mitigated against this barrier by making birth certificates free (United Nations, 2024; CSO & DNRPC, 2016; Dokovic, 2020).

Social-cultural barriers include poverty, illiteracy, gender biasness, delayed naming of children, statelessness and migrant or refugee status (World Bank, 2016). Children from very poor or rural households, whose mothers have low levels of education, are more likely to lack a birth certificate (UNICEF, 2024a). Children born in health facilities are more than eight times likely to be registered than those born at home (UNICEF, 2019; CSO, 2019). Children of single mothers, foreign and/or undocumented parents also face lower chances of being registered (Brito et al, 2013). Additionally, religion and ethnicity equally plays a role because in some countries, certain ethnic or religious groups have lower birth registration rates than the national average (UNICEF, 2019; Makinde, et al, 2016). In Sudan, parents prefer to register male than female children (Ehab, 2015). Generally, being socially disadvantaged plays a role in the likelihood of a child not being registered (UNICEF, 2024b).

Studies have identified a number of barriers associated with second delays. These include the geographical location. In most countries, the birth registration coverage is higher in urban than rural areas. Globally, children living in urban areas are around 30% more likely to be registered than their rural counterparts (UNICEF, 2024a). This is the case in Zambia were the rate is around 25.5% in urban areas compared to 9.5% in rural areas (UNICEF, 2024a).

This is usually related to the inadequacy of birth registration centres. Brito et al (2013) found that in Latin America and the Caribbean, long distances between households and civil registry offices imped birth registration, especially for people living in rural areas. The same issue affects about 42 developing countries in Africa and Asia (World Bank, 2016). In Zambia, distance to registration centres accounts for about 10% of the main reasons for parents not registering their children (CSO & DNRPC, 2016). Currently, only 50 out of 116 districts in the country have the capacity to issue birth certificates despite the system having been decentralized in 2017 (UNICEF, 2024b). To overcome this, some countries have decentralised the service. For instance, Nepal decentralised birth registration and issuance of birth certificates to the ward level in addition to building the capacity of Local Government bodies to handle the services (Sharma et al., 2023). Other countries have created birth registration points in health facilities (UNICEF, 2019; United Nations, 2024).

However, even when registration centres are nearby and birth certificates are given for free, other associated costs like transport still prove to be a barrier. Parents in most low income countries make cost-benefit analysis and decide against birth registration believing that it is not worth the trouble (Kusumaningrum et al, 2016). This is the case in the 13 SADC member countries where parents deliberately and consciously decide against registering their children's births because of associated costs (Pelowski et al, 2015; Shi et al., 2022; UNESA, 2010). In the case of Zambia, despite birth registration being free, parents are still forced to spend huge amounts of money on transport visiting registration facilities multiple times before a birth certificate is obtained (Msiska, 2019). This leads to some parents deciding to either not attempt the process or abandon it before obtaining the birth certificate (CSO & DNRPC, 2016; Dokovic, 2020).

A number of third delay barriers have equally been established. Parents' inability to speak the official language is not one of the barriers in most countries. This is because of sensitisation measures and the entire registration process being conducted in vernacular, if need be (Sharma et al., 2023; Shi et al, 2022; Kusumaningrum et al, 2016). However, the registration process itself usually involves declaration of birth to the civil registrar, registration of birth by the civil registrar and issuance of birth certificate by the civil registrar (UNICEF, 2024a). Declaration of birth is simple and can be done by health personnel (like birth attendants) and local official (such as a village chief). However, registration of birth and issuance of birth certificates is usually protracted, putting off some parents (World Bank, 2016). In Zambia, it takes upwards of two months before parents are given birth certificates (Dokovic, 2020). One reason for this is lack of the necessary materials, especially for producing the birth certificates. This partially explains why most countries have higher birth registration compared to actual birth certificates. This explains why 8 in 10 of children under the age of five in the world are registered yet 3 in 10 lack birth certificates (UNICEF, 2024a). In Zambia, only 6% have birth certificates even though 14% are registered (UNICEF, 2024b)

The protraction is also linked to inadequate trained personnel and limited materials. In most developing countries, civil registration officers lack training and thus fail to efficiently register births and issue certificates. They even fail to procure necessary equipment and make use of information and communications technology (Shi et al., 2022). Most qualified personnel are transferred from remote areas to more affluent sub-districts. In Indonesia, this led to the hiring of untrained staff or villagers as volunteer civil registry operators in some rural districts. In some cases, it is a part-time job for senior high school students (Kusumaningrum et al, 2016).

In most countries, a record of birth is usually needed for a notification form to be issued. The notification form is then the basis upon which a birth is declared to the civil registrar. The civil registrar then demands for the parent's proof of identity in order to proceed with the registration of birth and issuance of a birth certificate (UNICEF, 2019; Shi et al., 2022). However, parents who deliver outside health institutions tend to lack records of birth and thus struggle to acquire notification forms. This explains why Children born in health facilities are more than eight times

likely to be registered than those born at home (UNICEF, 2024a). Migrants and undocumented parents also struggle to produce the necessary identification documents. In Latin America and the Caribbean, the mother's lack of valid identity papers lowered the probability of birth registration by 32% (Brito et al., 2019). Some countries, like South Africa, have laws that bar registration and insurance of birth certificates to children born from foreigners without permanent residence (Republic of South Africa, 1992). Other countries, like Indonesia, have made marriage certificates a requirement, leading to single mothers being turn away by civil registration officials (Kusumaningrum et al., 2016).

## III. METHODOLOGY

The research was confined to Kabwe District, located in Central Zambia, the provincial capital for Central Province. The district's population of children under the age of five is 33,662, consisting of 16,723 males and 16,940 females (Zamstats, 2022). Kabwe District was selected because its birth registration coverage is below the national average despite it being the location of the first birth registration centre outside Lusaka, established in 2015 (DNRPC & MOH, 2017; CSO, 2019). It also has urban, peri-urban and rural residential areas that embody the characteristics of high, middle and low-income households that fairly represent the situation in Zambia (ZamsStats, 2022).

The study is descriptive-exploratory in nature, conducted to gather insights on the barriers encountered, rather than how or why they exist (Saunders et al, 2023). It is a case study of Kabwe District, enabling collection of detailed information on the issue under study (Malisase & Litaba, 2023). It employs a mixed methods approach, combining elements of both quantitative and qualitative research methods. The quantitative method involves the collection, analysis and presentation of numerical data from parents (Creswell & Creswell 2017). The qualitative method focuses on collection, analysis and presentation of non-numeric data from key informants. Specifically, the study adopts a sequential mixed methods approach by first collecting and analyzing quantitative data and then collecting and analyzing qualitative data. The two types of data are then presented together (Malisase & Litaba, 2023). This makes it possible to provide a more comprehensive understanding of the issue under study (Saunders et al, 2023).

Research findings are based on primary data collected between October 2023 and January 2024 from a sample size of 113, consisting of 105 respondents (parents) and eight key informants. The sample size of 105 respondents is about 1% of the estimated 10,500 households in the three sampled wards (Republic of Zambia, 2022). The eight key informants consists of five officials from the DNRPC – two at provincial level (DNRPC1 and DNRPC2) and three at district level (DNRPC3, DNRPC4 and DNRPC5). Others are three officers from the Ministry of Health - one District Mother and Child Health Coordinator (MH1) and two nurses - one each from two health facilities with birth registration desks (Nurse1 and Nurse2). Data saturation had been reached after interviewing the eight key informants (Bryman, 2016).

Purposive and Multi-Stage sampling are used to select key informants and respondents, respectively. The researchers purposively selected informants who have the necessary information due to their positions (Creswell & Creswell, 2017). The multi-stage sampling procedure is as follows: The district is stratified into its 27 wards. Next, the wards are grouped into lists of rural, peri-urban and urban wards. Next, using simple random sampling, Munga, Chilililalila and Justin Kabwe wards are selected from the list of rural, peri-urban and urban wards, respectively. Next, each ward is subdivided into households. Households are selected using an interval of four, six and 10 in Munga, Chilililalila and Justin Kabwe wards, respectively. An introductory question "*do you have a child under the age of five years living in this household?*" is asked to the head of the household. If the answer is yes, a questionnaire is submitted to the head of the household. If the answer is no, the household is skipped and the household at the next interval is selected. The process is repeated until questionnaires are submitted to a total of 35 households in each ward. Multi-stage sampling allows for an efficient, yet random, collection of data from a large and sparse population in the district (Saunders et al., 2023).

Quantitative data from respondents is collected using researcher administered closed-ended questionnaires. It is analyzed using the Statistical Packages for Social Sciences (SPSS). SPSS is used to produce frequency distributions and regression analysis (Saunders et al, 2023). Qualitative data from key informants is collected through interviews held using semi-structured interview guides. It is then analysed using thematic analysis, which involves identifying, analyzing and reporting themes within the data (Bryman, 2016).

The study relies on content validity by ensuring that the questions in the interview guides and questionnaires cover the potential three delays that could be faced by parents in accessing birth registration services in the district (Creswell & Creswell, 2017). Internal consistency is used to ensure reliability. This is achieved by ensuring that questions in the research instruments are logically related. And only logically related responses are taken to be reliable (Saunders et al, 2023).

Prior to conducting field work, ethical clearance was obtained from the University of Zambia Humanities and Social Sciences Research Ethics Committee (HSSREC). The ethical certificate number is HSSREC-2020-SEPT-034. Permission to collect data is obtained from all the sampled organizations. All participants, officials and parents

consent before taking part in the study. They are informed of their participation being voluntary and ability to stop doing so at any moment without explaining themselves (Resnik, 2018). To uphold confidentiality, raw data is only accessed by the research team. The study ensures anonymity by using codes, rather than names, when making direct quotations in the findings (American Psychological Association, 2017).

However, the study does have some limitation. Firstly, it was conducted in one unique district out of the 116 districts in Zambia. This might limit the generalizability of the findings. Secondly, the sample size of 105 may not be large enough to be accurately representative. Thirdly, having the same sample size for all three wards means that the sample distribution is not probability-proportionate-to-size. Nevertheless, the impact of these limitations is minimised through a properly undertaken multi-stage sampling procedure which increases the representativeness of the sample.

## IV. FINDINGS & DISCUSSION

### 4.1 Levels of Birth Registration in Kabwe District

Figure 1 below indicates that only 23% of the children have their births registered, with only 7% having birth certificates. This implies that the birth registration coverage for Kabwe District in 2024 is 23%. This is an improvement (more than double) from the 10% recorded in 2016 (DNRPC & MOH, 2017; CSO, 2019). It is also slightly higher than the national birth registration rate of 14% and certification rate of 6%. However, it is not on track to reaching the targeted 50% and 100% registration rate by 2026 and 2030, respectively (UNICEF, 2024b).

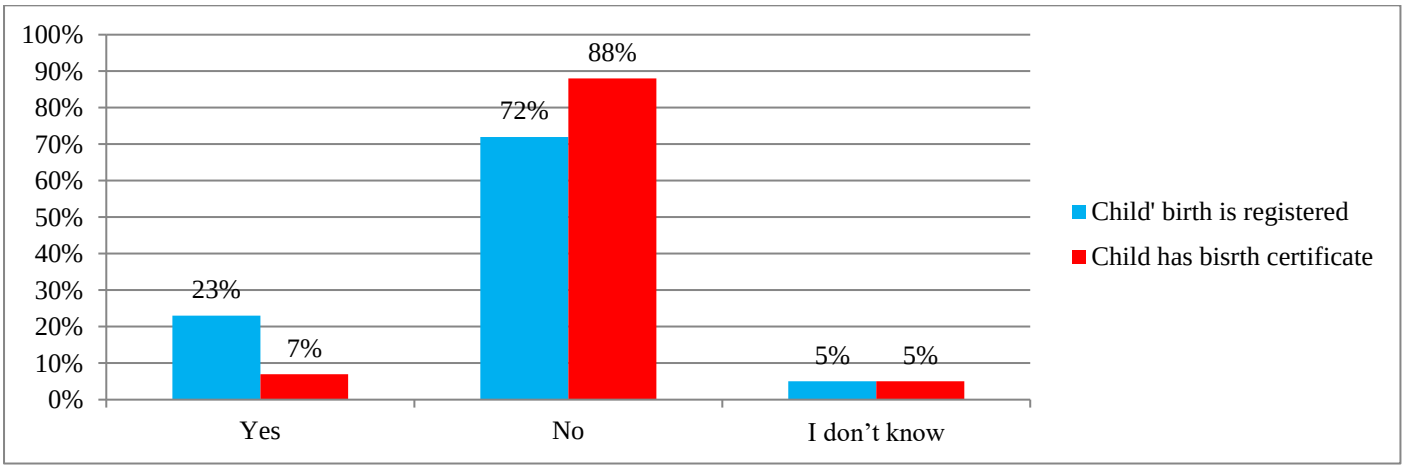


**Figure 1**
*Birth Registration Status*

Moving forward, an issue will only be considered to be a barrier if it affects at least 30% of parents. This is because a lower threshold would not qualify as a valid reason for why 72% of parents did not register their children's births.

### 4.1.1 First Delays: Delay in Deciding to Seek Birth Registration Services

To determine barriers related to delays in deciding to seek birth registration services, statistics were run on lack of incentives for birth certificates, lack of information on birth registration, registration fees, previous negative experiences with birth registration, gender of the child and parent's tribe, marital status and religious beliefs. The findings are presented in Table 1 below.

**Table 1**
*To what extent do these Barriers Prevent you from Seeking Birth Registration Services?*

| Statement | No Effect | Low Extent | Moderate Extent | High Extent | Don't Know | Total |
|---|---|---|---|---|---|---|
| Lack of incentives for birth certificates | 46 (44%) | 0 | 16 (15%) | 38 (36%) | 5 (5%) | 105 (100%) |
| Lack of information on birth registration | 34 (33%) | 1 (1%) | 13 (12%) | 45 (43%) | 12 (11%) | 105 (100%) |
| Registration fees | 89 (85%) | 0 | 0 | 1 (1%) | 15 (14% | 105 (100%) |
| Previous negative experiences | 83 (79%) | 0 | 17 (16%) | 5 (5%) | 0 | 105 (100%) |
| Gender of the child | 90 (86%) | 0 | 0 | 0 | 15 (14%) | 105 (100%) |
| Your tribe | 88 (84%) | 0 | 0 | 0 | 17 (16%) | 105 (100%) |
| Your marital status | 77 (73%) | 3 (3%) | 4 (4%) | 6 (6%) | 15 (14%) | 105 (100%) |
| Religious beliefs | 85 (81%) | 4 (4%) | 0 | 1 (1%) | 15 (14%) | 105 (100%) |

Table 1 above indicates that 51% of parents cite lack of incentives to having birth certificates as a barrier to them seeking birth registration services, with 36% being significantly affected. Key informants equally note that birth certificates are not needed access any services. This lack of clearly discernible immediate benefits demotivates parents from acquiring them for their children. An informant from Central Province DNRPC Office notes that:

> *"It is difficult to convince parents to get birth certificates. They ask us what the benefits are and we fail to give a convincing answer. So, parents know that they can access any service they needed for their children, including travel, school enrolment and health services, without needing a birth certificate."* DNRPC1, 24th October, 2023.

The findings mean that more than half of the parents do not see any incentives or benefits in acquiring birth certificates for their children. This is similar to Dokovic (2020) who equally notes that parents in Zambia use Under-Five Health Cards or affidavits to access services like enrolment in schools or healthcare. They also know that their children will be able to acquire NRCs at 16 years old, without needing birth certificates. This is the reason why a number of countries have boosted registration by providing incentives like paying bonuses as well as making birth certificates a pre-requisite for school enrolment, immunisation, healthcare and obtaining citizenship (Sharma et al., 2023; UNICEF, 2013; UNICEF, 2019; Pais, 2002; Pelowski et al, 2015).

Table 1 also shows that 56% of parents cite lack of information on birth registration as a barrier to them seeking birth registration services. It has a significant effect on 43% of the parents. However, key informants insist that the DNRPC conducts adequate sensitisation campaigns on birth registration. For instance, an official from Kabwe District DNRPC Office argues that:

> *"We conduct outreach activities where we tell parents about the importance of registering the birth of their children. We also tell them the process they need to follow, the institutions as well as the necessary documents, which are just about two. The nurses in health facilities also help us with the sensitisation."* DNRPC5, 12th November, 2023.

This means that despite the sensitisation campaigns, the majority of parents lack information, like the process involved required documents and expected benefits. This is similar to the discovery by UNICEF (2024b) that lack of knowledge about the registration process is a barrier to about 53% of parents of unregistered children in 51 developing countries, including Zambia.

Table 1 also shows only 1% of parents cite registration fees as a barrier to them seeking birth registration services. Similarly, key informants stated that officials at health facilities inform parents of birth registration being free. A nurse at a health facility birth registration desk states that:

> *"Before parents are released from hospital following successful delivery, we give them copies of the birth notification forms. We then inform them of the process and emphasis that the entire process is free. We even advise them to report anyone who tries to charge them."* Nurse1, 13th November, 2023.

This means that most parents are aware of birth registration services being free, in line with the provisions of the Birth and Death Registration Act and Statutory Instrument No. 44 of 2016. Therefore, parents might be struggling to meet other associated costs. This would be similar to Brito et al (2013) discovery of the struggle among poor families in Latin America and the Caribbean countries like Bolivia, the Dominican Republic, Guatemala, Nicaragua, and Peru.

Table 1 also indicates that only 21% of parents cite their previous negative experiences as a barrier to them seeking birth registration services. It is a significant barrier to only 5% of the parents. Key informants equally admit that parents seeking birth registration services are treated with respect and helpfully by officials from both the DNRPC and health facilities. A nurse at a health facility birth registration desk states that

> *"The same way we are helpful to the parents when they come to deliver is the same way we treat them when they come to register their children's births. We are actually the ones who even encourage them to register."* Nurse2, 13th November, 2023.

This means that most parents have no negative experience trying to register their children's births previously. However, they could have been put off due to their previous attempts being protracted. This would be similar to the findings by World Bank (2016) and (Mgawadere et al, 2017).

Table 1 also highlights that none of the parents cite the gender of their children as being a barrier to them seeking birth registration services. Key informants equally observe no discrepancy between the registration rate for male and female children. This implies that parents make the same decision on whether or not to register their children's births regardless of them being male or female. The situation in Kabwe District is different from other countries, like Sudan, where parents prefer to register male than female children (Ehab, 2015). Table 1 also indicates that none of the parents cite their tribe as preventing them from seeking birth registration services. Key informants equally agree, with one from Central Province DNRPC Office noting that:

> *"Some tribes in the country consider naming a child immediately it's born as a bad omen, preferring to give the name two to three months later. However, we do not encounter such issues in Kabwe District."* DNRPC1, 24th October, 2023.

The findings imply that none of the tribes in the district have practices or beliefs that oppose birth registration. This contradicts UNICEF, 2019) and Makinde et al (2016) who found that in some countries, certain ethnic groups have lower birth registration rates than the national average. Table 1 also shows that only 13% of parents cite their marital status as a barrier to seeking birth registration services, with only 6% being significantly constrained. Key informants add that single mothers are not discriminated against by civil registration officials. This is because there is no legal provision requiring the father's presence when registering a birth. Therefore, single mothers are able to register a child using their maiden name, if they wished. This means that parents can access birth registration services, if they wanted, regardless of their marital status. The findings contradicts those of Kusumaningrum et al (2016) who discovered that in some countries, like Indonesia, laws requiring the production of marriage certificates disadvantage single mothers.

Table 1 also shows that only 5% of parents cite their religious beliefs as a barrier to them seeking birth registration services, with only 1% being significantly constrained. Key informants note that the district was predominantly Christian, with less than 1% being other religions. And that Christianity does not bar children from being registered. A nurse at a health facility birth registration desk stated that:

> *"Almost all the parents who deliver from here are Christians. And as a Christian myself, I know that the bible does not say children cannot be registered. Even Jesus was registered as a child……not so?"* Nurse1, 13th November, 2023.

This means most parents can access birth registration services, if they wanted, regardless of their religion. It contradicts UNICEF (2019) and Makinde et al (2016) who found that religion is a barrier to birth registration. And that it results in certain religious groups having lower birth registration rates than the national average.

### 4.1.2 Second Delays: Delay in Reaching a Suitable Birth Registration Facility

To determine barriers related to delays in reaching a suitable birth registration facility, statistics were run on geographical location where parents live, financial constraints, distance to birth registration facilities and availability of and cost of transportation. The findings are presented in Figure 2 and Table 2 below.

The findings indicate that the geographical location where parents live is a factor in the likelihood of them registering their children's births. Figure 2 below shows that none of the parents residing in rural areas registered their children's births compared to 37% and 31% of those residing in urban and peri-urban areas, respectively.

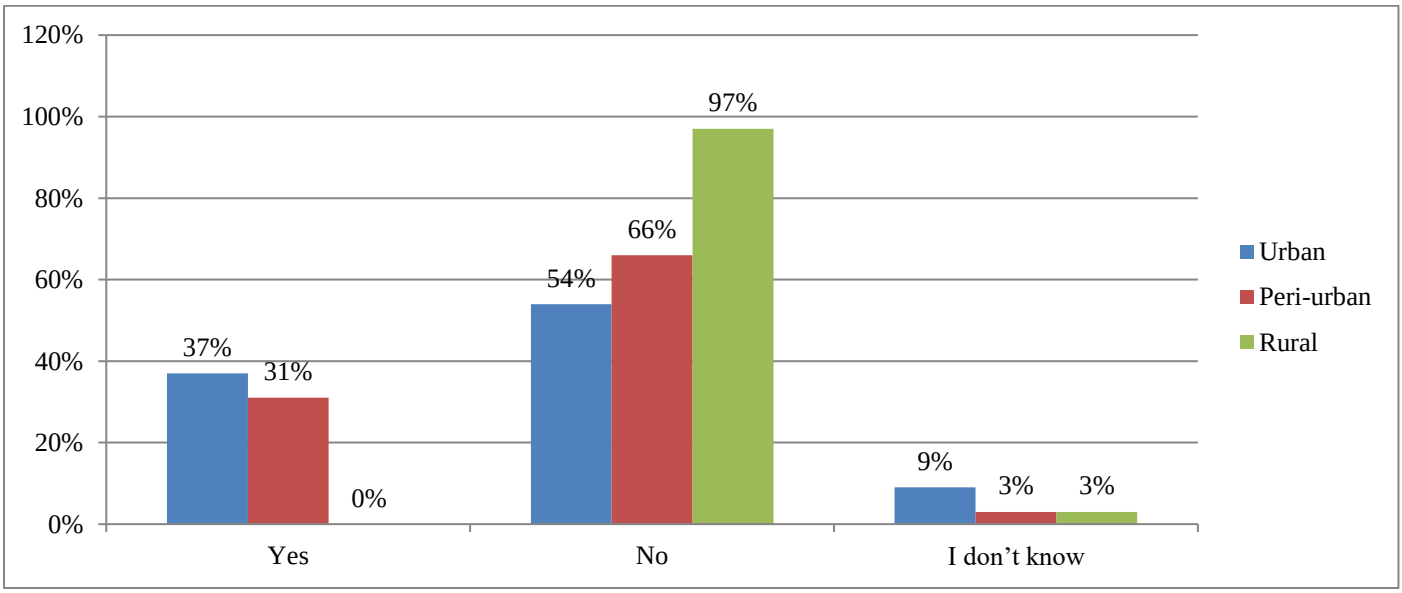


**Figure 2**
*Level of Registration per Geographical Location*

This implies that there is a significant likelihood of an urban or peri-urban birth being registered compared to a rural birth. UNICEF (2024a) equally notes birth registration coverage in Zambia being higher in urban (25.5%) than rural areas (9.5%). And that globally, urban based children are 30% more likely to be registered than those in rural areas.

**Table 2**

*Extent to Which Barriers Prevent Reaching a Suitable Birth Registration Facility*

| Statement | No Effect | Low Extent | Moderate Extent | High Extent | Don't Know | Total |
|---|---|---|---|---|---|---|
| Distance to birth registration facilities | 71 (67%) | 0 | 3 (3%) | 29 (28%) | 2 (2%) | 105 (100%) |
| Cost of transportation | 87 (83%) | 1 (1%) | 0 | 2 (2%) | 15 (14%) | 105 (100%) |
| Availability of transport | 72 (69%) | 0 | 5 (5%) | 16 (15%) | 12 (11%) | 105 (100%) |

Table 2 indicates that 31% of parents cite distance to birth registration facilities as a barrier preventing them from reaching suitable birth registration facilities. It is a significant barrier to 28% of the parents. However, key informants insist that birth registration services are decentralised to health facilities close to where parents live. For instance, a nurse at a health facility birth registration desk argues that:

> *"We (nurses) give copies of birth notification forms mothers after they deliver in our facilities. We give them the option to fill in and leave the form before they are discharged or bring it back latter. Most of the mothers who deliver from here leave nearby. So, they can easily bring back the document once they fill it in. But, most of them refuse to sign the forms or fail to bring them back."* Nurse2, 13th Novermber, 2023.

This means that perhaps some parents mistakenly think they had to submit the notification forms at the DNRPC offices. However, Kabwe is one of 50 districts in the country with the capacity to issue birth certificates (CSO, 2019; UNICEF, 2024b). And CSO &DNRPC (2016) found that distance to registration centres accounts for only 10% of the main reasons for parents not registering their children in Zambia.

Table 2 above also indicates that only 3% of parents cite the cost of transportation as a barrier preventing them from reaching suitable birth registration facilities, with only 2% being significantly constrained. In addition, only 20% of parents cite unavailability of transportation as a barrier preventing them from reaching suitable birth registration facilities, with only 15% being significantly constrained. Key informants attribute this to the opening of birth registration desks at health facilities close to residential areas, especially those in urban and peri-urban areas. Both declaration of birth and collection of birth certificates can be done at health facilities. An official from Kabwe District DNRPC Office states that,

> *"Opening up of birth registration desks at health facilities is benefiting communities. Parents don't have to travel to the District Registration Office. Rather, they are able to access birth registration services in health facilities close to them."* DNRPC3, 30th October, 2023.

An informant from Kabwe District DNRPC Office also explains that:

> *"Some parents can even walk to the nearest health facility. For those in urban and peri-urban areas, there are plenty of mini buses available. And remember, we also have registration desks in some rural clinics."* DNRPC5, 12th November, 2023.

This means that transport needed to visit registration facilities is readily available and affordable. Some parents are even able to walk to the health facilities. Therefore, it does not explain their decision to not visit registration facilities. This contradicts the assertion by Msiska (2019) that parents in Zambia are encumbered by transport money needed to repeatedly visit registration points just to obtain a birth certificate. The situation in Kabwe is also different from the case in other 13 SADC member countries where parents are put off by associated costs (Pelowski et al, 2015; Shi et al., 2022; UNESA, 2010).

### 4.1.3 Third Delays: Delay in Receiving Satisfactory Services Once at the Birth Registration Facility

To determine barriers related to delay in receiving satisfactory services once at the registration facility, statistics were run on language barriers, lack of required supporting documents, the registration process, and shortages of trained personnel. The findings are presented in Table 3 below.

**Table 3**

*Extent to Which Identified Barriers Hinder Receiving Satisfactory Services at Birth Registration Facilities*

| Statement | No Effect | Low Extent | Moderate Extent | High Extent | Don't Know | Total |
|---|---|---|---|---|---|---|
| Language barriers | 83 (79%) | 0 | 17 (16%) | 5 (5%) | 0 | 105 (100%) |
| Lack of required supporting documents | 79 (75%) | 0 | 8 (8%) | 12 (11%) | 6 (6%) | 105 (100%) |
| Long registration process | 71 (67%) | 0 | 3 (3%) | 7 (7%) | 24 (23%) | 105 (100%) |
| Shortage of trained personnel | 74 (70%) | 5 (5%) | 7 (7%) | 8 (8%) | 11 (10%) | 105 (100%) |

Table 3 above indicates that only 21% of parents cite language as a barrier receiving satisfactory services once at the birth registration facilities, with only 5% being significantly affected. Key informants equally note that officials

at both the DNRPC and health facilities used local languages, especially Bemba, when communicating with parents seeking birth registration services. This means that most parents are able to communicate with birth registration officials in a language they understand. The findings align with reviewed literature which discovered that officials in most countries conduct sensitisation campaigns and registrations in languages parents understand (Sharma et al., 2023; Shi et al, 2022; Kusumaningrum et al, 2016).

Table 3 also indicates that only 19% of parents cite the lack of required supporting documents as a barrier to them receiving satisfactory services once at the birth registration facilities, with only 11% being significantly affected. This means that most parents likely have the required supporting documents. Key informants equally add that the required documents are generally readily available to the parents. Parents only need to produce their NRCs as well as the children's records of birth and/or Under-Five Health Cards gotten from the health facilities. An official from Kabwe District DNRPC Office explains that:

> *"During field work or outreach activities, we remind parents that the needed documents are few and easy for them to find. Registration officers only request to see the Birth Record, the Under-Five Clinic Card and NRCs for the parents. This is enough for them to process the birth certificate."* DNRPC4, 11th November, 2023.

However, Kusumaningrum et al (2016) found that in countries like Indonesia, civil registration officials turn away single mothers for lacking marriage certificates. In South Africa, migrants without permanent residence permits are equally stopped from registering their children (Republic of South Africa, 1992). Therefore, when the needed documents mostly relates to the identity of the child, parents are not likely to struggle producing them and vice versa.

Table 3 also shows that only 10% of parents cite the long birth registration process as a barrier to receiving satisfactory services once at the birth registration facility, with only 7% being significantly affected. This means that most parents are not put off by the time it takes for them to fill in the notification form and receive the birth certificate. This tally with the views of key informants who insist that birth registration, initiated by health personnel following delivery, involves parents filling in notification forms, attaching the easy to acquire required supporting documents, submitting and then waiting to be informed when to collect the certificate once it is ready. The process of applying for birth registration only takes a few minutes. It is usually the time between submitting documents and receiving the birth certificate which takes long. An informant from Central Province DNRPC Office admitts that:

> *"The entire process, from filling in the notification forms to issuance of certificates, takes about two months. However, parents fill in the notification forms and attach supporting documents in just minutes. We then call them to come and pick the certificate when it's ready. They don't have to spend too much time at the birth registration facilities."* DNRPC2, 5th January, 2024.

A nurse at a health facility birth registration desk states that:

> *"Remember, they (parents) can fill in these documents at the health facility while waiting to be discharged or even at home. They do not need to go to the district registration office."* Nurse1, 13th November, 2023.

However, an informant from Central Province DNRPC Office did admit that the prolonged period before the birth certificates were issued could put off some parents. Stating that:

> *"Parents still have to 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.

A nurse at a health facility birth registration desk adds that:

> *"Some parents ask us how long it will take for certificates to come out. When we tell them the truth, they became reluctant to sign the notification forms saying that they can't wait that long. This is even when we tell them that they don't have to check, we will call them when the certificate is out."* Nurse2, 13th November, 2023.

This can explain why 23% of parents registered their children's births while only 7% collected the birth certificates. It also aligns with UNICEF (2024a) findings that while 8 in 10 of children under the age of five are registered globally, 3 in 10 lacked birth certificates. It seems the protracted registration process puts off most parents from even attempting to initiate the notification.

Table 3 also shows that only 20% of parents cite shortage of trained personnel as a barrier to receiving satisfactory services once at the birth registration facility, with only 8% being significantly affected. Key informants equally note that bringing health officials into the fold has helped to reduce staff shortages. However, some of the trained midwives and nurses tend to be transferred to other districts. They end up being replaced by untrained personnel, negatively affecting the process. Some of them only get involved when donors, like UNICEF, funds registration projects. Once the projects end, they also stop participating, claiming that it is not part of their job description. The situation in Kabwe is similar to most developing countries where some civil registration officers lack training (Shi et al., 2022). In Indonesia, the few qualified civil registry operators are transferred to affluent urban

areas, leaving rural areas with untrained villagers and high school students as volunteers or part timers (Kusumaningrum et al, 2016).

### 4.2 Regression Analysis

The study performed simple linear regression analysis to determine whether parents are affected by the four variables that reached the threshold of at least 30% of respondents considering them to be a barrier. This was done by looking at the impact of the four barriers (independent variables) and *whether the children's births are registered* (dependent variable). The independent variables are two first delays (lack of incentives for birth certificates and lack of information on birth registration) and two second delays (parents' geographical location and long distance to registration facilities.

**Table 4**

*Model Summary*

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .714[a] | .510 | .486 | .318 |

a. Predictors: (Constant), Lack of incentives for birth certificates, Lack of information on birth registration, Parents' geographical location, Long distance to registration facilities

Results in the model summary in Table 4 above indicate $R^2$ and adjusted $R^2$ of 0.510 and 0.486, respectively. They both imply a moderate degree of goodness of fit of the regression model. It also means that about 48.6% of the depended variable (Is the child registered?) can be explained by the regression model.

**Table 5**

*ANOVA[a]*

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 8.632 | 4 | 2.158 | 21.351 | .000[b] |
| | Residual | 8.288 | 82 | .101 | | |
| | Total | 16.920 | 86 | | | |

a. Dependent Variable: Is the child registered

b. Predictors: (Constant), Lack of incentives for birth certificates, Lack of information on birth registration, Parents' geographical location, Long distance to registration facilities

Table 5 above of the ANOVA indicates that the F-test result is 21.351, with significance (Sig.) of 0.000. This means that the probability of these results occurring by chance is 0.000. Therefore, a significant relationship is present between children's birth being registered and the four independent variables.

**Table 6**

*Coefficients[a]*

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| (Constant) | 2.013 | .134 | | 15.034 | .000 | 1.747 | 2.280 |
| Lack of incentives for birth certificates | -.036 | .026 | -.111 | -1.390 | .168 | -.015 | .087 |
| Lack of information on birth registration | -.177 | .025 | -.556 | -7.087 | .000 | -.227 | -.128 |
| Parents geographical location | -.057 | .066 | -.111 | -.863 | .391 | -.187 | .074 |
| Long distance to registration centres | -.120 | .040 | -.379 | -2.984 | .004 | -.201 | -.040 |

a. Dependent Variable: Is the child registered?

Table 6 above shows there being a statistically insignificant weak negative relationship between lack of incentives for birth certificates and registration status of children (Coefficient B = -0.036, Sig. = 0.168). Meaning residential area of parents explains only about 3.6% of variance in registration status of children. And that the less the incentives for birth registrations, the less likely a parent is to register their child's birth. However, the relationship is not significant since $p>0.05$.

Table 6 above also indicates that there is a statistically significant weak negative relationship between lack of information on birth registration and the registration status of children (Coefficient B = -0.177, Sig. = 0.000). Meaning that since $p<0.05$, lack of information on birth registration explains about 17.7% of variance in the registration status

of children. And that the less information a parent has about birth registration, the less likely they are to register their child's births.

Table 6 above also shows a statistically insignificant weak negative relationship between parents' geographical location and registration status of children (Coefficient B = -0.057, Sig. = 0.391). Meaning parents' geographical location explained only about 5.7% of variance in registration status of children. And that the further away from the urban area a parent resides, the less likely they are to register their child's birth. However, the relationship is not significant since $p>0.05$.

Table 6 above also indicates that there is a statistically significant weak negative relationship between long distance to registration facilities and registration status of children (Coefficient B = -0.120, Sig. = 0.004). Meaning that since $p<0.05$, long distance to registration facilities explained about 12% variance in registration status of children. And that the longer the distance to the registration centre, the less likely a parent is to register their child's birth.

This means that only one first delay barrier (lack of information on birth registration) and one second delay barrier (long distance to registration facilities) have an actual impact on the registration status of children. Both have negative but weak impact (less than 20% variance). This contradicts majority of the reviewed literature as well as the Three Delays Model

## V. CONCLUSION & RECOMMENDATIONS

### 5.1 Conclusions

The study utilises the Three Delays Model in understanding barriers to accessing birth registration services in Zambia's Kabwe District. It found that Birth registration in the district is low, with only 23% of parents having registered their children and only 7% having acquired birth certificates. However, despite this low birth registration rate, most of the expected barriers do not apply to Kabwe District. The only first delay barriers are lack of incentives for birth certificates and lack of information on birth registration, affecting 51% and 56% of parent, respectively. The only two second delay barriers are: distance to birth registration facilities, affecting 31% of the parents; and geographical location, with rural based parents more likely to not access birth registration services (0%) compared to 37% and 31% of residing in urban and peri-urban areas, respectively. There were no third delay barriers.

However, regression analysis indicates that none of the barriers have a statistically significant strong relationship with the registration status of children. Only one first delay barrier (lack of information on birth registration) and one second delay barrier (long distance to registration facilities) have an actual impact on the registration status of children. However, both have negative but weak impact (less than 20% variance). Therefore, the findings of this study contradicts majority of the reviewed literature as well as the Three Delays Model.

### 5.2 Recommendations

The study is of the view that the following may be considered as necessary effort to eliminate barriers to and thus improve birth registration Kabwe District, and Zambia in general:

The DNRPC should lobby the government to make birth certificates a mandatory legal requirement when accessing public services, especially school enrolment. This will create an incentive for parents to acquire birth certificates for their children. There is need to strengthen the operations of health facility birth registration desks by providing necessary financial and technical support. There is also need to establish additional desks across the country, especially in rural areas. There is need to improve sensitisation on the process and benefits of civil registration in general and birth registration in particular. This can be done by including civil registration as part of the curriculum for primary and secondary education. There is need to automate birth notification under INRIS. This will to improve the speed of birth registration in addition to making it less costly for both Government and parents.

## REFERENCES

American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct*. American Psychological Association. https://www.apa.org/ethics/code/ethics-code-2017.pdf

Brito, S., Corbacho, A., & Osorio, R. (2013). *Birth registration: The key to social inclusion in Latin America and the Caribbean*. Inter-American Development Bank. http://dx.doi.org/10.18235/0012623

Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.

Central Statistical Office, & Department of National Registration, Passport and Citizenship. (2016). *SAVVY baseline census report*. Ministry of Home Affairs.

Central Statistical Office. (2019). *2016 vital statistics report*. Central Statistical Office.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

Danna, V. A., Bedwell, C., Wakasiaka, S., & Lavender, T. (2020). Utility of the three-delays model and its potential for supporting a solution-based approach to accessing intrapartum care in low- and middle-income countries: A qualitative evidence synthesis. *Global Health Action, 13*(1), 1819052. https://doi.org/10.1080/16549716.2020.1819052

Department of National Registration, Passport and Citizenship, & Ministry of Health. (2017). *Birth registration coverage survey*. Department of National Registration, Passport and Citizenship and Ministry of Health.

Department of National Registration, Passport and Citizenship. (2015). *National strategic action plan for CRVS 2015-2019*. Ministry of Home Affairs.

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.

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

Kambole, K., & Silanda, N. E. (1994). *The current status of civil registration and vital statistics systems in Zambia*. United Nations Economic and Social Council.

Kasonde, L. C., Mbangweta, C. I., Mulenda, M., Pidatala, K., & Van Der Straaten, J. (2016). *Identification for development (ID4D) country diagnostic: Zambia* (English). World Bank Group. http://documents.worldbank.org/curated/en/318571474317392658

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

Makinde, A. O., Olapeju, B., Ogbuoji, O., & Babalola, S. (2016). Trends in the completeness of birth registration in Nigeria: 2002–2010. *Demographic Research, 35*(12), 315–338.

Malisase, R. (2015). *An examination of the institutional framework, problems and extent of protection of children against economic exploitation in urban areas: The case of children in Lusaka City* (Master's dissertation, The University of Zambia). DSpace.

Malisase, R., & Litaba, D. M. (2023). Conducting mixed methods research with a survey strategy to develop a model for privatising a state owned enterprise. Sage Publications. https://doi.org/10.4135/9781529630879

Mgawadere, F., Unkels, R., Kazembe, A., & van den Broek, N. (2017). Factors associated with maternal mortality in Malawi: Application of the three delays model. *BMC Pregnancy and Childbirth, 17*(219), 1–9. https://doi.org/10.1186/s12884-017-1406-5

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

Pais, M. S. (2002). Birth registration, right from the start. *Innocenti Digest, 9*, 1–33.

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

Republic of South Africa. (1992). *Births and Deaths Registration Act 51 of 1992*. Republic of South Africa.

Republic of Zambia. (1973). *The Birth and Death Registration Act Chapter 51 of the Laws of Zambia*. Government Printers.

Republic of Zambia. (2022). *National Civil Registration and Vital Statistics Policy*. Ministry of Home Affairs and Internal Security.

Resnik, D. B. (2018). *The ethics of research with human subjects: Protecting people, advancing science, promoting trust*. Springer International Publishing.

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

Thaddeus, S., & Maine, D. (1994). Too far to walk: Maternal mortality in context. *Social Science & Medicine, 38*(8), 1091–1110. https://doi.org/10.1016/0277-9536(94)90226-7

United Nations Children's Fund. (2013). *Every child's birth right: Inequities and trends in birth registration*. United Nations Children's Fund.

United Nations Children's Fund. (2019). *Birth registration for every child by 2030: Are we on track?* United Nations Children's Fund.

United Nations Children's Fund. (2024a). *The right start in life: Global levels and trends in birth registration*. United Nations Children's Fund.

United Nations Children's Fund. (2024b). Birth registration steadily increases worldwide, yet 86% of children in Zambia still lack an official identity. [Press release]. UNICEF Zambia.

United Nations Economic and Social Affairs. (2010). *Status of civil registration and vital statistics in SADC region*. United Nations.

United Nations Economic and Social Affairs. (2016). *Status of civil registration and vital statistics: African English speaking countries*. United Nations.

United Nations. (2018). *The 2030 agenda and the sustainable development goals: An opportunity for Latin America and the Caribbean*. 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

World Bank. (2016). *Incentives for improving birth registration coverage: A review of the literature*. World Bank.

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), e08367. https://doi.org/10.1016/j.heliyon.2021.e08367

Zambia Statistics Agency. (2019). *Zambia demographic and health survey*. Zambia Statistics Agency.

Zambia Statistics Agency. (2022). *2022 census of population and housing: Preliminary report*. Zambia Statistics Agency.