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Evidence on the Impact of Population Growth on Education Financing and Provision in Tanzania

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Question

What evidence is available about the impact of population growth on education financing and provision in Tanzania?

Contents

1. Summary

Tanzania has made great strides in increasing enrolment rates amidst a rapidly growing population. However, despite gains made in primary enrolment, completion rates have not exceeded 70% in the past five years, and enrolment at secondary level remains low (37%). Although Tanzania has experienced stable economic growth, the overall proportion of GDP allocated to education has been in decline in recent years. Latest figures indicate that, in 2020, Tanzania allocated 2.9% of GDP to education, down from 3.3% in 2016 (Kahangwa et al., 2021, p.65). Author calculations suggest that, to meet the needs of the current school-age population, Tanzania needs to spend a minimum of 4.1% of GDP on education. These calculations are aligned with the minimum requirements set out in the Incheon Framework (minimum suggested allocated of GDP in the Incheon Framework is 4-6%).

An analysis of expenditure suggests a lack of equitability in distribution of funds within the education sector. Having achieved near universal enrolment at primary level, since 2016 the Government of Tanzania has almost doubled spend on secondary education and increased spending on higher education. In the same period, however, spend per pupil at primary level has halved[1] suggesting that budget is being directed away from pre-primary and primary education to fund secondary, with higher education slightly increasing. Furthermore, the Education Sector Analysis outlines that 35% of the education budget is spent on the top 10% highest educated in the system (Kahangwa et al. 2021, 168). In addition to disparities on spend by education level, regional differences persist in the number of classrooms, textbooks, desks and teacher shortages also exist.

Despite current disparities and challenges, Tanzania's economic growth in recent years suggests that, with increased commitment in minimum spending on education as a proportion of GDP, the education needs of the population could be met. However, this would assume continued economic growth and require a greater proportion of spend to be allocated to education, suggesting trade-offs may be required. The following considerations may be pertinent when determining what trade-offs need to be made within the education system to ensure basic education is meeting the demands of a growing school-aged population:

- Address geographic regional disparities in capital expenditure and adopt pro-poor financing policies to ensure budget is allocated to the area where the greatest level of need is identified
- Incentivise teachers to teach in the most remote regions and in the subject areas with the greatest teacher shortages (particularly the sciences and mathematics)
- Invest in girls' education notably at secondary level to support demographic transition
- Invest in meeting basic educational needs through ensuring all children have access to teachers (notably subject specialist teachers) and textbooks in core subjects such as mathematics and literacy
- Reconsider the allocation of spending across levels of the education system, particularly whether funds can be diverted from higher education to support shortfalls in pre-primary and primary

[1] from 336,000 Tsch (US$145) to 165,000 Tsch (US$71) per pupil between 2016/17 to 2019/20 (URT Annual Sector Education Performance Reports, MoFP budget data and MoEST BEST Yearbooks),

This report looks specifically at public spending on education and does not include an analysis of external funding sources.

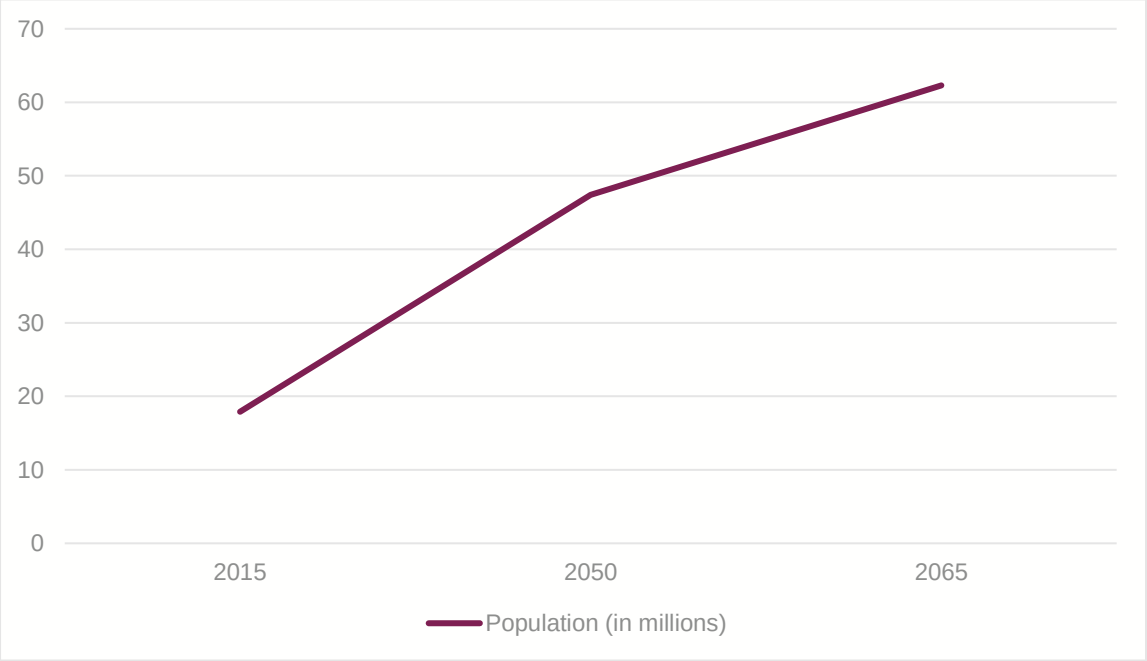
2. Trends in population growth and school enrolment

Population growth trends and projections

Tanzania has experienced consistently high population growth in recent decades due to only modest declines in high fertility rates. High fertility rates have been attributed to Tanzanian girls historically commencing sexual relationships early and early marriage, which both prolong the period of reproductive years. In 2018, 36% of Tanzanian girls were married by the age of 18 (Schneider et al, 2018, p.v). Women from the lowest wealth quintiles have the highest fertility rates at 7.5 children per woman, compared to 3.1 children per woman amongst the highest wealth quintile (Schneidman, et al. 2018, v). As a result of continuing high fertility rates, total dependency has also remained high, with approximately 92 young and old-age dependents (0-14 years and 65+ years) for every 100 people of working age (15-64 years), thus putting severe pressure on state and household resources (AFIDEP 2018, 1). This figure is substantially higher when increasing the age of dependents to 19, with a dependency ration of 147:100. However, even with a modest reduction in fertility rates, the dependency ratio is expected to reduce from 92 to 60.5 by 2065.

Population growth in Tanzania has remained around the 3% mark since 1990, meaning the population doubles every 23 years. Significant population growth over the next 30-50 years is projected, regardless of whether the fertility rate drops to 2 children per woman in the immediate future. Decades of high fertility (averaging at approximately five children per woman) mean that there will be high population momentum. The below chart outlines projections in growth of the youth population (15–34-year-olds) in coming decades.

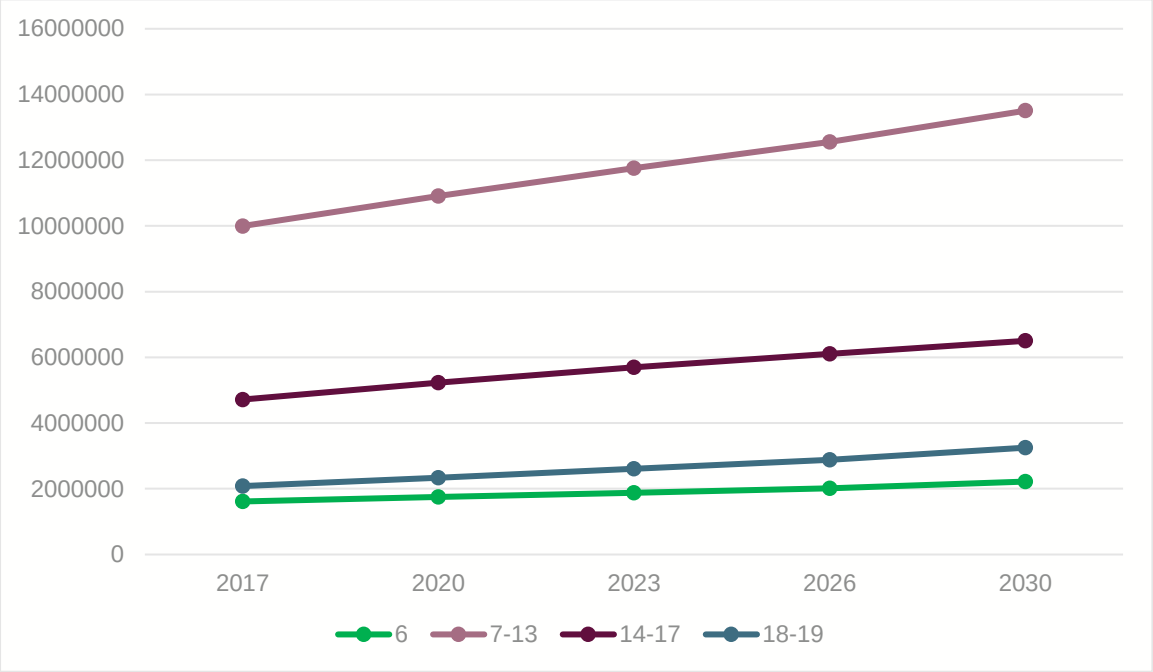
Chart 1: youth population (15-34 years) projections in millions, Tanzania



Source: Author's own using data from table in UKAID et al. 2018 pg. 27

Based on school-age population data from 2017-2020 (Kahangwa et al. 2021, 78–79) the author has calculated population growth projections. If population growth continues to decline at the same rate as the period between 2017 to 2020, there will be an estimated 2.59 million increase in 7–13-year-olds between 2020 and 2030, and an increase of 2.55 million 14–19-year-olds (chart 2). There will be an overall increase in the school aged population (six- to 19-year-olds) of 5.6 million, or 4.34 million six- to 17-year-olds.

Chart 2: Population growth projections for the school-age population, Tanzania



Source: Author's own using data from Kahangwa et al. 2021, 78–79

School enrolment and completion

Gains have been made in net enrolment rates (NER) at primary level, however NER remains low for secondary education at 37% in 2020/21 (UIS 2022). Secondary capacity will need to increase significantly in the coming years as enlarged cohorts of primary students reach the end of primary schooling and have an increased expectation to receive secondary education.

Table 1: NER Tanzania 2017-2021

	Primary	Lower secondary
2017	84	33.3
2018	91.1	34.6
2019	95.4	34.8
2020	95.7	36
2021	95.3	37

Source: UIS, 2022. Reproduced under Creative Commons Attribution-ShareAlike 3.0 IGO License. http://uis.unesco.org/en/country/tz

Despite substantial improvements in NER, primary completion rates have fluctuated over the past four years, with the 2020 completion rate at 67.8%. With only a small proportion of the

school-aged population attending upper secondary level (6.1%), the retention rates are much higher by A-Level. Overall boys and girls have similar access to schooling, though this fluctuates at different schooling levels. Girls are marginally more likely to access the first grade of school (94.3% for girls compared to 93.1% for boys), with this increasing for Standard 7 (81% for girls and 79% for boys). However, by the time students reach O-Levels, boys have greater access levels, with 33% of boys accessing Form 1 compared to 29% of girls (Kahangwa et al. 2021, 91). There are disparities in primary retention rates in urban compared to rural areas, with a retention rate of 93% in urban areas compared to 79% in rural (Kahangwa et al. 2021, 92).

Table 2: Completion rate by level of education

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Source: (Kahangwa et al. 2021, 104)

3. Trends in economic growth, education expenditure and resource constraints

Economic growth

Tanzania's economy has remained relatively stable in recent years with growth in actual GDP, though there has been a decline in the rate of growth of GDP annually with slight recovery in 2019. Under Business-As-Usual[2] modelling Tanzania is expected to have a GDP per capita of $2,063 by 2050 (UKAID et al. 2018, XII). Under the conditions of the demographic dividend[3], projected per capita GDP are $3,878 (Ibid). Economic modelling suggests that by lowering the fertility rate by an average of 1 less child per woman, per capita GDP can increase by 19% by 2050 (Schneider et al, 20p18, p.vi). Continued and elevated economic growth is therefore closely related to trends in the national fertility rate.

[2] Only moderate declines in fertility at the same rate as the previous decade

[3] The demographic dividend describes the connection between changes in population age structures due to demographic transition and rapid economic growth. A 'youth bulge' occurs when a country has a large working age population relative to the number of dependents. This can result in a boost in the economy provided there are enough employment opportunities for the working age population.

Table 3: GDP growth (annual %) and GDP (current USD)

Year	GDP growth (annual %)	GDP (current USD billions)
2014	6.7	50.0
2015	6.2	47.3
2016	6.9	48.0
2017	6.8	53.3
2018	5.4	57.0
2019	5.8	61.1
2020	2	62.4

Source: UIS (2021). Reproduced under Reproduced under Creative Commons Attribution-ShareAlike 3.0 IGO License. http://uis.unesco.org/en/country/tz

Overall spending on education

Domestic expenditure on education has increased substantially over the past decade. In constant 2015 prices, education expenditure has increased from Tsh 4,251.9 billion in 2016/17 to 4,939.3 billion in 2020/21 (Kahangwa et al, 2021, p.64). However, although expenditure has increased in actual terms, the proportion of GDP spent on public services has been steadily decreasing since 2010 (Kahangwa et al, 2021, p.63). Domestic expenditure on public education dropped from 3.3% of GDP in 2016/17 to 2.9% in 2019/20 (Kahangwa et al., 2021, p.65). This is below the benchmark set by the Incheon Declaration of a minimum GDP allocation of 4-6% on education (UNESCO 2015, 67). The nominal budget has consistently remained below the Education Sector Plan Spending Framework since 2017/18, with the gap gradually increasing each year (MoEST, 2020). In 2017/18, funding needs exceeded the budget by 2%, growing to 35% in 2020/21. The deficit between planned and actual spending amounts to a total of 2.9 trillion Tsh (US$1.2 billion) across this period.

Chart 3: Education budget v. Education Sector Plan Spending Framework (Tsh billions)

This Chart has been removed for copyright reasons.

Source: Author's Own based on data from Annual Education Sector Performance Reports, Education Sector Development Plan and MoFP budget

Despite the increase in the number of school-aged children, and the increased enrolment rate (i.e. larger population plus greater enrolment ratios), recurrent expenditure per school-aged child has remained relatively steady since 2016 (pre-primary to upper secondary). The dip in 2019/20 has been attributed to disruption caused by Covid-19. However, spend per primary student substantially decreased due to a 20% reduction in real terms of the primary education budget between 2016/17 and 2019/20 (MoEST, 2020). In terms of spend per pupil at primary level, there was a significant drop between 2016/17 to 2019/20 from 336,000 Tsh to 165,000 Tsh (approx. US$145 to US$71) over the three-year period (calculated using URT Annual Sector Education Performance Reports, MoFP budget data and MoEST BEST Yearbooks). Focus shifted to secondary students, with secondary education budget almost doubling between 2016 and 2020, and funding for primary halving in the same period.

Table 4: recurrent expenditure per school aged child (constant 2015)

This Table has been removed for copyright reasons.

Source: (Kahangwa et al. 2021, 62)

Chart 4: Real budget per student (Tsh thousands)

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Source: Author's Own Based on data from URT Annual Sector Education Performance Reports, MoFP budget data and MoEST BEST Yearbooks)

Although expenditure per school-aged child provides an insight into overall investment levels, it does not provide insight into the quality, equitability, or the efficiency of spending (Montoya, 2016). The Education Sector Analysis (Kahangwa et al. 2021, 168) reported that 35% of public expenditure on education is spent on the 10% highest educated in the population. The below table provides a breakdown of spend per student at primary, secondary and higher education levels.

When revising the calculations based on children enrolled in school opposed to the total population of school aged children, recurrent expenditure on each child enrolled was approximately 350,000 Tsh (approx.. US$150) in 2019/20 (based on MoEST data, 2020). This figure suggests that the cost of a school place represents approximately 15% of GDP per capita. Lewin (2015) suggests school places should constitute approximately 20% GDP per capita to meet minimum education requirements in an expanding education system. If 350,000 Tsh per school aged child is assumed to be the minimum spend required to ensure access to education, if all currently out-of-school children were to enrol, there would be a shortfall of 1.96 trillion Tsh for pre-primary, primary and secondary level.[4] 1.9 trillion Tsh equated to 1.9% of GDP in 2020 (UIS, 2022).

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Breakdown of spending by type of expenditure

Figure 1: types of education expenditure (adapted from World Bank, 2020)

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Source: adapted from World Bank, 2020

[4] This is based upon the calculated number of school-aged children currently out of school (5.6 million)

Capital costs

At the pre-primary level significant efforts have been made to reduce the classrooms deficit, however, at primary and secondary the deficit has been steadily increasing over a five-year period.

Table 6: classroom shortages by level of education

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Source: (Kahangwa et al. 2021, 163)

There have also been growing disparities in the number of secondary schools available by region, as the pace of building secondary schools has struggled to keep up with increasing enrolment and population growth. The ESA identifies secondary school shortages in Dar es salaam, Mwanza, Geita, Arusha, Mbeya, Pwani, Rukwa, Iringa, Morogoro and Kagera (Kahangwa et al. 2021, 157).

Another indication of insufficient resources for the current school-aged population is the shortage of desks. Data shows that shortages are more stark in some regions compared to others. Between 2016 and 2020 the shortage of desks in secondary schools increased from 207,600 to 357,958 (Kahangwa et al, 2021, 164). Some regions, such as Kilimanjaro and Iringa have a surplus of desks, compared to Dar es Salaam that has the greatest shortage compared to other regions (Ibid).

ICT facilities are another indicator of resource shortfalls. The 2021 Education Sector Analysis (ESA) identifies that only five regions have an average of at least one computer per primary school, with 21 regions not having any recorded (Kahangwa et al, 2021, 165). The picture was slightly better for secondary schools, with eight regions having an average of four or more computers per school in 2020, and a further seven regions with an average of three computers per school (Kahangwa et al, 2021, 165). However, five regions only had an average of one computer per school in 2020.

Regional disparities also exist with access to electricity. In Kigoma and Tabora less than 20% of schools were reported to have electricity connectivity in 2020 (Kahangwa et al, 2021, 166). The report also identified that over 80% of schools in Geita, Tabora and Mara do not have access to tap water (Kahangwa et al, 2021, 167).

Wage recurrent costs

Classrooms alone offer little impact to education in the absence of teachers to teach within them. Teacher salaries constituted approximately 81.6% of recurrent expenditure in education in 2020/21 (Kahangwa et al, 2021, 225). The below table provides a breakdown of actual public recurrent education expenditure by education level and year (Tsh billions). As a percentage, higher education takes up a disproportionate amount of recurrent expenditure relative to enrolment rates. 12.1% of all recurrent expenditure was spent on higher education in 2021/22, compared to 33% on secondary, and 42.5% on primary education (Kahangwa et al, 2021, 227).

The data below suggests that the increase in budget to secondary education has been re-allocated from pre-primary and primary education. Where pre-primary and primary education have experienced a decline in recurrent costs allocated, higher education has seen an increase. Whereas the increase in secondary appears justified due to an increase in demand, the increased spend on higher education appears disproportionate.

Table 7: Recurrent expenditure on education by level of education

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Source: (Kahangwa et al, 2021, p.227).

Actual expenditure on salaries has fluctuated since 2016/17. In 2018, a total of 47.1 billion Tsh was spent on salaries, compared to 41.9 billion Tsh in 2021/21. This can be attributed to the decline in the size of the teacher workforce over this period. Although secondary level has seen an increase in teacher numbers recent years, the number of teachers has not recovered to 2016 levels. Despite this drop in number of teachers, the ESA reports a surplus of over 30,000 teachers at secondary level (Kahangwa et al, 2021, 206). However, if enrolment rates were to substantially increase in the near future, the current number of secondary school teachers would be in deficit relative to the pupil demand.

Table 8: number of teachers by level of education

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Source: (Kahangwa et al, 2021, p.206)

Regional disparities in pupil teacher ratio (PTR) across primary and lower secondary suggest greater difficulties in recruiting teachers to rural areas (Kahangwa et al, 2021, 126). There are 15 councils with a PTR above 80, a further 47 with PTR between 70 and 80, and five councils with an excess of primary school teachers, i.e. their PTR is below the officially recommended range (35-53). With increased enrolment, average PTR has been increasing in recent years, from 1:50 in 2017 to 1:61 in 2020 at primary level (see chart 5). There is also a danger in looking at overall teacher numbers at secondary level as it hides the need for subject specialist teachers. Certain subjects also face a greater shortage than others. In 2020, Tanzania reported a shortage of over 7000 mathematics teachers, with similar shortages across the sciences (Annual School census, 2020). Poor national exam performance in Math, Sciences and English likely reflect chronic teacher shortages in these subject areas.

Despite the known regional disparities, it has been reported that budget is not currently allocated based on areas of most need. Njombe, for example, has a student classroom ratio substantially lower than Mara, but received 48% more development funding per primary school student (MoEST, 2020). Though differences in costs of construction may account for these differences, the regional disparities suggest that funding could be more equitably distributed.

Chart 5: student classroom and student teacher ratios

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Source: extracted from MoEST BEST yearbooks

The 2021 ESA also indicated that the Tanzanian system is dependent upon volunteer teachers to mitigate against the high PTRs, particularly in pre-primary and primary level. The ESA estimates that volunteer teachers constitute approximately 31% of the total teacher workforce for pre-primary and primary (with volunteer teachers accounting for approximately half the pre-primary workforce) (Kahangwa et al, 2021, p.212). There is no information on what qualifications are held by these teachers. Should these teachers require renumeration to remain in their positions to the same level as existing teachers, this would double the salary expenditure at pre-primary level.

Non-wage recurrent costs

Total spend on capitation grants has increased alongside increased student enrolment in recent years. However, spend per pupil has decreased substantially since the 2016/17 school year, particularly at secondary level (20,678 Tsh to 11,121 Tsh – approx. US$9 to US$4.80). When taking into consideration the out-of-school population at secondary level, this would equate to 33 billion Tsh (approx. US$14m) more to be spent on capitation grants in total based on the 2020/21 figures of spend per pupil (based on calculations of approximately 3 million children being out of school at secondary level).

Table 9: capitation grants allocated per pupil by year and level of education

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Source: (Kahangwa et al. 2021)

The ratio of textbooks to pupils is a further indicator of resource constraints. Regional averages have decreased from 4.42 students per textbook in 2016 to 3.8 in 2020, though regional and subject-related disparities persist (Kahangwa et al, 2021, p.164). In 2020, Dodoma and Singida had an average of 5 students to one textbook, compared to Dar es Salaam with an average of 3 students per textbook (Kahangwa et al, 2021, p.165).

Education quality indicators

Despite the clear challenges faced by the system, there are signs that the system has been largely coping well with increased enrolment. Quality indicators suggest that despite significant increases in the number of learners in schools, and the resource constraints outlined above, there have been substantial increases in the proportion of children passing primary school leaving examinations. The percentage of children passing leaving exams increased from 67% in 2015 to 81.5% in 2019. The gap between performance of girls and boys in leaving exams has narrowed during this period (gap closed from 6.9 percentage points in 2015 to 1.33 percentage points in 2019).

These results suggest improvements in the quality of teaching and learning are keeping pace with increased enrolment at primary level. The qualification levels of the teacher workforce also demonstrates an area of promise, with the majority of teachers in the system holding teacher qualifications (98.8%). Though the issue of subject specialist teachers still remains a major concern and impediment to improved results at secondary level.

Chart 6: primary completion examination results by year and gender

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Source: (The United Republic of Tanzania 2021, 65)

The latest Uwezo Tanzania report (2019) also showed some mixed results in assessment data across standards and subjects. Literacy rates in Kiswahili improved from 29% of children in Standard 3 able to read a short story in Kiswahili in 2011, to 62% of children in 2017. Rates in numeracy, however, fluctuated, with the pass rate for numeracy going down from 88% in 2014 to 80% in 2017 for Standard 7, yet slight improvements for Standard 3 numeracy over the same time period, from 50% to 59%. Uwezo identified that literacy in English, already low, further declined from 56% in 2014 to 27% in 2017 for Standard 7.

4. Potential trade-offs

Given the existing financial and resource constraints in the Tanzanian education system, and the large proportion of out-of-school children, it is evident that the system will be further challenged with an increase in school-aged population. Spend on education as a proportion of GDP has been declining in recent years and has not kept pace with population growth. Estimates suggest that education spending needs to increase significantly in order to mitigate against falling completion rates, to ensure primary education is continually improving, and to ensure wider access to secondary education. Increase in funding is required even for the existing school-aged population, irrespective of population growth.

There are no ready-made formulas that support decisions on what trade-offs need to be made. A UNESCO (2011) report on education financing in education in SSA suggested the following considerations should be made in prioritising education funding:

- how much to spend on different levels of education;
- how much to spend on quantitative growth compared to qualitative improvement;
- the extent to which policies should encourage the private sector and households to increase their financial participation in education

Projections on required expenditure

Projections on expenditure required are based on the assumption that a GER of 100% is achieved in primary and lower secondary, with the aim of increasing enrolment in upper secondary substantially. Based on author calculations, taking into consideration the number of children who are currently out-of-school, and current actual spend on children currently enrolled,

there is an existing shortfall of 1.9 trillion Tsh (approx. US$8.1 billion) to meet the demands of all learners.

Lewin (2015) outlines a method for determining the proportion of GDP that should be assigned to education in order to meet the recurrent costs of expanding basic education (pre-primary to lower secondary) to a wider population.[5] Lewin proposes that a school place should be the equivalent to approximately 20% GDP per capita to meet the needs of a growing population. Based on the school-age population in Tanzania for primary to lower secondary, this would suggest that a minimum of 4.12% of GDP would need to be spent on education in Tanzania in order to meet the needs of the current population up to age 14. Based on population growth projections outlined earlier in the report, the proportion of GDP would need to reach 4.3% by 2026. This is in line with the Incheon Declaration guidelines proposing at least 4-6% of GDP be allocated to education (UNESCO, 2015, p.67). It is therefore recommended that Tanzania increase the proportion of GDP allocated to education by at least 1.3% to meet basic education needs, with greater increases required to increase enrolment at higher secondary levels and above.

Focus on girls' education

One approach to determining where education spending should be prioritised in response to a growing population is based on an analysis of what is required for Tanzania to meet the demographic dividend. Due to Tanzania's youthful age structure and consistently high fertility rates, Tanzania can be characterised as pre-demographic dividend. If fertility levels remain high, there is a risk that the demographic dividend will not be reached due to a disproportionate number of dependents relative to working age population.

Business-As-Usual modelling assumes that the population will continue to grow, placing immense pressure on development with a high number of dependents relative to the working age population. However, if Tanzania is able to implement effective strategies to enable greater reproductive choice and meet unmet demand for family planning, then the ratio of dependents to working age population will decrease, creating opportunities for the demographic dividend to be achieved.

Three overarching steps have been identified by Schneider et al (2018, p.vi) for Tanzania to meet the opportunity of the demographic dividend:

1. Scale up access to family planning and reproductive health services
2. Improve child survival through enhanced maternal and child health and nutrition interventions
3. Expand access to upper secondary education for girls and promote interventions that promote women's economic empowerment

It is important to note that although this report focuses on education expenditure, expenditure in other areas has a significant impact on the effectiveness of education interventions and the efficiency of education expenditure. A report by the Economic Policy Research Institute (2020,

[5] X = GER x A x C where: X = Public expenditure on education as a percentage of GDP; GER = Gross enrolment rate; A= The proportion of the population of school age; C = Public expenditure on education per student as a percentage of GDP per capita

22) identified that “average years of schooling outcomes is significantly affected by spending in the health care, education, water and environment, and social development sectors”, meaning that the “exploitation of cross-sectoral synergies among the identified sectors leads to better achievements in years of schooling”.

Ensuring girls stay in school for longer is considered an important requirement in meeting the demographic dividend for a multitude of reasons, including:

- For every additional year of schooling at secondary level, girls can earn as much as 25% additional wages over their lifetimes (Psacharopoulos and Patrinos 2018)
- Educated women take greater economic roles within their families and typically reinvest 90% of what they earn into their own families, arguably taking pressure away from state resources (Bourne 2014)
- Every additional year of schooling increases the probability that a woman will participate in the formal labour market (Heath and Jayachandran 2016)
- Educated women are less likely to have children before the age of 18, and are more likely to use maternal care services (Masuda and Yamauchi 2020)
- According to GEMR (UNESCO 2014) if all women had secondary education, there would be 49% fewer child deaths of children under 5 in low and lower-middle income countries

Educating girls to upper secondary level is therefore an important component in supporting demographic transition. Women who are secondary educated will have children later and therefore be less susceptible to maternal health issues and better equipped to contribute to the economy. In turn their children are likely to be healthier, inoculated and to enrol and progress through school. Increasing enrolment rates for girls in secondary education is therefore one area recommended as a priority for future funding.

Equitable distribution of resources across level of education based on need

With a growing primary aged population this expenditure on secondary education will need to be carefully balanced to ensure primary continues to be able to meet population demands. MoEST has already made steps to prioritise secondary education after achieving near universal enrolment at primary level. Targets for capitation grants are double for secondary per student compared to primary, and an increased amount of investment has been placed into secondary education in order to meet the growing demand of an increasing school-aged population at secondary level. This has resulted in modest gains in enrolment rates, though the majority of secondary school aged children are still out of school.

Table 10: spend per pupil and overall unit cost at primary, secondary and higher education levels

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Source: Kahangwa et al. 2021, United Republic of Tanzania Annual Sector Education Performance Reports, MoFP budget data and MoEST BEST Yearbooks)

With a disproportionate amount spent per student at higher education compared to basic education, considerations around spending at this level could be made to determine if any

funding could be reallocated lower down the system to ensure funding is more proportionate to the size of the population accessing services.

Addressing regional disparities

Given the regional disparities that exist in areas of capital and wage-recurrent expenditure, such as insufficient classroom numbers being greater in some regions compared to others, there is a need for a focus on equitable resource distribution to help level the playing field in access to resources throughout Tanzania. Chikoko and Mthembu (2020) suggest adopting a pro-poor approach to education expenditure when funds are limited. In their systematic review, they argue that without increased funds on capital expenditure, countries are not likely to achieve sustainable development in their education systems.

The GEMR Policy Paper 28 (2016) makes the argument that in low-income settings, one of the most important investments is in ensuring every child has a textbook. This is based upon the notion that when there are large class sizes and teacher time may be spread thinly, each child possessing a textbook ensures a minimum level of learning will take place. GEMR suggests that provision of textbooks in early grades should be the biggest priority. Addressing regional disparities in textbook provision, particularly for core subjects in mathematics and literacy, would be one area of consideration for prioritised spending.

Finally, UNESCO suggest that increased spend on teacher salaries should be targeted to attract teachers to the most deprived regions. They argue that teacher salary and recruitment policies need to be calibrated to encourage higher academic levels of entering teachers and ensure commitment, which should at least include regular classroom attendance (UNESCO, 2011, p.92). Salary incentives could be provided selectively for teachers working in rural or underprivileged areas, to attract teachers in subject areas where there are chronic shortages and salary ladders could reward competence and results

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