International Review of Education (2023) 69:327–350
https://doi.org/10.1007/s11159-023-10019-9

ORIGINAL PAPER

A historical review of global efforts on adult literacy education, with particular reference to Tanzania

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Accepted: 22 July 2023 / Published online: 29 July 2023

Abstract

Literacy is a fundamental aspect of development and a step towards freedom and liberation from socio-economic constraints, because it enables all citizens to realise their basic right to learning. However, the global efforts which – according to a 2017 estimate of the United Nations Educational, Scientific and Cultural Organization (UNESCO) – resulted in an increase in literacy from 55.7% in 1950 to 86.2% in 2015 at the world level (an average of 5% for each decade) did not significantly affect the actual number of people with low (or no) literacy skills. Due to rapid population growth, the number of people unable to read or write was higher in 2015 (745 million) than it was in 1950 (700 million), with some world regions being more affected than others. After reflecting on global historical trends in adult literacy education, this article focuses on the African continent, and on Tanzania in particular. The authors offer a few recommendations for developing countries to progress towards ensuring that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy by 2030.

Keywords Tanzania · Agenda 2030 · adult literacy · literacy policy · SDG target 4.6

Résumé

Bilan historique des efforts internationaux en faveur de l'alphabétisation des adultes, notamment en Tanzanie – L'alphabétisation est un aspect fondamental du développement et un pas vers la liberté et l'affranchissement des contraintes socio-économiques,

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car elle permet à tous les citoyens d'exercer leur droit élémentaire à l'apprentissage. Toutefois, selon une estimation de 2017 de l'Organisation des Nations unies pour l'éducation, la science et la culture (UNESCO), les efforts internationaux se sont certes traduits à l'échelle mondiale par une augmentation de l'alphabétisation, qui est passée de 55,7 % en 1950 à 86,2 % en 2015 (soit une moyenne de 5 % par décennie), sans toutefois modifier notablement le nombre réel des personnes illettrées (voire analphabètes). Du fait de la croissance rapide de la population, le nombre de personnes incapables de lire ou d'écrire en 2015 (745 millions) était supérieur à celui des personnes recensées en 1950 (700 millions) – certaines régions étant plus touchées que d'autres. Le présent article se penche d'abord sur les tendances historiques mondiales de l'alphabétisation avant de se concentrer sur le continent africain, en particulier sur la Tanzanie. Ses auteurs proposent quelques recommandations pour que les pays en développement évoluent afin de pouvoir veiller à ce que tous les jeunes et une part considérable d'adultes, hommes et femmes, sachent lire, écrire et compter d'ici à 2030.

Introduction

This article describes the practical concept of adult literacy and the valuable roles that national and international governments have played over several decades to improve literacy among adults. We point out the varied development of adult literacy in the world in general and among developing nations. With regard to the United Nations (UN) fourth Sustainable Development Goal (SDG 4) on fostering "inclusive and equitable quality education and promot[ing] lifelong learning opportunities for all" (UN 2016, p. 19), we pay particular attention to SDG target 4.6,

> By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy (ibid.).

We highlight various challenges which adult literacy education has been facing since the 1960s, and suggest/recommend several strategies for developing countries, specifically Tanzania, to make progress towards reaching he benchmarks of SDG target 4.6.

Terminology and definitions

Historically, the word "literacy" in English refers to being "'familiar with literature' or, more generally, 'well educated, learned'" (Carr-Hill 2008, p. 10; Harste 2003). In the social sciences/education, literacy as a concept is more generally known in two distinct ways; the first is reading and writing skills (*basic literacy*) (Grotlüschen et al. 2020a, b), while the second refers to reading and writing to act effectively in a variety of contexts (*functional literacy*) (UIS, n.d.). In the context of lifelong learning, *literacy* refers to

> the (cap)ability of putting knowledge, skills, attitudes and values effectively into action when dealing with (handwritten, printed or digital) text in the context of ever-changing demands (UIL 2017, p. 2).

Moreover, some researchers have argued for a replacement of the somewhat rigid literate–illiterate dichotomy with the idea of a continuum:

> The notion of literacy as a learning continuum of different proficiency levels postulates that there is no definite line between a "literate" and [a] "non-literate" person. These designations refer to the two opposite ends of a continuum of proficiency levels which no longer allow for the simple dichotomy of "literate" versus "illiterate" which is often still reflected in statistical reports on "(il)literacy rates" (Hanemann and Robinson 2022, p. 237).

In the 21st century, definitions of literacy have been updated from time to time, reflecting the ability to use technology for gathering and communicating information (Culligan 2005).

In literacy studies, specifically in the documents we review in this article, an *adult* is referred to as a person who is 15 years of age or above (UIS 2017). *Adult basic literacy* refers to these people's reading and writing abilities and skills; and often also includes calculating (*numeracy*) (Reder et al. 2020). For more than five decades now, UNESCO's Institute for Statistics (UIS) has been responsible for tracking and reporting global literacy statistics to help national and international policy experts make informed decisions (Martinez 2013). According to UIS, in 2015, there were 750 million adults globally who were unable to read or write, two-thirds of whom were women (UIS 2017). In June 2023, UNESCO posted this statement on its dedicated Literacy website:

> Great progress has been made in literacy with most recent data (UNESCO Institute for Statistics) showing that more than 86 per cent of the world's population know how to read and write compared to 68 per cent in 1979. Despite this, worldwide at least 763 million adults still cannot read and write, two thirds of them women (UNESCO 2023, online).

Adult literacy education has certainly received considerable attention since the establishment of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1945 (Fang and Chapman 2020). However, in the pursuit of SDG target 4.6, it is important to take into account regional variation in adult literacy achievements among UNESCO Member States and monitor progress as we approach the halfway mark of the UN's 2030 Agenda (UN 2016).

Relevant theoretical approaches to learning

Within socio-cultural theory, numerous approaches have shaped the thinking on adult literacy, including "ethnography of communication" (Farah 1997) and "activity theory" (Knautz et al. 2013).

> The ethnography of communication is an approach to language research which has its origin in the development of a view in anthropology that culture to a large extent is expressed through language. … The … ethnography of communication … is concerned with the questions of what a person knows about appropriate patterns of language use in his or her community and how he or she learns about it (Farah 1997, p. 125).

While this covers the aspect of learners' cultural orientation, learning outcomes are also dependent on how literacy courses are delivered. Activity theory includes the idea of innovative learning modes such as "game-enhanced information literacy instruction" (Knautz et al. 2013, p. 366). These are designed to equip "students of the 21st century" with the skills they need "in a world shaped by rapid technological development and innovations" (ibid.), "such as critical thinking, problem solving and information literacy" (ibid.). From the perspectives of these theories, studies from the 1960s onwards aimed to introduce anthropological and linguistic perspectives into analyses of adult literacy within the family and community contexts at large (Durda et al. 2020). These perspectives focus on how urban learning centres can accommodate learners from non-mainstream cultural and linguistic backgrounds (Sligo et al. 2005) and emphasise the importance of studying human trajectories in learning (Buck and Varner 2014).

Variable regional distribution of populations with low literacy over the past seven decades

In this article, we explore and discuss global literacy trends to suggest possible strategies for developing countries, specifically Tanzania, to make progress towards reaching the benchmarks of SDG target 4.6. However, although we rely on officially published statistics from national and international sources, we acknowledge their inherent unreliability. Most statistics are based on estimates, extrapolations from school attendance figures, and other weak statistical foundations. For example, in Tanzania, the national census, which is expected to provide reliable national and regional literacy statistics (within the country), is conducted every ten years. Literacy figures from the 2012 national census were processed and published in 2015 (URT 2015), but since then, only estimated statistics have been used in planning.[1] Another challenge is that estimated statistics do not account for regional differences within countries. Notwithstanding this caveat, the available statistics can still provide a starting point or a framework for different newly designed literacy programmes and strategies.

Global literacy initiatives aiming to reduce the number of adults with low (or no) literacy skills have been somewhat successful, but have not been able to keep pace with population growth. Between 1950 and 2015, the global adult literacy rate

[1] While the next national census was duly carried out in 2022, literacy data emerging from this have not yet been fully processed and evaluated.

increased by 5% on average every decade, from 55.7% in 1950 to 86.2% in 2015 (UNESCO 2017, p. 21). However, within the same period, the number of people unable to read or write inconsistently rose from 700 million in 1950 to 878 million in 1970 before declining to 745 million in 2015. While the strategies implemented by UNESCO Member States did manage to improve literacy rates, populations with low (or no) literacy skills still increased in terms of absolute numbers (Carr-Hill 2008). UNESCO's Education for All (EFA) movement of 1990 (UNESCO 1990) and the Millennium Development Goals (MDGs) of 2000 (UN 2015) played a more significant role in increasing literacy rates and reducing the number of people with low (or no) literacy skills (UNESCO 2000; UN 2015; UN STATS 2015). The challenge noted was that countries with low literacy rates showed an increase in the number of people with low (or no) literacy skills throughout these decades, unlike the countries with high literacy rates, which successfully decreased the number of people unable to read or write (Alkema and Rean 2015). Countries with adult literacy rates of 70% and above continued to show an increase in literacy, while those with an adult literacy rate below 35% continued to show a rise in the number of people with low (or no) literacy skills (Brown 2018).

In 1950, the literacy rate in Northern Africa was as low as 10–15%, and in South and Central Asia it was only 15–20%. At the country level, literacy rates were also low among developing countries, for example; 0.3% in Guinea Bissau (1950), 6.2% in Algeria (1948), 11.5% in Nigeria (1953), 19.3% in India (1951) and 19.9% in Egypt (1947), but since many of these countries' population sizes were large, the proportion of literate adult citizens was low (UNESCO 2017, p. 23).

The regional distribution (in terms of world regions) of the adult population with low (or no) literacy skills has continued to change over time. For example, in 1950, one-third of the world's population unable to read or write was in Eastern Asia, while another third was in Southern Asia (UNESCO 2017, p. 21). The other five regions; (a) Sub-Saharan Africa, (b) Central Asia, (c) Latin America and the Caribbean, (d) Western Asia and the Pacific, and (e) Southern and Eastern Europe were the home of the remaining third, with Southern Europe being the habitat of a significant number of people with low (or no) literacy skills (ibid.; Huebler and Lu 2013). Although in 1960 African countries had an adult literacy rate below 19%, because of their small number (153 million adults unable to read or write), the proportion of the regional population with low (or no) literacy skills to the global population with low (or no) literacy skills was low. In contrast, in 2015, the distribution re-shaped as more than half of the global adults unable to read or write were from Southern Asia, and more than a quarter were from sub-Saharan Africa. For more than 50 years, the redistribution of adults with low (or no) literacy skills has made either Asia or sub-Saharan Africa the habitat of a significant proportion of the global population unable to read or write. In 2015, Asia and sub-Saharan Africa were home to more than 90% of young people with low (or no) literacy skills worldwide (UNESCO 2017, p. 21).

By 2015, 7 countries in sub-Saharan Africa had an adult literacy rate below 40%, in 12 countries it was between 40% and 60%, in 14 countries between 60% and 80%, 8 countries had a literacy rate of 80% to 90%, and in 7 countries, the adult literacy rate was above 90% (UNESCO 2017, Table 3, p. 27). All developed countries had an adult literacy rate of above 90%. In Southern Asia, one country (not specified)

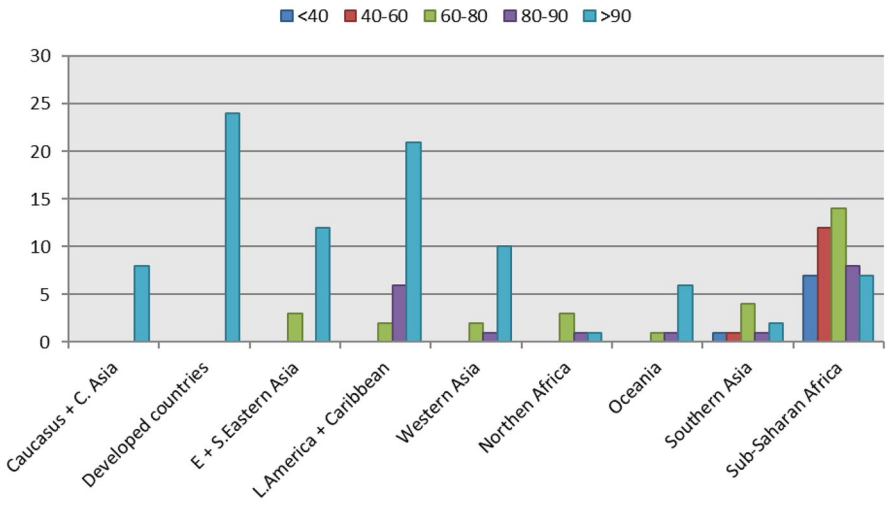

Figure 1 Number of countries in each region by adult literacy rate in 2015. *Source:* created using data from UNESCO (2017, Table 3, p. 27)

had an adult literacy rate below 40%, and another had a rate between 40% and 60%. Only one country in this region had an adult literacy rate of between 80% and 90%, while four countries had a rate of between 60% and 80%, and two countries above 90% (see Figure 1).

Global efforts and results in eliminating low (or no) adult literacy

On 10 December 1948, at its 3rd session, the UN General Assembly adopted the *Universal Declaration of Human Rights* (UN 1948), asserting that everybody has the right to education. However, in 1990, more than 960 million adults worldwide (two-thirds of whom were women) were still unable to read or write (UNESCO 1990, p. 5). Over one-third of the world's adults had no access to printed knowledge to improve their lives (ibid.). On 5 March 1990, the UN adopted the *World Declaration on Education for All*, aiming to universalise access and promote equity in education (UNESCO 1990). Many countries responded by universalising basic education, including the abolishment of school fees (Nguyen and King 2022). From 1990 to 2000, the global literacy rate improved from 75% to 81% (World Bank 2022a). However, "[h]alving the illiteracy problem at global level by 2015 would [have meant] a further growth to 90%" (UNESCO 2002, p. 61). As Figure 2 indicates, the increase of the global adult literacy rate between 1990 and 2000 (EFA period) was only 6%, 1% less than the increase recorded between 1980 and 1990 (before EFA), and 2% higher than the increase recorded between 2000 and 2015 (MDG period). Thus the greater effect (if any) of UNESCO's EFA initiative, and the UN's MDG and SDG agendas is somewhat obscured, unless regions and countries are analysed on a case-by-case basis.

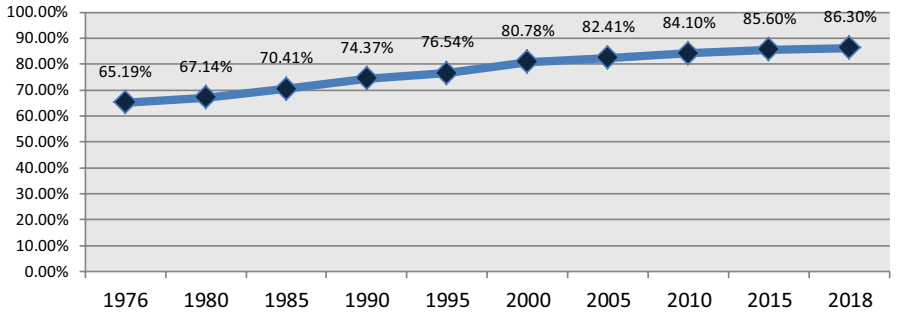

Figure 2 Global development of the adult literacy rate (%) 1976–2018. *Source:* UIS (2023)

The first period of EFA (1990–2000) was concluded with a rapid increase of around 6.0% in the global adult literacy rate (UIS 2023), and the second EFA conference was organised in 2000 in Dakar, Senegal, to define the goals for the period 2000–2015 (UNESCO 2017, p. 26), and 164 countries committed to increasing literacy levels worldwide by 50% in 2015 (Wagner 2013, p. 21). Notwithstanding the sincerity of this commitment made in the *Dakar Framework for Action* (UNESCO 2000), it was realised after the EFA conference that a 50% increase in adult literacy rate was "mathematically impossible" for countries with an adult literacy rate which was already above 75%. In this case, the goal was "usually interpreted as a 50% *reduction* of *illiteracy* levels across countries" whose literacy rates are above about 75% (Wagner 2011, p. 320; emphases in original).

The second EFA period (2000–2015) saw a slow development of the global adult literacy rate, achieving an increase of only 4.3% over 15 years (UNESCO 2017, p. 27). In 2015, Latin America and the Caribbean, as well as Western Asia, had reached adult literacy rates of above 90%. The number of countries with an adult literacy rate above 95% increased from 22 (in 1990) to 45 (in 2000) to 68 in 2015 (ibid.). Some countries in Eastern and South-Eastern Asia, such as China (96.4%), Indonesia (95.4%) and the Philippines (96.6%), and in Latin America, such as Argentina (98.1%) and Chile (96.6%), almost achieved universal adult literacy (ibid.). But 30 countries, especially those affected by conflict, still had an adult literacy rate of below 70% in 2015. These countries included Afghanistan (38.2%), Haiti (60.7%), Pakistan (56.4%) and Timor-Leste (64.1%) (ibid.).

In September 2015, 39 countries from the Arab States, Central and Eastern Europe, Central Asia, Eastern Asia and the Pacific were projected to reach the target point (reducing illiteracy by 50%), while 24 countries were one percentage point behind the target (Montoya and Schleicher 2015). A total of 33 countries, nearly all of them in sub-Saharan Africa, missed the EFA goals by 10% or more (ibid.). Generally, low literacy tends to prevail in low-income countries where severe poverty is widespread (UIS 2015, UIL 2019). Countries that failed to achieve the EFA literacy goals created the need for new ambitious literacy targets within the current Sustainable Development Goals (UNESCO 2017).

Adult literacy education in African countries

In 1960, Africa had an estimated population of 257 million people (OAU and ECA 1994, p. 4), and the adult literacy rate was estimated to be 9% (Ouane and Amon-Tanoh 1990, p. 25), which was unfavourable for the economic development of many of the continent's countries, 17 of which had gained independence in that year. However, in 1968, UNESCO's then Director-General (René Maheu) noticed an increase in the integration of literacy programmes into broader education policies, and social and economic plans in some African countries (UNESCO 2017, p. 25). The increase in the population with low (or no) literacy skills by 19 million between 1960 and 1970 increased Africa's share of the world's illiterate population, affecting the following decade's regional development (ibid.). These statistics indicate that the efforts of governments and non-governmental organisations (NGOs) in reducing adult illiteracy were successful to some extent, albeit not keeping pace with the population growth in the region.

In July 1968, the Conference on Education and Scientific and Technial Training in Relation to Development in Africa, held in Nairobi (Kenya), identified financial constraints, early dropout from primary schools, lack of sufficient schools, shortage of properly trained teachers, and "the unsuitability of educational systems inherited from the former colonial powers" as major contributing factors to the increasing number of adults unable to read or write (UNESCO 1968, p. 8). The average growth of primary school enrolment between 1962 and 1966 was only 1.8%, while the average loss of students through dropout was 21% (UNESCO 1970, p. 18). Cumulatively, the dropout in grades I to IV in primary schools was 68% (ibid.). In 1970, only 1,235,000 students reached grade IV in the African region. In 1965/66, it was estimated that only 4 million out of 6 million of 6-year-old children had enrolled in the first grade of primary school (ibid., p. 19).

In 2013, UIS listed 11 countries globally with an adult literacy rate below 50%, 10 of which were in sub-Saharan Africa (Guinea, Benin, Burkina Faso, Niger, Mali, Chad, Ethiopia, Liberia, Sierra Leone and Senegal), the remaining country being Haiti in the Caribbean (UIS 2013, p. 10). In 2013, when the global average of adult literacy was 85%, sub-Saharan Africa reported an average adult literacy rate of 60% (UIS 2015), which rose to a regional literacy rate of 64.4% in 2015 (UNESCO 2017, p. 27). Only the Seychelles and Equatorial Guinea reached a literacy rate above 95% at the country level (ibid.).

Adult literacy education in Tanzania and recommendations towards UNESCO's SDG target 4.6

Tanzania is a country located in East Africa, with a population of 44.9 million people in 2012, according to that year's census (URT 2015, p. 2), and a national mean adult literacy rate of 78.1% (ibid., p. ii) in 30 administrative regions (the comprehensive

report for the latest census conducted in 2022 is yet to be published).[2] However, in 2012, differences between regions were considerable. While only three regions (Dar es Salaam, Mjini Magharibi and Kilimanjaro) had adult literacy rates above 90%, nine regions had literacy rates between 59% (the lowest) and 69.9%, eleven regions between 70.8% and 79.9%, and in seven regions the rates were between 80.3% and 88.5%. The gap between Dar es Salaam (96.1%, the highest rate in 2012) and Tabora (59.0%, the lowest) was 37.1% (URT 2018, p. 30). Like other developing countries, Tanzania has achieved its latest available adult literacy rate through a combination of different strategies (URT 2018). This section highlights the historical development of adult literacy in the country since 1961[3] and provides a few recommendations for achieving SDG target 4.6 of the UN's 2030 Agenda.

Adult literacy in Tanzania from 1961 to the early 1990s

Historically, in 1961 about 30% of the adult population in Tanzania was unable to read or write (Lúcio 2017), and only 490,000 school-aged children attended primary education (Nyerere 1967). Under President Julius Nyerere, especially after the *Arusha Declaration* of 1967 (Nyerere 1968), adult education was considered one of the major prerequisites for economic progress. Various initiatives were introduced to fight against adult illiteracy, including the "Work-Oriented Adult Literacy Project," launched in 1968, starting in Mwanza area and later spreading into other districts within the region (Heisel 1979). Under this project, it was planned that not only adult students but also primary and secondary school teachers (who were teaching adults), district, regional, and ministry education officials would be learning alongside cotton growers in Mwanza. Farmers were expected to learn how to grow better cotton as they also learned reading and writing. This strategy is the reason the project was called work-oriented.

Literacy policies and practices that are sensitive to cultural contexts will involve local people in designing curriculum content (especially with activity-based literacy education), leaving the mobilisation task to culturally influential individuals, and eventually attracting attention from learners (especially youths). Context-based education will not intervene or contradict the social and cultural life of the people in a particular society and will finally flourish faster. During the implementation of the *Arusha Declaration* of 1967 (Nyerere 1968), many literacy projects failed for several reasons, including neglecting women's cultural position in most communities, especially towards mobilisation of youths and children for literacy and adult education in general (Heisel 1979).

The government implemented the Work-Oriented Adult Literacy Project under the second Five-Year Development Plan (1969–1974), which emphasised extending

[2] The country meanwhile has 31 administrative regions, and according to the dedicated website for the 2022 census, Tanzania's population grew to 61,741,120 last year (https://sensa.nbs.go.tz/ [accessed 7 July 2023])

[3] We begin with 1961 because it was the year in which Tanganyika became independent from the British. In 1964, it united with Zanzibar, forming the United Republic of Tanzania.

adult education, and specific literacy in rural areas (URT 1969a, 1969b). In January 1970, President Julius Nyerere declared the year of adult education as he stated, "First, we must educate adults" (Nyerere 1975). It is very important to note several challenges which faced the project, including irregular attendance, a high dropout rate, and the project's failure to attract youths (citizens aged 15–24 years). However, despite the notable challenges, by August 1970, more than 261,000 adults (aged 15+) had already enrolled in adult education classes, which were organised based on different subjects like agriculture, politics and carpentry (Hall 1971, p. 2).

Another initiative was the broad national literacy campaign called "The Choice is Yours" in 1970, aiming to impart functional literacy. Various publications also released during this time, including Nyerere's 1970 New Year's address, *Education Never Ends* (Nyerere 1975), to emphasise the importance of (adult) education in fostering the country's development. In all these campaigns, literacy was taught, books and other materials were provided freely, and weekly TV education programmes were introduced to reinforce and encourage good reading habits and lifelong learning. Because of the shortage of teachers during the early period after independence, volunteers helped teach literacy after receiving a short facilitator training. The system was organised using administrative structures of wards, districts and regional committees, with separate officials responsible for primary and adult education. After basic literacy education, there were post-literacy programmes for maintaining literacy levels (Mushi 1994). The Institute of Adult Education under the auspices of the University of Dar es Salaam played a major role in training educators, especially in project evaluation (Hall 1971).

Regarding the early challenges adult education faced, it was suggested that it could best and most easily be organised within the frameworks of the village systems and social relationships. Each village would organise an adult education programme based on its traditional social framework instead of the government imposing a new system and hierarchy, and new people to run the programme (UNESCO 2017; Heisel 1979). In addition, literacy was not supposed to be considered a prerequisite for adult education in rural areas, meaning that people could still have a chance to learn different vocational skills despite their inability to read or write (Fute 2020; Grajo et al. 2020). However, it was through vocational training that adults would consider enrolling in the literacy programme, especially after realising its importance in their daily learning and working (World Bank 2019).

These early projects helped to increase adult literacy in the country. The adult literacy rate in Tanzania rose from 31% in the late 1960s to 90.4% in the mid-1980s (Mushi 1991, 1994). In 1967 the focus of adult education changed from adults who had received formal education and were going further in their interests to those who were unable to read or write (Heisel 1979). The focus shift was significant because, before the *Arusha Declaration,* about 50% of children did not access primary schools, making Tanzania one of the African countries with the highest number of adults with low (or no) literacy skills (Wabike 2014). In the 1970s, the government recognised adult education as a universal human right and integrated it into the country's constitution (URT 1977, 2009).

The first mass examination of adults in the literacy programme was conducted in 1975, assessing more than four million adult learners. Tanzania's "adult illiteracy

Table 1 Participation in national literacy education in Tanzania 1975–1986

Year	No. of adults with low (or no) literacy skills	Students taking the test		Students passing the test	
		number	*%*	*number*	*%*
1975	5,184,982	3,804,468	77	1,403985	37
1977	5,819,612	2,346,134	34	806,421	34
1981	6,099,197	3,107,506	51	828,925	27
1983	6,156,777	2,089,814	34	679,508	33
1986	6,312,228	2,018,093	32	1,143,076	57

Source: Stites and Semali (1991, p. 55: citing from MoE 1989, p. 3)

rate was still estimated at 75%" (Gale 2010, p. 58), partly because many learners in rural areas were nomadic and dropped out before completing the programme. From the 1970s and early 1980s onwards, Education for Self-Reliance (ESR) and Education and Rural Development policies under the general policy of Socialism and Self-Reliance resulted in the construction of many adult schools. Table 1 shows results from five annual national literacy tests conducted between 1975 and 1986. Despite the increase in the overall number of adults with low (or no) literacy skills, the percentage of learners who took part in the mass literacy examination kept decreasing. Several reports note that many literacy programmes failed to attract youths in rural areas (Massoi 1999).

Many methodological challenges can be identified, including the fact that obtaining accurate figures as to the percentage of the population unable to read or write in the early 1970s was difficult, leading to a reliance on estimates. In addition, education coordinators who collected statistics (a count of adults with low [or no] literacy skills) relied primarily on 10-house cell leaders (with low skills).[4] Only a few regional education officers (e.g., in Tanga Kilimanjaro, Dodoma, Dar es Salaam, and a few others) tried to conduct a survey in their regions to arrive at a reliable figure for the population with low (or no) literacy skills. It was not until later, especially following the 1988 census report (URT 1994; Wabike 2014), that a count of adults with low (or no) literacy skills was included in Tanzania's national census reports (URT 2015). Another challenge is that between 1970 and 1980, there was also a large influx of refugees with low (or no) literacy skills from neighbouring countries, and their number was added to Tanzania's existing national number of people with low (or no) literacy skills. These refugees lived in camps and typical villages in the Tabora, Kigoma, Mara and Ruvuma regions (Stites and Semali 1991).

[4] Ten-house cell units are the lowest local-government units at a village level below the village government, and composed of only ten households. They are led by local ambassadors (*balozi* in Swahili), who are elected by the residents of the ten households.

The Education and Training Policy of 1995

Education policies developed before 1995 focused much on life skills and lacked smaller programmes to support those policies. Unlike the previous policies, the Education and Training Policy of 1995 promoted the acquisition of appropriate literacy, social, scientific, vocational, technological and other forms of knowledge to improve Tanzanian citizens' condition and society (URT 1995). The policy recognised non-formal education and training and their benefits to different learning needs among social groups. Non-formal education aimed to enable adults and youth to acquire sustainable writing, reading, numeracy and other practical learning skills (URT 1995). From the policy perspective, non-formal educational training included literacy, post-literacy, continuing education and distance learning programmes. The policy gave learners the freedom to set their own pace of their learning based on their circumstances and their other commitments, and the government guaranteed access to literacy education to all adults as their basic right (URT 2009). The Local Government Reform Programme (LGRP) was established in 1998, and local governments were empowered to initiate their plan based on the local context. Villages prepared their plan, wards collected all the villages' plans, and the district synthesised village plans to form a district plan (URT 2009).

The Education Sector Development Programme (ESDP) of 1996

In Tanzania, literacy learning started to inconsistently deteriorate in the 1990s. The adult literacy rate dropped from 90% in 1970 to 84% in 1999, and the primary school gross enrolment rate dropped from 90% in the 1980s to 77.9% in the 1990s (Lúcio 2017; Fute et al. 2022). In 1996 the Education Sector Development Programme (ESDP) was developed under the Inter-Ministerial Sector Management Group (IMSMG), which further worked under the leadership of the Education Sector Coordinating Committee (ESCC) to interpret and implement the Education and Training Policy of 1995, especially in reducing adult illiteracy (URT 2010a). Under ESDP, there were the Primary Education Development Programme (PEDP), the Secondary Education Development Programme (SEDP), the Teacher Development and Management Strategy (TDMS), and the Adult and Non-Formal Education Strategy (URT 2018). The target of ESDP was to eliminate adult illiteracy by 2015 by increasing the enrolment rate at all education levels and raising participation and retention rates (URT 2000).

However, in 2002, out of a population of 22,500,000 adults recorded in the census, 30% were still unable to read or write (URT 2009). In 2015, the goal of eliminating illiteracy remained unachieved, with the literacy rate remaining low (86%) among adults, albeit 4% higher than that of 2002 (World Bank 2022a, 2022b). Although the overall adult illiteracy rate was reduced, men (83.2%) remained more literate compared to women (73.1%). Region-wise, urban areas had higher literacy rates (92%) compared to rural areas (71%) (URT 2010b). The failure to eliminate illiteracy was very much associated with failing to ensure accessibility of primary

and secondary education among school-aged people. Despite the notable improvement, the gross enrolment rates for primary (85%) and secondary schools (27%) (UIS 2023) were not encouraging in the quest to eliminate adult illiteracy any time soon. Cultural factors, motivation, and unequal distribution of primary schools and adult education centres were reported to have challenged the programme (Mushi 2016).

The Adult and Non-Formal Education Medium-Term Strategy (2003/04–2007/08)

Tanzania's Adult and Non-Formal Education Sub-Sector Medium-Term Strategy 2003/04–2007/08 (URT 2003) was initiated in 2003 by the government to address the problem of some 2.5 million children and youth (aged 11–18 years) who were out of school and did not have access to formal schooling. It also aimed to address the increasing levels of low (or no) literacy skills among the adult population (the strategy defined adults as people aged 19+). The strategy targeted three main groups. The first group comprised 11–13-year-old children, disadvantaged children aged 7–13 who were from nomadic communities, street children, disabled, orphans or otherwise out of reach. The second group comprised 14–18-year-old youths, while the third group comprised adults aged 19+ (Saurabh et al. 2013).

The 11–13-year-old pupils who passed the Standard 7 (the last grade of primary school) examinations would be mainstreamed into the formal secondary education system. Adult literacy and continuing education were viewed as a lifelong process. Funding was under PEDP, which disbursed funds to the school account to be managed by the school committees (Schuster et al. 2021), including a book allowance of 2,060 Tanzanian Shillings (roughly USD 1) per adult per course period. The books procured for use by the learners would belong to a resource centre, and different enrolled adult learners would use the same books.

As anticipated, improving the enrolment rate in primary schools and other learning centres through this medium-term strategy (URT 2003) helped reduce the number of out-of-school children. For example, from 2003 to 2008, the number of out-of-school primary-aged children decreased from 1.3 million to 69,235 (World Bank 2022b). Despite the achievements recorded after the strategy had been implemented, a number of different factors greatly challenged it. For example, some communities (e.g., nomadic communities) did not have permanent habitats, which made it difficult to keep them enrolled.

Adult and Non-formal Education Development Plan (ANFEDP) 2012/13–2016/17

The medium-term strategy report for 2003–2008 (URT 2003) indicated that several target groups had yet to be reached. The Ministry of Education and Vocational Training developed the Adult and Non-Formal Education Development Plan (ANFEDP) 2012/13–2016/17 (URT 2012). This plan aimed to address challenges affecting adult learners and achieve various objectives like the second Millennium Development Goal (MDG 2), "achieve universal primary education" (UN 2015, p. 4) by ensuring that all out-of-school children, and youths and adults

with low (or no) literacy skills had access to quality education. The general target was to enrol more than six million adults (aged 19+) with low (or no) literacy skills, and more than three million neo-literate youths and adults in basic and post-literacy programmes, respectively. The plan also targeted 469,630 disadvantaged children (aged 11–18) from nomadic communities, children with disabilities, and children living on the streets (URT 2012, p. 9). A significant achievement was recorded, including an increase in learner enrolment. The government's target had been to enrol 1,900,000 learners from 2003 to 2005, and 1,900,255 learners were enrolled (ibid., p. 20). However, while ten learning centres were established in each council, and it was expected to establish more learning centres, few councils succeeded in expanding the programme as envisaged, leading to low enrolment in basic and post-literacy programmes from 2009 to 2011 (URT 2012).

National Adult Literacy and Mass Education Rolling Strategy 2020/2021–2024/25

The latest government initiative to address the continuing challenge of illiteracy in the country is the National Adult Literacy and Mass Education Rolling Strategy (NALMERS) (URT 2020). It was developed based on a situational analysis as well as consultation with different key actors in adult literacy education to resonate with SDG target 4.6, which commits all UNESCO Member States to ensuring that "all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy" by 2030 (UN 2016, p. 19). The development of the strategy was also based on the fact that, despite the different efforts employed since 1961, the 2012 census report indicated that 78.1% of adults were unable to read or write (URT 2015, p. 7). NALMERS, as a five-year programme, recognises literacy as a right for every citizen and a prerequisite for political, social and economic development. In this strategy, the term *literacy* extends the traditional scope of reading, writing and simple numeracy, as it involves applying those skills in day-to-day activities (Wilkins 2021).

Recommendations for achieving SDG target 4.6

As noted in the previous section, Tanzania has been implementing different policies and strategies to eliminate illiteracy among adults. Similar to other developing countries, the achievement has been below expectations. Based on the context of Tanzania, we recommend different strategies responsive to the country's cultural, economic, geographical and demographic environment. We consider these recommendations significant for achieving SDG target 4.6, which focuses on ensuring that "all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy" by 2030 (UN 2016, p. 19). We consider three important aspects: learners' age; learners' community context; and learners' regional context.

Developing different literacy content based on learners' age

In the general context of adult literacy education, youths are referred to as persons aged 15–24, and adults are referred to as persons aged "15 years and older" (UIS 2015, p. 1; UNICEF 2022). However, several adult education programmes in Tanzania (e.g. the Medium-Term Strategy for Adult Literacy 2011/11–2014/15; URT 2010b) have included children and adolescents who are below the age of 15 (particularly disadvantaged children aged 7–13 who are from nomadic communities, street children, disabled, orphans or otherwise out of reach) (Schuster et al. 2021). This leads to the conclusion that "adult education" in Tanzania in fact addresses a wide range of different age groups, including children, youth and adults, which is unlikely to address each of these groups' specific needs. We therefore propose to the government, curriculum developers, policymakers and general society that literacy content (curriculum) and teaching approaches (pedagogy or andragogy) should be designed with respect to the participants' age.

Attracting children (aged 7–14) from different backgrounds is one of the targets of literacy education. An attractive and friendly environment must make them feel safe, loved and protected even more than they do at home. Computer games and other offline games can be designed to engage their participation. Teachers' friendliness and social interaction skills greatly contribute to reducing dropout among literacy learners in developing countries (Alex et al. 2007). A good teacher–learner relationship is likely to trigger these young learners' sense of freedom, and also helps teachers to pick up individual challenges their learners are facing. In addition, research evidence from previous adult literacy education programmes which mixed different learners of various ages in a class has shown that this practice creates a situation which does not equitably benefit learners (Mmasa and Anney 2016). We recommend that children should have their special classes so that age-appropriate games and other approaches can be employed during teaching to achieve maximum learning outcomes.

It is also advisable that the content for adult education among youths (aged 15–24) and other younger adults (aged 25–45) should be developed in line with their daily socio-economic activities in a particular community. Exploring their specific problems and challenges should be done so that adult literacy education offers solutions to their daily challenges. In agricultural societies, for example, youths and younger adults face challenges that include improper use of pesticides, choice of seeds and marketing skills of their products. If literacy education is designed in line with these kinds of daily challenges, most learners will be attracted to the programmes because of the immediate effect of such education. The same strategy can be applied to pastoralists and other communities. However, our general suggestion is that adult education and literacy should focus on preparing learners to employ themselves, ensuring their livelihoods, with a focus on teaching and developing skills. The same should apply to older adults (aged 46+); literacy education should be provided in line with their daily socio-economic activities, challenges and expectations.

Deep analysis of societies and cultures in which adults with low (or no) literacy skills live

From the analysis of the social and cultural barriers to adult literacy, we argue that the prolonged state of having low (or no) literacy skills results from the failure of policy practices to distinguish between low (or no) literacy and the culture in which adults with low (or no) literacy skills live. As a result, policies and practices have focused on the disadvantaged individual's characteristic of being illiterate rather than on the families and community this adult with low (or no) literacy skills is a member of. When the disregard for the value of education is upheld for a generation or more within the community, it becomes the community's culture (culturally explained) and perpetuates itself throughout communities and families. By the time these communities' children grow up, they have absorbed all the attitudes and values of their subculture. The society with low (or no)literacy skills remains so throughout the years because its members have adapted to a life where there is no perceived need for, or advantage in, being able to read and write. Reports have indicated that the value of childhood as a prolonged protected stage in an individual's life cycle is much more effective among children of literate/educated parents than uneducated ones. Uneducated societies, specifically those with low (or no) literacy skills, easily initialise their children into adulthood tasks and roles which deny them the right to education (Menheere and Hooge 2010). Understanding the subculture of these communities with low (or no) literacy skills may help to develop adult literacy policies, strategies and projects that extend the area of focus from an individual adult with low (or no) literacy skills to the community culture in which such an adult with low (or no) literacy skills lives (Bourassa 2021).

Paulo Freire's seminal work *Pedagogy of the Oppressed* (Freire 2000 [1970]) supports the proposed hypothesis of the culture of people with low (or no) literacy skills. It is another alternative to the adult education model that considers a learner as an entity within the wider scope of culture (Torres 2013). The model pays attention to illiteracy as a culturally related problem which cannot be solved without cultural consideration. Brazilian scholar Freire considers education to be a "cultural act", capable of raising consciousness for empowerment, whereby teaching and learning is a two-way process. Teachers become learners of students' culture (and students become teachers) through a horizontal relationship at eye level. Adult literacy education starts with analysing the socio-economic and living conditions of the learners and their major problems, aiming to reach the level of the individual and the collective consciousness of the problems. Apart from the set of knowledge content of the curriculum and capacities, the model considers culture as the main determinant in understanding the value of education before participating in it.

Dividing regional zones of focus according to the potential population and literacy rate

Although Tanzania's adult literacy rate varies across regions, some regions are more populous than others. Numerically, comparing administrative regions with the same adult literacy rate, the most populated regions from the list will have a somewhat higher number of people with low (or no) literacy skills than regions with a lower population. For example, Dodoma and Katavi's adult literacy rates are almost the same (67.5% and 65.7%, respectively) (URT 2015), but the total population of Katavi (564,604) is approximately a quarter of that of Dodoma (2,083,588). In this case, Dodoma's absolute number of adults with low (or no) literacy skills can be expected to be higher than that of Katavi. In fact, the total population of Katavi almost equates the population with low (or no) literacy skills in the Dodoma region. With this analysis, policies, and strategies of adult literacy education developed for the two regions need to be equitably financed and organised.

Tanzania can be divided into zones based on two important factors; regions' total population and their respective literacy rates. Different targets have to be set, with the achievement expected to occur at different times depending on the regional context. Below, we have organised the regions into five groups (A_1, A_2, B_1, B_2 and C), beginning with the most populous regions. Each group may achieve the pre-determined goals for the elimination of illiteracy at a different specified point in time, but the latest target date can be aligned with UNESCO's time frame of 2030.

Proposed groups of regions for the adult literacy campaign, specified for the case of Tanzania

1. *Group A_1*: Regions whose population is two million and above, and whose adult literacy rate is between 50% and 75% (Dodoma and Tabora).

   Target and time frame: Achieving a 20% increase in the current literacy rate by 2030. The Ministry of Education, Science and Technology (MoEST) could include and treat these regions as Special Zones, which require special focus at national and local levels. A national task force could be formed to survey, plan and organise learning processes with the help of local governments.
2. *Group A_2:* Regions whose population is also two million and above, but whose adult literacy rate is between 76% and 99% (Tanga, Morogoro, Dar es Salaam, Mbeya, Kigoma, Kagera, and Mwanza).

   Target and time frame: Achieving a 100% adult literacy rate by 2030. The local (regional) government could organise a task force for surveying the current status, and designing the best possible strategy for literacy education, supervising the whole process.
3. *Group B_1:* Regions whose population is between one million and two million, and whose adult literacy rate is between 50% and 75% (Pwani, Mtwara, Singida, Rukwa, Shinyanga, Manyara, Simiyu and Geita).

Target and time frame: Achieving a 20% increase in the current adult literacy rate by 2030. The Ministry of Education, Science and Technology (MoEST) could include and treat these regions as Special Zones, requiring special focus at national and local levels. A national task force could be formed to conduct surveys, suggest possible strategies, and supervise the implementation process.

4. *Group B_2*: Regions whose population is between one million and two million, and whose adult literacy rate is between 76% and 99% (Arusha, Kilimanjaro, Ruvuma and Mara).

   Target and time frame: Eliminating adult illiteracy by 2030. A regional task force could be formed at the regional level to conduct surveys, design the strategy and supervise the implementation.

5. *Group C*: All regions whose population is below one million (regardless of the adult literacy rate) (Katavi, Njombe, Iringa and Lindi).

   Target and time frame: Eliminating adult illiteracy by 2030. A regional task force could be formed to conduct surveys, suggest the best possible strategy, and supervise the whole process.

The proposed national task forces could involve quality assurance staff from different districts. With the existing education structure, each district already has educational quality assurance personnel appointed by the district executive director (DED) from among primary and secondary school teachers based on their working/teaching experiences and academic qualifications. There are also adult education officers and teachers who are specifically responsible for ensuring the provision of adult education. Funded by the Ministry of Education, the proposed national task forces would be accountable for assessing, evaluating and suggesting better ways of improving literacy education in a particular region based on this region's local context and targeted goals. The Ministry of Education itself should design the guidelines for the operation of the proposed task forces and the interval of their reporting to the ministry

Although these recommendations mainly focus on eliminating *adult* illiteracy, it is also the responsibility of the government and the general public to ensure that all school-aged children participate in primary education. Primary school participation, completion and the system's teaching effectiveness have a long-term impact on adult literacy rates. Political willingness is also imperative for adult literacy achievement because such willingness is more likely to lead to effective programme financing. Under Tanzania's first president Julius Nyerere, Tanzania achieved an adult literacy rate of 90.4% in 1986 (Mushi 1991, 1994) when the country's economy was less stable than today. The fact that this high rate was achieved when the economy was less strong suggests that it must be possible to improve more now because the country's economy is comparatively robust. With political willingness, commitment and collective responsibility, eliminating illiteracy among adults becomes a promising task.

Conclusion

Generally, adult literacy education in Tanzania falls under the sub-sector of adult and continuing education. However, for the policies and strategies for eliminating illiteracy among adults to succeed, we suggest that different educational subsectors (such as primary education and teacher training colleges) should work together. For example, by ensuring that there are enough primary schools to absorb all the school-aged children, the country can avoid the emergence of new groups of people with low (or no) literacy skills. The number of Tanzanian pupils currently completing primary school without literacy skills is shocking, and is partly caused by unskilled teachers teaching in primary schools (Mmasa and Anney 2016). By improving the effectiveness of primary school teaching, ensuring higher enrolment in primary school, and also establishing sufficient adult literacy education centres, the problem of adult illiteracy may finally get solved. A collective effort is critical in addressing the psychological (e.g., motivational), economic (e.g., poverty-related), political (e.g., political willingness), and cultural (i.e., failing to value education) obstacles hindering education participation and literacy acquisition.

Statements and Declarations We confirm this original article has not been submitted elsewhere for publication. We also confirm that the manuscript has been read and approved by all the named authors and that no other persons not listed in this article satisfied the authorship criteria. Finally, we also confirm that we did not receive any funds from any person or institution for this work and that there are no conflicts of interest.

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