
Original Article

Assessment of factors affecting the development of education system in Zambia from 1990 to 2022

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Abstract: Lack of effective education is often highlighted as one of the main factors hindering the development of African countries. Zambia is among the countries in Sub-Saharan Africa that exhibit some of the lowest national GDP indexes and the lowest literacy rates and additionally accounts for a good number of out-of-school children globally. Despite gradually implemented reforms, Zambian educational systems still face numerous challenges and do not meet global standards. Therefore, the purpose of this study was to find out the key factors hindering the development of Zambian education system from reaching global standards. This study contributes to a better understanding of Zambian education as one of the critical factors in the social and economic development of this country. Scoping literature review method was used in which inclusion and exclusion criteria was used to select existing research evidence, statistics and reports. After a careful application of the inclusion and exclusion criteria, 22 articles formed the basis of analysis for the study in which thematic analysis was employed to come out with the findings.

The findings have revealed that a myriad of factors are hindering development of Zambian education system. Among the reported factors are education costs and household expenditure, learning conditions, completion rates and drop-outs, language barriers and limited access to good quality education as well as teaching quality. The study recommends that more targeted attention must be paid to the funding and training of teachers both pre-training and in-service training and also monitoring of fast-track training programs implementation by the government should be enhanced in order to minimise the potential of failure of those programs.

Keywords: Quality, Inclusion, Learning conditions, Funding, Education system.

1. Introduction

An education system is an open system, and it depends on the environment in which it operates for its development. For example, for an education system to achieve its objectives, it will be affected by the economy, labour, technology, culture, laws, including international factors that put education around the world in a state of continuous change. Between 1990 and 2022, Zambia, like many countries in Africa, experienced political as well as economic changes (Tooley and Dixon, 2006). According to Sitwe (1999) the changes were complex, and they were continuous.

At the beginning of the 90s, Zambia began to shift from a one-party state to a multiparty state. The introduction of multiparty state brought with it changes in the economic, which subsequently affected the provision of education in Zambia (Tooley and Dixon, 2006). As a result of Movement for Multiparty Democracy (MMD) forming government in 1991, Structural Adjustment Programmes were accepted. Sitwe (1999) posits that the structural changes in education were interrelated with the Structural Adjustment Programme (SAP) introduced by the Fredrick Titus Mpundu Chiluba and Movement for Multiparty Democracy in 1991.

At the end of the 90s, the idea arose to establishing some kind of basic education in response to international demands to have all children within school going age to be enrolled and acquire basic education. To the effect, the education system was revised in which grade one to 9 was under basic school and grade 10 to 12 was under secondary school (MoE, 2002). In addition, the free education in primary schools was also introduced as studies had shown that cost of education was a hindrance to accessing education, especially for the not so well to do families (Tooley and Dixon, 2006).

However, despite these reforms aimed at changing and transforming the school system involving such factors as educational philosophy, student policies, curriculum, pedagogy, didactics, organisation, management, finance, and their links with the development of the nation, the education system of Zambia and most of developing countries remains with several challenges, which hinders its development (Darvas et al., 2017). The Zambian Education and Skills Sector Plan (ESSP) 2017 – 2021 provides details of Key Issues relating to Early Childhood Education, Primary, Secondary and Tertiary levels. According to this sector plan, inadequate finances, poor planning and management, inadequate infrastructure, long distance to access schools in rural areas, inadequate teaching and learning materials, low learning achievement scores, barrier of language of instruction and many other issues.

The research referring to education system in Africa remains fragmented and tends to focus on selected aspects such as colonial past, which neglected education of indigenous Africans (Freire, 1979, Babaci-Wilhite, Geo-JaJa, Lou, 2012), neo-liberal reforms, which have resulted in financial cuts and the privatisation of education (Oketch, 2016; Potulicka, Rutkowiak, 2012), as well as teacher training and salaries, the quality of education (Bourdon, Frölich, Michaelowa, 2010) or government policy and spending (Stasavage, 2005). To the effect, the factors affecting development of education system from 1990 to 2022 is not known. Hence, this study aims to connect up the existing discussion to identify the prevailing barriers and limitations to development of the Zambian education system from 1990 to 2022.

The aim of the research is to inform government and education line ministries of the major research findings about factors hindering the development of education system in Zambia. It also attempts to identify the gaps in knowledge and understanding of factors hindering development of education system in Zambia and what can be done to ensure that the education system is developed to an extent of meeting global educational standards

2. Materials and Methods

The research used collective/multiple case study design as it sought to explore factors that affect development of education system in Zambia from 1991 to 2022. Collective case study involves the intensive study of a limited number of units of analysis of interest in a study (Kombo and Tromp, 2006), in this case articles that talked about factors affecting education system development in Zambia. The collective case study design was used as the researcher sought to explore the reported factors that have affected development of education system in Zambia. Furthermore, using a collective case study enabled the researcher to examine more closely the factors that affected development of education system in Zambia as given by several different authors.

To achieve the research goal, a scoping review approach, a five-stage framework, enabling replication of the research strategy and increasing the reliability of the findings (Arksey, O'Malley, 2005), was used. The focus of the review was an exploration of the key factors hindering development of education system in Zambia at policy, administration, school system and supportive system levels of education system.

The study employed a review of already published articles as the source of data, and as such secondary data was used. Four electronic journal databases, specifically AgeLine (EBSCO), Science Direct, Scopus, and Web of Science, were used to conduct searches for relevant materials. Different combinations of keywords were used until a saturation point was reached, that is, where duplicate results were returned, or material was no longer relevant.

Upon using the key search descriptors, duplicates were removed from the total number of articles that came up. A review of titles was to follow on which articles outside the direct scope of the current study

were removed. Thereafter, a review of abstracts was conducted and articles that did not match the scope of the current study or were merely making a passing reference to the current study objective, were removed.

Guided by the inclusion and exclusion criteria, works as being relevant to the research topic were identified. Full-text versions of these articles was obtained, with each article being reviewed and confirmed as appropriate by the author. This process provided an opportunity to identify three further studies from a review of the reference lists of each article. After the removal of those with low input, the final sample was recorded.

The study developed an inclusion and exclusion criteria for a comprehensive extraction of existing literature. In order to reflect the focus of the scoping review, the review concentrated on literature from the previous 32 years (1990 – 2022) while other inclusion criteria being the use of peer-reviewed journal articles and research reports. Excluded from the review were dissertations; theses and conference papers; policy documents; studies that did not address education and Zambia together; and texts in languages other than English.

The inclusion and exclusion method was used because it ensured that all articles of interest had information relating to topic being studied (Kombo and Tromp, 2006). Hence, the articles were able to provide data that enabled the researcher to answer the research questions. This process was used as it was less time consuming. With fewer time constraints and more accurate articles, the costs for carrying out the sampling project were greatly reduced as opposed to simple randomly sampling that requires consideration of each and every unit of analysis before deciding on the final sample.

The relevant population of the study included all the articles on education development in Zambia from 1991 and 2022. This period was selected because it coincides with the period at which Zambia returned to multiparty democracy and has been using the liberalised economy. Therefore, the interest of the research was to find out how education system in Zambia has developed under multiparty democracy and liberalised economy.

When investigating the factors affecting development of education system in Zambia, it was rarely possible to collect data from each and every article on education. Instead, a sample was selected. The sample in this study included the group of articles that contain the information needed in order to answer the research question.

Thus, purposive sampling technique was utilised to select the sample of interest. Purposive sampling, which denotes selection of respondents/cases based on their ability/knowledge to provide the necessary information (Kelly, 2010), was found to be appropriate for the current study because, as indicated by Kombo and Tromp (2006), purposeful sampling is widely used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest.

In terms of sampling, the strategy for participant selection should be integrated into the overall logic of any study (Punch, 2004) and the rationale for sample selection needs to be aligned from an ontological, epistemological and axiological perspective with the overarching aims of the study. In a qualitative study, a relatively small and purposively selected sample may be employed (Miles and Huberman, 1994), with the aim of increasing the depth (as opposed to breadth) of understanding (Palinkas et al., 2015). Purposive sampling is 'used to select respondents/cases that are most likely to yield appropriate and useful information' (Kelly, 2010: 317) and is a way of identifying and selecting cases that will use limited research resources effectively (Palinkas et al., 2015).

Although there are several different purposeful sampling strategies, criterion sampling appears to be used most commonly in implementation research (Creswell, 2015), and as such it was deemed appropriate for the current study. Thus, a sample was drawn from articles that have been published during the period under consideration and the number was depend on the inclusion and exclusion criteria discussed above. Therefore, using purposive sampling and inclusion and exclusion criterion, the final sample of 22 was reached as indicated in table 3.1 below.

The charting of selected papers was carried out in Microsoft Excel. Summaries of each article was developed by author, year, and location of study, study design, study methods and sample size. Specific attention was paid to the insights that each article carried in terms of the study objective: identifying the critical factors affecting development of Zambian education systems. Comments on these insights were inserted into the Excel document. The paper also used reports published by UNICEF, UNESCO, the World Health Organization and the World Bank to understand change over time in education in Zambia.

The study collected qualitative data through the scoping review, which was analysed thematically. Thematic analysis is an analysis technique in research that is used to identify patterns and themes from qualitative data (Kombo and Tromp, 2006). The purpose is to come up with themes from qualitative data that are common and can be used to answer research questions. According to Braun and Clarke (2006), thematic analysis is in two forms: semantic and latent. However, for the purpose of this article, only semantic was used. Semantic themes are those that are based purely on what the respondents have said or written (Kelly, 2010). Thus, it was found to be appropriate for the current

study as it allowed the researcher to report what other authors/scholars have said regarding factors that affecting development of Zambian Education system from 1991 to 2022 despite having many reforms taking place.

Table 1: Inclusion and Exclusion criteria

Selection steps	Comments	Number
Items identified through initial database searches	Databases: EBSCO, Science Direct, Scopus, Web of Science	998
Duplicates removed		759
Title review		345
Abstract review: those with low reference to research questions were removed	Articles that made a passing reference to the research objective, typically those covering the effects of poor education in Sub-Saharan Africa and Zambia. Articles that were editorials, discussion or personal opinion pieces were removed.	87
Items where population/sample did not fit research objectives, were removed	Articles whose focus was on a subsample of the student population (females, private schools, Agriculture education etc.).	52
Full-text review	Items without access to the full text and low input conceptual papers were removed	31
Final review sample		22

Source: Author (2023)

3. Results and Discussion

Education development in Zambia has been on a rise from the time the country became independent. From only having 100 University graduates in 1964 (Sitwe, 1999) to having hundreds of schools and thousands of graduates now, the education system has really progressed. However, its development has not been free of challenges that have made it difficult for it to reach global standards (UNESCO, 2016). For example, the literacy levels among grade 5 pupils is still below 20% according to UNESCO (2019). As of 2018, only 17% of grade five pupils were able to read and write in English.

With that statistic, the main purpose of this research was to investigate the factors that affect the development of the education system in Zambia from 1990 to 2022 using a scoping literature review method. The research used a collective/multiple case study design as it sought to explore factors that affect development of education system in Zambia from 1990 to 2022. Collective case study involved the intensive study of a limited number of units of analysis of interest in a study (Kombo and Tromp, 2006), in this case articles on factors affecting education system development in Zambia.

To achieve this purpose, the study was guided by the following research questions:

- i. To find out if Zambia's education system is meeting the needs of the society.
- ii. To establish the key factors hindering the development of the Zambian Education system.

Findings in table 1 revealed that after using the key search descriptors, 998 articles were identified. First, duplicates were removed. A review of the titles revealed large numbers of articles outside the direct scope of the current study, particularly those related to a specific aspect of African education such as ethnicity or HIV. Despite the attraction of the cognitive component of works dedicated to culture or indigenous aspects of education, these do not add substantial insights into evaluating public education systems. A large number of articles were removed through a review of abstracts, particularly articles which merely made a passing reference to the current study objective.

Guided by the inclusion and exclusion criteria, 31 works were identified as being relevant to the research topic. Full-text versions of these articles were obtained, with each article being reviewed and confirmed as appropriate by the author. This process provided an opportunity to identify three further studies from a review of the reference lists of each article. After the removal of those with low input, the final sample was 22.

The charting of selected papers was carried out in Microsoft Excel. Summaries of each article were developed by author, year, location of study, study design, study methods and sample size. Specific attention was paid to the insights that each article carried in terms of the study objective: identifying the critical hindering factors of Zambia education systems. Comments on these insights were inserted into the Excel document. This paper also used reports published by UNICEF, UNESCO, the World Health Organization and the World Bank to understand change over time in education in Zambia.

Therefore, the findings are based on the 22 articles that were deemed relevant by the author after exhausting the inclusion and exclusion criteria.

Zambia's education system meeting the needs of the society

The first objective was meant to establish if the Zambian education system is meeting the needs of society from 1990 to 2022. Education is considered to be one of the key elements that does not only promote enlightenment, but also for the betterment of individual's economic life and development of the nation as a whole. Education is needed at both individual and societal level for the benefits that it provides.

In Zambia the education system aims at enabling schools to provide an education and learning environment which facilitates the cultivation of each pupil's full potential. It is for this reason that school education promotes development of the physical, intellectual, social, effective, moral and spiritual qualities of all pupils so that each can develop into a responsible person for their own personal fulfilment and the good of the nation. The Zambian education system is therefore a faithful mirror of the conditions prevailing in Zambian societies.

According to the scoping review process, four factors were identified as the factors used to assess if education system is meeting the needs of society. These were access to education and quality and relevance of education (Kelly, 2020). Below is an overview of how Zambia fares in these factors according to the scoping review findings.

Access to early childhood education

According to the scoping review, early childhood education level is not meeting the needs of the society. Although much of the early childhood education is provided by the private sector, according to scoping review findings, Government investment in early childhood care development and education (ECCDE), through Ministry of Education and other supporting ministries, remains relevant as it plays a vital role in the delivery of ECCDE services. Despite government efforts, in the form of the construction of 20 model ECCDE centres in 2014, the hiring of more than 1,000 teachers since 2010, and the development of an ECCDE curriculum, Zambia has not been able to achieve the EFA goal related to ECCDE, according to the scoping review findings. This is evidenced by the proportion of Grade 1 entrants with ECCDE experience that declined from 15.9 per cent in 2004 to 14.8 per cent in 2019, far away from the EFA target of 50 per cent agreed in Dakar (2000).

According to the scoping review findings, from a regional perspective, participation in ECCDE in Zambia is below average (based on the data available). Zambia is ranked second last in terms of Gross enrolment rates (%) in pre-school education when compared to other countries in southern Africa. The only current below Zambia is Madagascar with a Gross enrolment rates (%) of 12.8 %. It is not only below the values found in the group with higher GDP per capita than Zambia, but also in Lesotho and Tanzania, which have lower GDP per capita (Lesotho = 995.5; Tanzania = 998.1 and Zambia = 1,801.9). The scoping review findings further revealed that the provision of ECCDE is threatened by weak policy direction and the government's long-standing non-participation in the sub-sector. The fact that responsibility for ECCDE in the past was spread across two ministries had created additional bottlenecks and policy dissonance, according to USAID (2018). In addition, the scoping review showed that the ECCDE sub-sector, furthermore, faces a number of specific challenges, including: (i) a low participation rate further compounded by nonparticipation of the government, adversely affecting poor families in particular; (ii) the absence of a centrally developed common curriculum; (iii) inadequate infrastructure with no standard prescribed curriculum suitable for young children and learning purposes; (iv) inadequate funding for early childhood education; and (v) under-qualified teachers (Zambia EFA 2015 National Review).

The overall indication, according to the scoping review, is that the Zambian education system is not meeting the early childhood needs of society.

Access to primary education

According to the scoping review findings, Zambia has made progress in increasing access to education, particularly at the primary level. Zambia has achieved remarkable progress in improving access and equity in education and provides close to universal education at primary level. In 2022, the gross enrolment ratio reached 177 per cent for primary education, with a completion rate of 99 per cent (USAID, 2022). In the same year, 89.4 per cent of children completing primary level education made the transition to lower secondary level, an increase of nearly 46 per cent over 30 years.

According to the scoping review findings, the major factors contributing to increase in enrolment is the implementation of a number of government policies and programs including free primary education (implemented since 2002); the Basic Education Sub-Sector Investment Program (BESSIP), 1999–2005; and the Ministry of Education Strategic Plan (MoESP), 2003–2007. These efforts were reinforced by the 2011 Education Act and the 2022 free education from primary to tertiary level, which made primary education compulsory for all school-age children, outlawed the giving into marriage of school-age children, recognized community schools, implemented the re-entry policy for girls and vulnerable children, abolished the Grade 7 national examination fee, and introduced a school nutrition project in collaboration with the World Food Program (WFP).

In terms of enrolment, Zambia has made considerable progress over the past two decades. The primary gross enrolment ratio (GER) was estimated at 108 per cent and the adjusted net enrolment ratio at 93

per cent in 2013, moving the country closer to universal primary education, and justifying its ranking among the top 10 African countries in the EFA Development Index (UNICEF, 2016).

According to the scoping review finding, Zambia's primary-level GER and completion rates are above average for sub-Saharan Africa, with Zambia's GER being 108% while average for Southern Region Being 50%. This is an indication that in terms of primary school, the Zambian education system is meeting the primary schools needs of the society. As more and more children graduate from primary education, the focus of the education system shifts increasingly to lower secondary. Zambia is one of a growing number of countries in sub-Saharan Africa aiming for universal basic education, giving all children access to a full cycle of primary and lower secondary education.

The increase in access to education in primary school has actually led to increased equity in the provision of education in primary education. According to the scoping review findings, literature indicates that Zambia has achieved remarkable progress in improving access and equity in education and provides close to universal education at primary level. Although the country struggled in the early years since multiparty democracy was introduced and economy was liberalized in 1991, the latter years have witnessed growing progress in number of enrolments. In 2014, the gross enrolment ratio reached 127 per cent for primary education¹, with a completion rate of 99 per cent. In the same year, 89.4 per cent of children completing primary level education made the transition to lower secondary level, an increase of nearly 36 per cent over 10 years.

With regard to gender parity, the scoping review findings revealed that Zambia has already achieved gender parity at primary level and is rated among the best in sub-Saharan Africa for gender parity at lower and upper secondary. There is no doubt that Zambia's efforts to improve access to education in the past years have, overall, been a success. However, not every initiative has worked. For instance, the implementation of pre-service and in-service training programs for teachers appears to have had little effect.

In terms of equity, Zambia still faces numerous challenges. As noted above, despite increased equity and near universal primary education, the scoping review findings shows that an estimated 195,582 children were not in school in 2013 (World Bank, 2015). Although the figure may have come down due to the introduction of free education policy in 2022, many disparities exist with regard to geographical location, social class, and cultural behaviour, while the plight of orphans and vulnerable children remains a major obstacle to equity in education, according to scoping review.

While the system has been able to raise educational attainment at primary and lower secondary levels, the scoping review findings revealed that this success has not given rise to a similar increase in upper-secondary and tertiary level attainment (Bashir, et al., 2018). Nor has it been translated into significant improvements in literacy levels among children and adults. Despite the policies implemented by the Zambian authorities over the past few years, the system continues to underperform in comparison to countries which invest less in education. This raises questions as to the efficiency of the system and, importantly, its capacity to achieve the goals of the Education 2030 Agenda or to contribute to achieving Zambia's vision of becoming a prosperous middle-income country by 2030.

Access to secondary school 1991 – 2022

The researcher wanted to find out if the secondary educational needs of society in terms of access were being met. According to the scoping review findings, Zambia's focus on basic education in recent decades has resulted in the relative neglect of the secondary school sub-sector. The expansion of secondary education has, therefore, been constrained by limited investment and resources, which have, in turn, reduced transition rates.

Almost 9 out of 10 children completing primary education transition into lower secondary education in Zambia (USAID, 2018). The proportion of children completing primary education (Grade 7) who made the transition into lower secondary education (Grade 8) increased from 53.5 per cent in 2004 to 89.4 per cent in 2019. A high transition rate is also observed in some of Zambia's neighbouring countries like Namibia, Swaziland, and Congo DR. Given the general increase in primary completion rates and transition rates, more children are participating in lower secondary education, which explains the large increase in lower secondary gross enrolment rates. In fact, enrolment in lower secondary education (Grades 8 and 9) increased by 93 per cent, from 234,059 students in 2004 to 451,163 students in 2013. According to UNESCO, the estimated GER in lower secondary was 65 per cent in 2021.

The Zambian Government's goal in promoting upper basic education is to ensure that more children complete a learning phase that equips them with productive skills. To achieve this goal, it must address key bottlenecks in terms of access to Grade 8, namely inadequate school infrastructure and the Grade 7 national examination that allows the rationing of the limited space available by pushing out children who do not achieve the required marks.

The completion rate for lower secondary has increased considerably, from 25.9 per cent in 2000 to 62.4 per cent in 2012, placing Zambia among the high performers in sub-Saharan Africa, where the regional completion rate was 35.3 per cent in 2012, and in the Southern Africa Development Community (SADC) sub-region, where the average was 34 per cent.

While transition from primary to lower secondary and the completion rate have increased, transition into upper secondary (Grade 10) remains a critical challenge. The available data show that the transition rate into senior secondary education has sharply decreased, from 50 per cent in 2007 to around 33 per cent in 2013, indicating that Zambia is having difficulty preventing children from dropping out. In other words, enrolment has increased, but many children still drop out before completing lower secondary education.

For senior secondary education, the completion rate increased from 12 per cent in 2000 to 28.1 per cent in 2019 (UNESCO, Pole de Dakar, 2019), suggesting that roughly 28 per cent of all children who enter the school system go on to complete secondary education. While this result places Zambia above many countries in the region, some other countries do significantly better. The average completion rate for African countries was 17.2 per cent, while the average for the SADC sub-region was 17.7 per cent in 2019.

Access to tertiary education 1990 – 2022

According to the scoping review findings, access to tertiary education in Zambia is worrying. In Zambia, tertiary education includes two groups of institutions: (i) the University of Zambia, the Copperbelt University, the Mulungushi University and 14 teacher training colleges, which fall within the purview of the Ministry of Education; and (ii) colleges registered under the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA). There are 151 TEVETA colleges offering diplomas in various fields. Nearly half are private, with the rest run by the government, religious organizations, or communities.

Universities are regulated by act of parliament and are autonomous in operation, though they are overseen and funded by the MoE. Private universities, which have emerged since the 2000 reforms, sought accreditation from the MoHE until 21st March 2013 when the parliament of Zambia enacted the 2013 Higher Education Act which provides for: (i) the establishment of the Higher Education Authority and define its functions and powers; (ii) quality assurance and quality promotion in higher education; (iii) the establishment, governance and regulation of public higher education institutions, and; (iv) the registration and regulation of private higher education institutions.

The scoping review findings revealed that the structure of the Zambian education system raises concerns about access to higher levels of education, including secondary and tertiary (USAID, 2017). The heavy base of the pyramid, reflecting the millions of children enrolled at primary level, sharply narrows to a pinpoint at the apex, suggesting low rates of transition from primary to secondary and from secondary to tertiary education. Indeed, only roughly 28 per cent of all children who enter the school system go on to complete secondary education. And only a small number of those who do also go on to complete tertiary education. It is estimated that only 8 per cent of primary school leavers access public universities (NIF III, 2017).

With only an estimated 229 students per 100,000 inhabitants, Zambia ranks among the African countries with the lowest rates of participation in higher education (UNICEF, 2017). To address this challenge, the Government of Zambia has begun to encourage private sector involvement in tertiary education. This has led to the emergence of 14 private universities, alongside one new public university, the Mulungushi University. As a result of this expansion, enrolment at university has increased from 14,000 students in 2008 to 20,000 students in 2010 (MESVTEE, NIF III, 2018).

Despite this increase in enrolment, educational opportunities beyond secondary school remain limited for young people who cannot access tertiary education either due to a lack of places or to inadequate bursary schemes. The competition for places is intense although, in principle, students are selected on the basis of ability. The bursary schemes, though desirable, are inadequate, unsustainable, and cumbersome to access. Hence, the focus in this sub-sector is on infrastructure development and the introduction of loan schemes. A loan system is seen as a much more sustainable option, since money paid back by those who have graduated can be used as a revolving fund to support future students (ZANEC, 2012).

Key factors hindering the development of Zambian education systems

The study aimed at finding out the key factors from literature that are responsible for hindering education system development in Zambia. Five factors were identified as a result of the scoping review process and these were education costs and household expenditure, learning conditions, completion rates and drop-outs, language barriers and Limited access to good quality education as well as Teaching quality. Education costs and household expenditure

The first factor vividly signalled by the literature is the cost connected with schooling in combination with low household incomes. One of the most severe education schooling costs in the last 31 years is the existing obligatory admission fees at all school levels (Colclough, Al-Samarrai, 2000; Lewin, 2008). Articles reviewed that Zambia, like many other Sub-Saharan Africa was faced with the challenge of cost of education. Despite several attempts to abolish such fees, financial unsustainability and budgetary constraints have hampered such initiatives in Zambia (Lewin, Sabates, 2012). The problem has been recognised by the United Nations Children Found (UNICEF) and the World Bank, and in 2005 they decided to cooperate by introducing the School Fee Abolition Initiative (SFAI) in several of the countries.

A year after the abolition of school fees, there was a significant growth of total primary school enrolments, especially in urban areas (Lewin, 2009).

Formal fees to attend schools still existed until 2002 when fees were abolished in primary schools only (UNESCO, 2016). Although the school admission fees were abolished in Zambia, more than half of education expenditure is still covered by households (Tooley, Dixon, 2006; UNESCO, 2016). Moreover, it is a frequent practice that schools impose illegal registration fees (Antonowicz, 2010; Times of Zambia, 2023).

Public school funding is at the world's lowest in Sub-Saharan Africa and the amount of government spending per student remains significantly lower than in other parts of the world (Colclough, Al-Samarrai, 2000; Daun, 2000; İşcan, Rosenblum, Tinker, 2015). Whilst public expenditure per primary education student in many highly- developed countries in 2019 was on average USD 854, the average for the Sub-Saharan region was USD 231, and in Zambia it stood at USD 27 (UNESCO, 2014).

Indirect costs related to schooling are a critical cost-related aspect of Zambian education. For example, expenditure on school uniforms (Lewin, 2009).

Although student grant programs officially exist in Zambia, especially in higher education, the payments remain relatively low and tend to be delayed (Daun, 2018). The grant is frequently delayed for even over a year.

The analysis of research and reports suggest that costs will likely be one of the most significant hindering factors in access to education, despite school fees being abolished and with systemic changes such as government financial aid programmes being implemented (Daun, 2019; Lewin, 2009; İşcan, Rosenblum, Tinker, 2015; UNICEF, 2009).

Teaching quality

The working conditions of teachers strongly determine education in Zambia. Studies indicate that the number of students per teacher is amongst the highest in the world (Thakrar, Wolfenden, Zinn, 2009). This has worsened with the introduction of free education policy from primary to tertiary education that has increased the enrolments. Hence a teacher in Zambia teaches approximately twice as many students as one in developed countries. The numbers change for secondary schools (Thakrar, Wolfenden, Zinn, 2009) which confirms the high drop-out rates during or after primary school.

Studies indicate that a significant number of Zambian teachers have not had any training to prepare them to teach (Hardman et al., 2011). They may have an academic qualification but are not trained in teaching. According to the World Bank database, only 65% of teachers in primary education received training in 2017, which is lower than the average for all low-income countries put together (72% in 2018). Additionally, existing teacher training is outdated and Eurocentric (Chang'ach, 2016). The problem of underqualified teachers is exemplified by the results of the Zambian National Assessment of Progress in Education (NAPE) in Luapula and North-western Province indicating that only about 60% of Zambian primary teachers can be rated proficient in numeracy (UNEB, 2015). The report reveals similar outcomes regarding literacy in English. Over 33% of primary teachers in Zambia were not able to pass a test, and only about 40% demonstrated proficient writing skills. The poor quality of teaching contributes to the limited reading and mathematics skills of students (Bashir et al., 2018).

While the pupil-teacher ratio has been stable in Zambian primary education (48:1 in 2002 and 2013), it remains higher than the average for SADC (38:1), the average for sub-Saharan Africa (42:1) and the international benchmark of 40:1 (UNESCO, 2015). It is striking to note that, when considering the number of trained teachers, the ratio increases to 53:1 (USAID, 2019). The current introduction of free education policy in 2022 has made it even worse with the average pupil-teacher ratio as at 2023 reaching a high 80:1 in some areas (GRZ, 2023). In Zambia, the ratio suggests that classrooms are overcrowded, affecting teaching/learning conditions and quality. In addition, there are huge variations across localities and schools, with urban and peri-urban areas reporting ratios exceeding 100:1.

Scoping review findings further indicated that in Zambia, the same ratio (48:1) applied to lower secondary education in 2013. Zambia's lower-secondary class sizes were nearly twice as large as the average for sub-Saharan African countries (27:1).

The scoping review revealed that the teaching quality is also negatively affected by the teachers' qualifications. According to the scoping review findings, in 2010, about 97 per cent of government-employed teachers had the minimum academic qualification of a Form 5 or Grade 12 Certificate. The minimum qualification required at basic education level is a certificate in teaching. At this level, only 7.8 per cent of teachers were professionally unqualified, while about 2.5 per cent only had the preschool teacher's certificate. However, with regard to professional qualifications at secondary school, only 14.6 per cent of teachers were qualified to teach (i.e. they had bachelor's degree qualifications). At preschool level, the largest number of unqualified teachers was found in the main urban provinces of Lusaka and Copperbelt. This is probably due to the need to recruit large numbers of ECCDE teachers to meet the expanding demand for preschool in these provinces.

Furthermore, as the preschool sub-sector has only recently integrated with MoGE, its teachers' standards and qualifications have yet to be enforced. Another explanation may be that this part of the sector is mostly under private ownership (Beyani, 2013). Subject-wise, the shortage of qualified

teachers are most acute in mathematics and the sciences. Data show that, in 2010, only 183 graduate teachers specializing in mathematics were available to fulfil a requirement for 1,709, while only 607 graduate teachers specialized in the sciences were available, which is short of the 2,509 required. Similarly, only 885 teachers with degree qualifications in social science were available, compared to a requirement for 6,508. The 120 social science graduates produced each year by universities in Zambia is far from meeting the national demand for social science teachers at secondary school level (NIF III, 2011).

4. Conclusions

The scoping review process findings have shown that the Zambian education system is moving in the right direction where access to education is concerned showing a significant improvement especially in the primary school level. However, there is a mixed picture in terms of quality and relevance of the education system for the period under consideration due to a number of challenges that faced by the education system. This section presents the summary of the research findings.

Zambian education system meeting societal needs.

Turning to education system meeting societal needs in terms of access to education, the findings have shown that Zambia presents good participation rates in primary and lower secondary education. These rates reflect an expansion in access, bringing the country closer to its goal of providing universal education. Participation rates in upper secondary education, however, remain low, indicating that Zambia is having difficulty preventing children from dropping out before (or after) completing lower secondary. Additionally, participation in tertiary education appears to accommodate only a relatively small number of students, with one of the lowest rates in sub-Saharan countries.

Factors hindering Zambian education system development.

Turning to factors hindering education development in Zambia, the scoping review process findings have shown that a number of factors are impeding development of education system in Zambia. Among the factors reported in literature are education costs and household expenditure, learning conditions, completion rates and drop-outs, language barriers and Limited access to good quality education as well as teaching quality.

With regard to education cost and household expenditure, the coping review process findings have shown that cost attached to education, especially before the introduction of free basic education in 2002, was the major factor preventing children attending school. With the introduction of the liberalized economy, education in Zambia became expensive to an extent that poor families could not afford to send children to school. With more families losing jobs due to privatization of many state owned companies, the household income reduced to an extent that household expenditure on education was reduced to near zero.

The findings have further shown that prior to the introduction of free basic education, there was a bit of improvement in terms of access to education in primary level as the cost of education had reduced. However, despite the introduction of free basic education in 2002, the findings have shown that more than half of education expenditure is still covered by households as parents are still expected to cover costs for books, uniforms and many other school requirements. According to the findings, the only fees that were abolished were school fees. Findings have shown that indirect costs related to schooling are a critical cost-related aspect of education in Zambia. The analysis of research and reports suggest that costs will likely be one of the most significant hindering factors in access to education, despite school fees being abolished and with systemic changes such as government financial aid programmes being implemented.

The purpose of the study was to find out the factors that are challenging the development of the Zambian education systems. As the effect of the scoping review process, it can be concluded that the Zambian education system is developing and moving in the right direction. According to the findings, Zambian education system is developing in terms of access to education and equity, especially in primary school where it is almost reaching the Universal primary schooling.

However, despite these achievements, it is worth acknowledging that the education system is faced with a myriad of factors that are hindering the development of the education system to reach global standards. Despite numerous government and other stakeholder interventions in terms of education reforms, policies and programmes aimed at increasing funding and improving teacher training, the quality and relevance of

education is still below the global level standards. The analysis reveals the very complex and multifaceted picture of the current state of education in Zambia.

In order to move forward, all highlighted issues need to be addressed, although the common denominator for all current challenges seems to be the inadequate funding towards the education sector. It is a lack of resources at the household level that produces child labour and high drop-out rates, and it is a lack of funding that results in poor learning conditions and inadequate teacher training. In particular, the country must not only continue to improve access and equity, but also further enhance the quality and relevance of its education system.

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